



# Environmental, Health and Safety Management System Outline

## Doris North Project, Nunavut

Prepared by:  
Miramar Hope Bay Ltd.  
North Vancouver, BC

Prepared by:  
Lawrence J. Connell, P.Eng.  
NWT/NU Registration Number L1720  
General Manager, Environment,  
Miramar Mining Corporation

April 2007



## TABLE OF CONTENTS

	Page
1.0 DESCRIPTION.....	1
1.1 The Doris North Project.....	1
2.0 BACKGROUND.....	4
2.1 System Standards .....	4
2.2 MHBL Management Commitment .....	5
2.3 Structure of the System .....	6
2.4 Policies .....	6
2.5 Planning .....	6
2.6 Implementing the System .....	7
2.7 Checking and Correcting the System .....	10
2.8 Management Review .....	11
REFERENCES.....	13

## LIST OF FIGURES

Figure 1.1: Doris North Mine Site Layout .....	2
Figure 2.1: MHBL Chain of Command .....	5
Figure 2.2: Proposed Doris North Responsibility & Accountability Chart .....	9

## LIST OF APPENDICES

APPENDIX A Miramar's Occupational Health and Safety Program
APPENDIX B Miramar's Environmental Policy





## **1.0 DESCRIPTION**

Miramar Hope Bay Ltd. (MHBL) Senior Management is committed to managing all aspects of their organization's environmental, health and safety requirements and commitments through a formal, independently audited Environmental, Health and Safety Management System (EHSMS). The MHBL EHSMS is partially developed as evidenced by the component parts contained in:

- The Miramar Occupational Health and Safety Program – included as Appendix A to this document; and
- The Doris North Environmental Protection Plan <sup>1</sup>

MHBL intends to bring these components together within a formal EHSMS to be developed in the second quarter of 2007 with the objective of being in place in time for the planned start of mining and milling at the Doris North Project. As well as applying to the Doris North Project, the Corporate-wide EHSMS will be implemented throughout MHBL. The EHSMS will provide assurance to MHBL Management that the MHBL Environmental, and Health and Safety Policies will be followed at all operations by not only MHBL staff, but all of its primary contractors.

### **1.1 The Doris North Project**

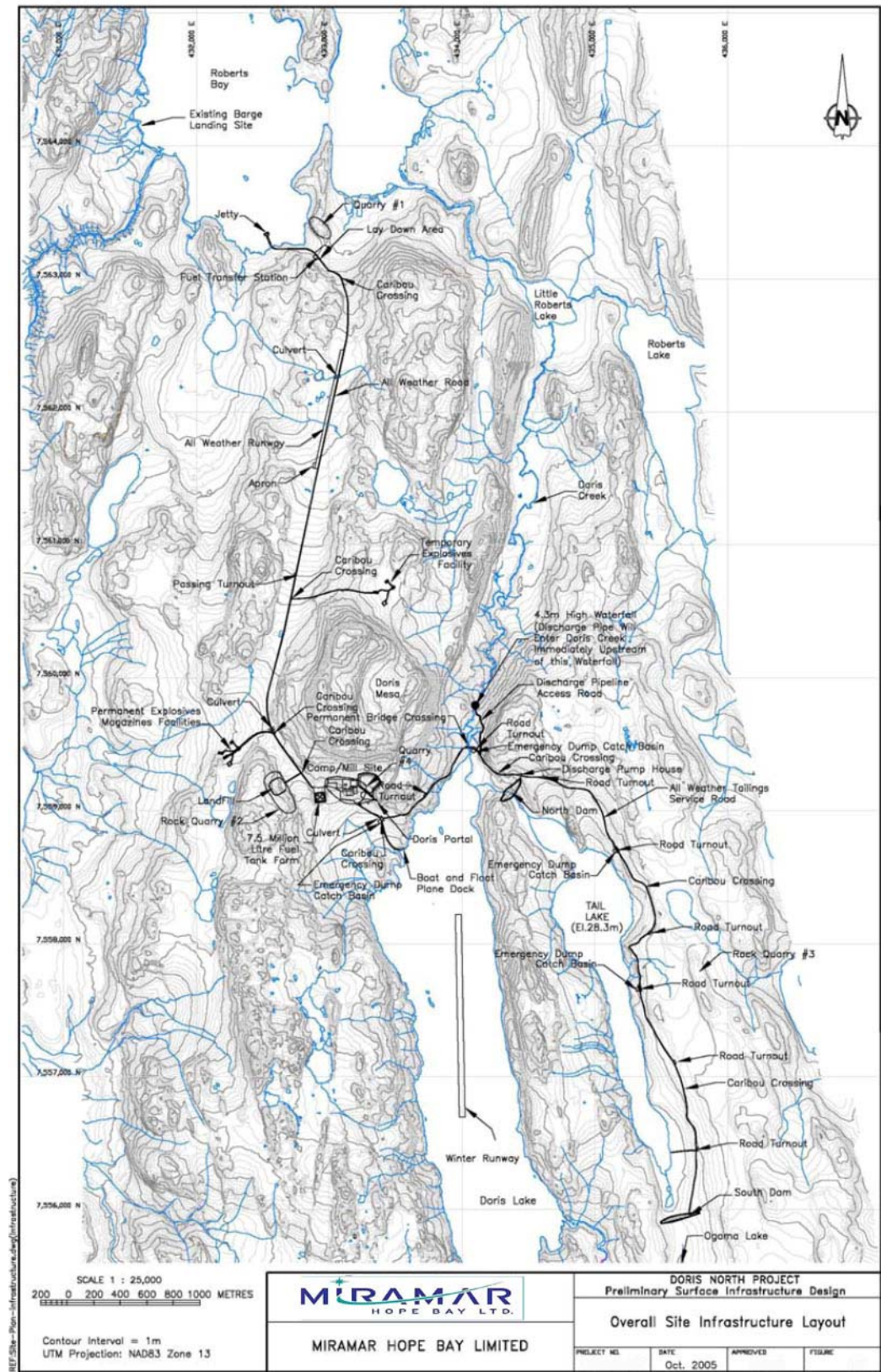
The Doris North Project will be a relatively small underground gold mine producing about 311,000 ounces of gold from 460,000 tonnes of ore over a two-year life span. Ore will be processed on site. The project is located on the mainland in the West Kitikmeot region of Nunavut approximately 125 km southwest of Cambridge Bay and 75 km northeast of Umingmaktok and 5 km south of the Arctic Ocean. The mine site, with a footprint of approximately 54 ha, will be built on Inuit-owned lands. Infrastructure for the site, including a mill, crushing plant, aboveground fuel farm, sewage treatment plant, camp, office, workshops and water treatment plant will be constructed to support the mine operations. Supply in winter will be by air in the ice-free season, from sealift barges via Hay River to the sealift site on Roberts Bay. The sealift site will be connected to the mine site by a 4.8 km all-weather road. Construction is scheduled to commence in the second quarter of 2007 with production starting in the 3<sup>rd</sup> quarter of 2008. Mining will be completed at the end of 2010. Construction workforce will peak at about 120 in 2008. Operation workforce will include 24 mill workers, 60 underground miners and 91 support staff, totalling 175, half of whom will be on site at any one time.

The proposed layout of the Doris North mine site is shown in Figure 1-1.

---

<sup>1</sup> Supporting Document S10 to the Revised Water License Application Support Document, April 2007.

Figure 1.1: Doris North Mine Site Layout



All aspects of the operations – staging, transportation, construction, operation, closure and reclamation will be covered by the EHSMS. All activities, products and services will be considered in the scope, including:

- Air, Land and Water Protection (Legal and Permit Expectations)
- Fish and Wildlife Protection (Legal Permit Expectations)
- Fuel, oil and chemical management
- Solid, liquid and hazardous waste management
- Occupational Hygiene and Safety management
- Monitoring and measurement of EHSMS
- Monitoring of compliance
- Training and Awareness
- Contractor and Supplier management
- Documentation and Record Keeping
- Communication – internal and external
- Emergency management

## **2.0 BACKGROUND**

Approval to proceed with permitting of the Doris North Project was granted to MHBL by the Nunavut Impact Review Board (NIRB) in a Project Certificate issued in September of 2006, following review of the October 2005 Project Environmental Impact Statement (EIS). In the EIS, a detailed review of potential environmental effects was provided (Section 5), and the approach to environmental management and mitigation was described (Section 6). Commitments to monitoring and auditing environmental performance were described in Sections 7 and 8. In the Technical Report, accompanying the EIS, a description of the proposed system to manage aspects of environment, health and safety was presented in Chapter 6. In Chapter 6, the system for managing all the required environmental plans was provided. The plans, covering everything from environmental protection, to education and orientation, waste management, emergency response and reclamation are laid out in detail. All of these plans will be managed through the Doris North Management system which in turn will be managed within the corporate EHSMS.

The following description provides an overview of the EHSMS and the roles and responsibilities of MHBL management and staff in developing, implementing and continually improving the system throughout the life of the Doris North Project and other company operations.

### **2.1 System Standards**

The EHSMS will be based on the most recent standards for environmental management – ISO 14001:04, and for health and safety – Canadian Standards Association (CSA) Z1000-06. The newly released CSA Z1000 standard closely follows the OHSAS 18001:1999 standard. A decision to certify the system(s) to these standards will be made in the future by MHBL management. The EHSMS will provide overall control over MHBL's commitments to meet all applicable laws and regulations, permit requirements, monitoring and reporting requirements, best management practices and community involvement programs. Descriptions of the ISO and CSA Standards are readily available on websites.

Specific environmental conditions for the Doris North Project were established within the Project Certificate issued by the NIRB in September of 2006. These will be combined with regulatory and statutory requirements and will form the conditions attached to the various permits and authorizations that the Doris North Mine will require for construction, operation and reclamation. The Revised Water License Application document submitted by MHBL to the Nunavut Water Board (NWB) in April of 2007 presents additional information on how the Doris North Project will be managed and operated to meet these requirements<sup>2</sup>.

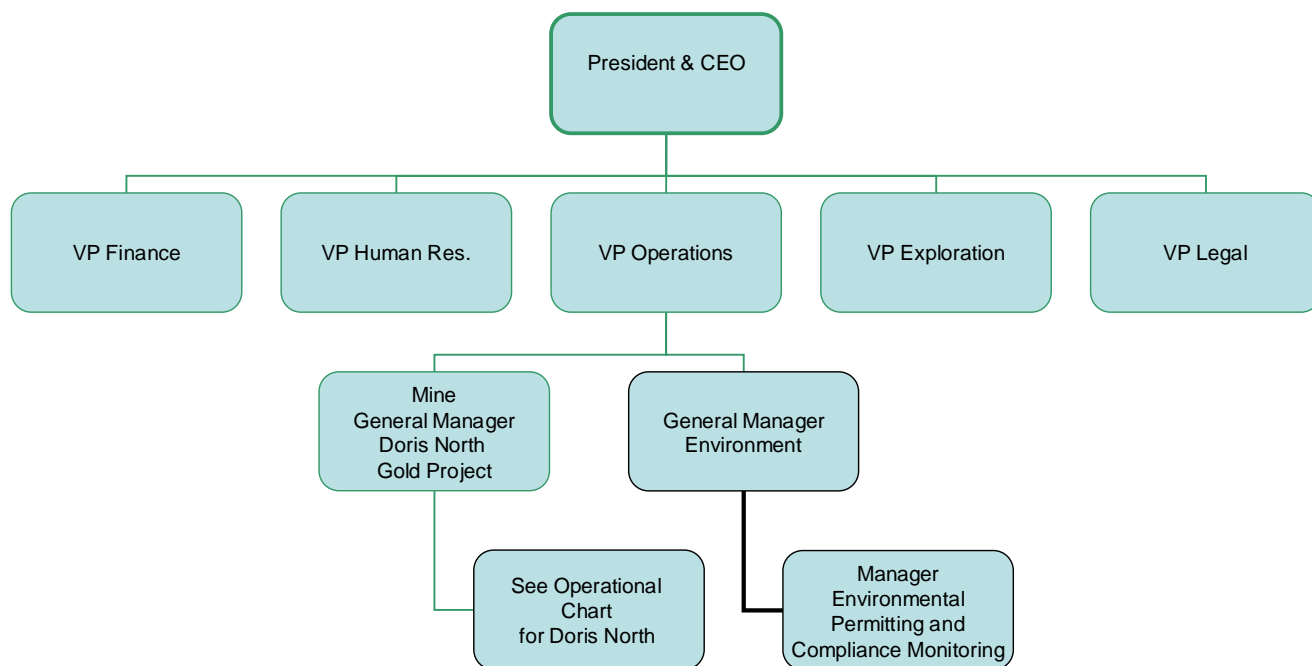
---

<sup>2</sup> The various management and operating plans are included as Supporting Documents S10a thru S10m under the umbrella of the Environmental Protection Plan, Supporting Document S10 to the Revised Water License Application Support Document, April 2007.

## 2.2 MHBL Management Commitment

The development of the MHBL EHSMS will be overseen and approved by the President and CEO. The VP of Operations will be responsible for the structure and function of all aspects of the corporate EHSMS. The General Manager, Environment has been appointed by the President and CEO as the specific management representative who will ensure the EHSMS is implemented and maintained and will report on its performance on a regular basis. The Mine General Manager, Doris North will be directly responsible to the VP of Operations for all aspects of environmental, and health and safety Management at Doris North. To ensure the system is meeting all expectations, a Manager of Environmental Permitting and Compliance Monitoring, reporting to the General Manager, Environment has been appointed and will develop and oversee all activities of auditing throughout MHBL related to the EHSMS. This organizational structure is outlined in Figure 2-1 as follows:

**Figure 2.1: MHBL Chain of Command**



The system will apply to all contractors involved in the project whose activities could have a significant effect on the environment – including auditing their activities during all phases of the operations.

## 2.3 Structure of the System

As with ISO 14001 and CSA 1000, the MHBL EHSMS will be developed on the PLAN, DO, CHECK, ACT and continual improvement principles. Basically this approach ensures that expectations are clearly stated, all individuals understand their responsibilities in normal and accidental situations, there is regular monitoring of expected performance and changes made to the system as operations change or tests of the system indicate a need for change. At the heart of the system is a commitment to clear and appropriate communication – both internal and external. Following is a brief outline of the main components that will comprise the EHSMS:

## 2.4 Policies

Environmental, and health and safety policies are the concise, public expression of commitment of MHBL's President & CEO to environmental, health and safety management. The policies are reviewed on an annual basis and assessed for continuing applicability to the nature and scope of the organization and its operations. MHBL's current Environmental Policy is attached as Appendix B and MHBL's current Safety Policy is included as a component of the Occupational Health and Safety Program attached as Appendix A.

## 2.5 Planning

At the core of an EHSMS is the requirement to understand and identify the known or potential effects or risk of all **aspects** of an organization's operations, both ongoing and planned. At the outset of development of the EHSMS, all aspects, including those of Doris North will be reviewed to identify environmental and health & safety risks. A determination of significance will be made using an established system and significant aspects will be assessed for **legal requirements** and level of ongoing or proposed controls. The risks to the environment, and health and safety will be evaluated. Specific **objectives and measurable targets** will be established for significant aspects and where necessary, **management plans** will be developed to manage the significant aspects. Procedures will be developed for these planning steps to ensure accuracy of identification of risks and appropriate development of expected operational controls in the EHSMS. This will be documented in the MHBL Environmental Protection Plan. A first draft of this Environmental Protection Plan (EPP) has been developed and is included within the Revised Water License Application Support Document as Supporting Document S10. The primary objective of the EPP is to communicate the commitments made by MHBL through the environmental assessment and permitting process to the Doris North management and operating team as to how the key mine components or critical activities are to be managed and monitored to meet the environmental targets established.

The EPP is a "living" document that will be updated on an as required basis to reflect any significant change that may occur. At a minimum the EPP will undergo an annual review during the first quarter of each year and be modified as needed. Any revisions will be communicated to the NWB, the KIA and other regulatory agencies through the water license and land lease annual reports due at the end of the first quarter of each year.

Over and above standard legal requirements of any similar organization operating in Nunavut, MHBL is working at various stages in the permitting and approvals process to meet requirements of the following organizations:

- Nunavut Impact Review Board
- Nunavut Water Board
- Kitikmeot Inuit Association (KIA)
- Nunavut Tunngavik Incorporated
- Indian and Northern Affairs Canada
- Environment Canada
- Fisheries and Oceans Canada
- Natural Resources Canada
- Transport Canada
- Health Canada
- Workers' Compensation Board
- Nunavut Department of Environment
- Nunavut Department of Culture, Language, Elders and Youth
- Nunavut Department of Health and Social Services
- Nunavut Department of Community and Government Services
- Nunavut Department of Economic Development and Transportation

Specific requirements for all of these organizations will be included in the EHSMS.

## **2.6 Implementing the System**

The EHSMS will be implemented throughout the organization by the following procedures -

***Resources, Roles and Responsibilities*** - The President and CEO of MHBL will ensure that adequate resources are available to develop, implement and maintain all components of the EHSMS. The President, through senior levels of management will ensure that all managers and staff are made aware of their responsibilities under the law and all additional requirements, and the consequences to MHBL and themselves for not complying with these requirements. In turn the Mine General Manager for the Doris North Project will communicate these same responsibilities and expectations to all levels of management (including primary contractors) involved in the operation of the Doris North Project. The various levels of management within the organizational chart for the Project are identified in Figure 2-2.

***Competence, Awareness and Training*** - Through a combination of selection and on-the-job training, management will ensure that all MHBL staff, or people working on its behalf, has appropriate training for positions where they have direct control over potentially significant environmental and/or health and safety aspects. MHBL is committed to developing procedures for identifying training needs and establishing monitoring programs to ensure appropriate training is carried out.

**Communication** - MHL management is committed to an extensive program of internal and external communication on legal requirements, specific permits and reportable emergencies. A plan and detailed procedures will be developed that specify communication requirements at all levels in the organization and from appropriate levels in the organization with outside interested parties. Communication procedures related to emergencies among internal and external parties are outlined in the current Emergency Response and Contingency Plan for the Doris North Project<sup>3</sup>.

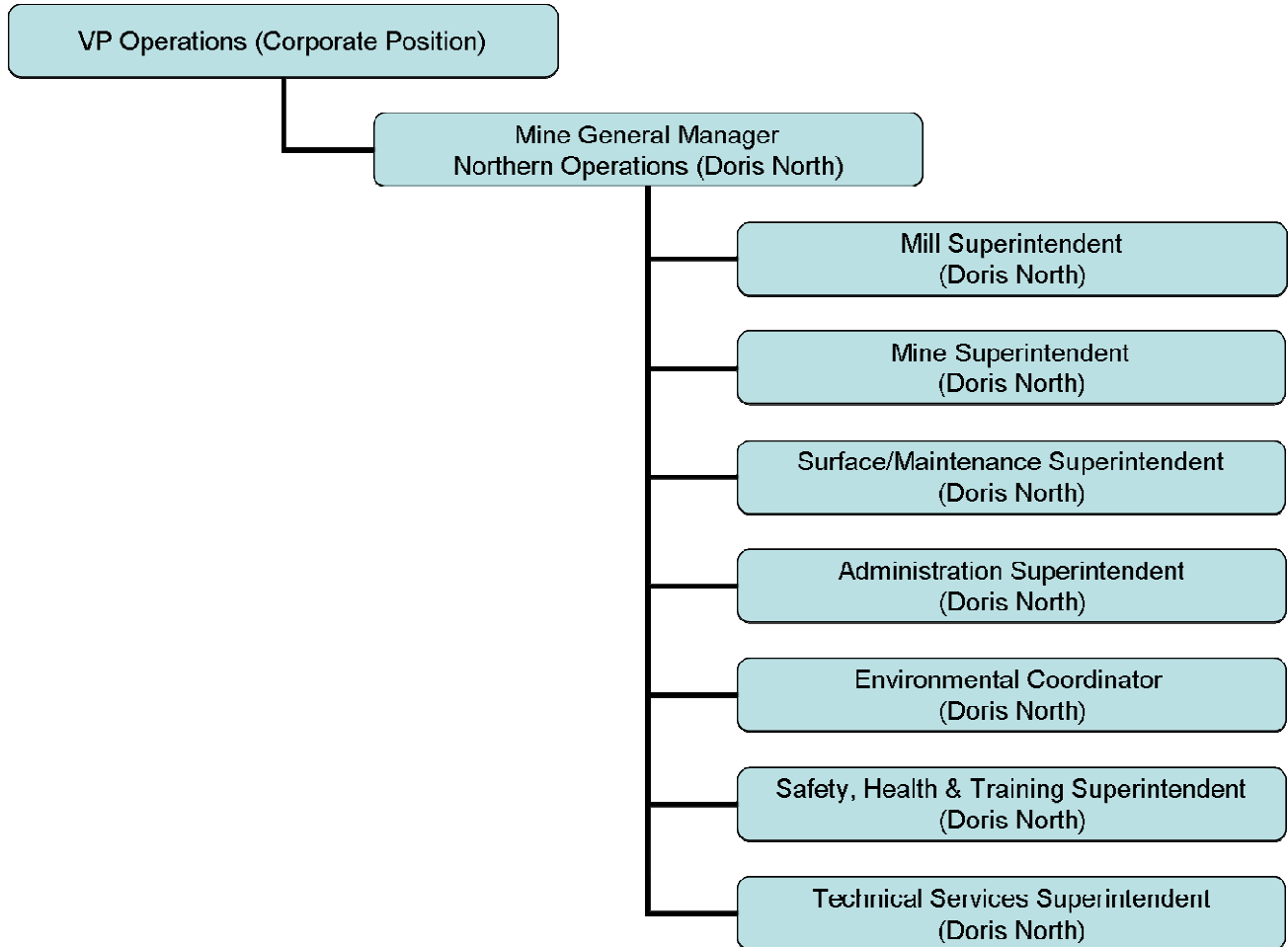
**Documentation and Record Keeping** – Development and management of core documents that describe fundamentals of EHSMS and the records to indicate the system is functioning as expected will be a vital contributor to success of the system. Core documents include policies, programs, procedures and contracts. Key records include monitoring reports (regular and incident), audit reports and management reviews. Document management and control for regulatory requirements and internal standards will be a focus of the system. A system of storage, replacement and distribution will be developed and implemented.

---

<sup>3</sup> Last updated in 2007 and attached as a component of the Environmental Protection Plan as Supporting Document S10a to the Revised Water License Application Support Document, April 2007.



**Figure 2.2: Proposed Doris North Responsibility & Accountability Chart**



**Operational Procedures** – Based on the identification of significant aspects of all operations, legal requirements and other obligations, operational control procedures will be developed and maintained. These procedures will be developed to cover commitments in all individual EHSMS plans and will be the main focus of training and awareness programs. The operational procedures will cover risks of goods and services used by MHL and include those related to specific activities of contractors and suppliers. The procedures will be assessed for applicability to new or changing activities as the project develops and moves through its various phases.

**Emergency Preparedness and Response** – The MHL EHSMS will include a procedure to develop and implement emergency response plans for all its operations. The Miramar Hope Bay Ltd. Emergency Response and Contingency Plan was specifically developed to apply to the Doris North Project, but also addresses the corporate management role in emergencies. Emergency response plans will be tested and reviewed on a regular basis and modified to correspond to changes in regulations, activities or operating conditions.

## **2.7 Checking and Correcting the System**

**Monitoring and Measurement** – A major component of the EHSMS will be the commitments to monitoring related to specified programs under various permits and agreements. Many of these programs will be covered with detailed procedures regarding data to be collected, analysis and reporting requirements. Procedures will be developed to ensure that monitoring is carried out as required and that monitoring equipment is maintained in reliable working order to meet manufacturers' specifications.

**Accidents, Incidents and Corrective Actions** – The EHSMS will include procedures for handling and investigating accidents and incidents arising from normal and unplanned activities. The corrective action system will include assessment of causes, taking corrective actions and following successful improvements – including modifying procedures. Prevention will be a major focus of the system, and success of the preventive action programs – training, communication and review, will be measured and reported.

**Audits** – MHL has already established the foundation of its Corporate Audit Program and will apply the program to the Doris North Project. The audit program will be expanded to cover all components of the EHSMS including compliance and success in implementing the EHSMS. The program will be based on Standards for Systems and Auditing such as ISO 14001, CSA Z1000, CSA Z773 and ISO 19011. The audit program will be carried out by both internal and external auditors. All auditors will meet the requirements outlined in the standards and in the MHL internal auditing procedures. Audits on the Doris North Project will be carried out at prescribed intervals on all phases, for example at 3mos, 6mos, 12, 18, 24 mos. and post-closure.

## **2.8 Management Review**

Senior Managers at MHL are committed to the development, implementation and successful continual improvement of the EHSMS. At the development stage, senior management will review and approve all core documentation such as policies and procedures. They will approve the EHSMS development plan and ensure financial and human resources are made available to meet objectives of the plan. Senior Management will be informed of successful implementation of the system through regular reports from the General Manager, Environment and the Site Managers. Senior Management will also review all audits and reports on significant accidents and environmental incidents. They will be informed immediately of all significant accidents and incidents, and respond in a way appropriate to procedures outlined in the Emergency Response and Contingency Plan.

On a pre-established basis, (annually or in some cases bi-annually) Senior Management and the Environmental Committee of the Miramar Mining Corporation Board of Directors will review a report on the EHSMS. In the interest of continual improvement, Senior Management will provide guidance on changes to the system and access to the resources needed to make the changes.

Miramar Hope Bay Ltd.  
Environmental, Health and Safety Management System Outline  
Doris North Project, Nunavut  
April 2007

This report, "Environmental, Health and Safety Management System Outline, Doris North Project, Nunavut, April 2007", has been prepared by Miramar Hope Bay Ltd.

**Prepared By**

---

**Lawrence J. Connell, P.Eng.  
General Manager, Environment**

## REFERENCES

Canadian Standards Association/International Association of Standardization (ISO). 14001:04. Environmental Management Systems – Requirements with Guidance for Use. 23 pp.

Canadian Standards Association/International Association of Standardization (ISO). 19011:03. Guidelines for quality and/or environmental management systems auditing. 31 pp.

Canadian Standards Association. Z773-03. Environmental Compliance Auditing. 21 pp.

Canadian Standards Association. Z1000-06. Occupational Health and Safety Management. 41 pp.

Miramar Hope Bay Ltd. Emergency Response and Contingency Plan. October, 2005. 38 pp. plus Appendices.

Miramar Hope Bay Ltd. Environmental Impact Statement. Doris North Project. Nunavut, Canada. October 28, 2005.

Miramar Hope Bay Ltd. Environment, Health and Safety Management System. Chapter 6. Technical Report. October 2005.

Miramar Hope Bay Ltd. Environmental Policy. September, 2006. 2 pp.

Miramar Hope Bay Ltd. Health & Safety Policy. September, 2006. 2 pp.

Occupational Health and Safety Management Systems. OHSAS 18001:1999.



## **APPENDIX A**

### **Miramar's Occupational Health and Safety Program**







### HEALTH & SAFETY POLICY

**People who work at Miramar are our greatest asset and our most important resource.** As such, Miramar Hope Bay is committed to the promotion of the health, safety and well-being of all of its employees and contractors, and the prevention of occupational injuries and illnesses. At Miramar, the ultimate objective is to eliminate every occupational injury and illness.

To achieve this objective, this statement of policy must guide our decisions and actions as we go about our daily activities, including the design and conduct of operations, selection of materials and resources, and the implementation of systems.

In order to meet the challenge of putting this policy into action, commitment by all employees and contractors from the top down is critical to its success.


Miramar's commitment to health and safety is based on the following principles:

- At Miramar, safety is everyone's business. All employees, executives, managers and supervisors take responsibility and accountability for health, safety and well-being as part of Miramar's internal responsibility system.
- We include safety and occupational health considerations as an integral part of the operations from design to closure.
- We seek to not only meet but, where possible, to surpass standards set by legislation and in the absence of legislation, apply cost-effective best management practices.
- We ensure that our employees receive suitable and adequate training to recognize, control and eliminate hazards or conditions that may cause or result in accidental losses.
- We work proactively with the public, contractors and governmental agencies in fostering a cohesive working relationship.
- We investigate the cause of all accidents, incidents and near misses and take immediate remedial and corrective action to prevent a re-occurrence.
- We constantly monitor our performance and when required, we make adjustments and/or adopt changes to ensure that our performance meets or exceeds acceptable standards.

Miramar involves employee participation at all levels in the development of programs directed toward continuous improvement of safe operations and towards minimization of incidents and the effects of such incidents when they occur. At Miramar we are committed to performing *every* job in a safe and healthy manner.

This Policy shall be reviewed annually for continual improvement as the organization grows and develops in accordance with its expectations.

  
\_\_\_\_\_  
Anthony Walsh  
Chief Executive Officer

  
\_\_\_\_\_  
Date



# **Occupational Health & Safety Program**

**(Program Elements)**

**Prepared: January 21, 2004**

**Revised: January 5, 2007**  
**June 3, 2005**

## INDEX

### Page #

3. SAFETY POLICY STATEMENT
4. RESPONSIBILITIES
  - Management
  - Supervisors
5. Employees
6. ORIENTATION PROGRAM
7. 5 POINT SAFETY SYSTEM
8. EMERGENCY PROCEDURES
9. OCCUPATIONAL HEALTH AND SAFETY COMMITTEES
10. JOB SAFETY ANALYSIS / PERFORMANCE OBSERVATION & RISK ASSESSMENTS
11. SUPERVISORS SAFETY MEETINGS
12. MUCKPILE TALKS
13. ACCIDENT/INCIDENT REPORTING
14. PLANNED INSPECTION PROGRAM
15. CLAIMS MANAGEMENT PROGRAM
16. DISCIPLINE SYSTEM



## **HOPE BAY SAFETY POLICY**

*Miramar Hope Bay Ltd. is committed to providing a safe and healthy work place by developing, maintaining and promoting safe and productive work practices in all aspects of its business.*

To achieve this, MHB will:

- Include safety and occupational health considerations as an integral part of its operations, from design to closure.
- Take all reasonable and practical measures to ensure the work place is free of potentially hazardous conditions.
- Provide information, training, procedures and protective equipment to enable employees to work productively in a safe environment.
- Ensure that all employees understand and follow established safe work practices and procedures.
- Ensure that all contractors employed by MHB abide by this policy.
- Maintain trained individuals or teams capable of dealing with medical and emergency situations.
- Improve occupational health and safety through continuous review and improvement of procedures.
- Ensure that all incidents are thoroughly investigated to eliminate or reduce any future occurrences.

On behalf of Miramar Hope Bay Ltd.

A handwritten signature in black ink, appearing to read "Anthony Walsh", is placed over a light grey rectangular background.

Anthony Walsh  
President and CEO  
Miramar Hope Bay Ltd.

## RESPONSIBILITIES

All persons employed at Miramar Hope Bay, including contractors and service providers, have responsibilities with regard to health and safety. Senior Management is ultimately responsible for the overall success of the program, but everyone has an important role in part with the **Internal Responsibility System**.

### ➤ MANAGEMENT

Insure that each level of supervision and all employees are in compliance with the Mine Health and Safety Act and Regulations.

Assure that proper training is being provided, and that employees are working in a safe and healthy manner.

Insure company policies and procedures are enforced.

Insure that personnel protective equipment of the appropriate type is made available to the operations.

Support supervisors in carrying out their duties to ensure their workers are safe.

### ➤ SUPERVISORS

Take immediate action to correct any unsafe condition or action.

Carry out the duties set out in the Act and Regulations.

Insure all persons in their charge are adequately trained and given clear instructions regarding the work they are to perform.

Expediently investigate and address health and safety matters drawn to his or her attention.

Provide personal protective equipment, along with training for its use, and make certain it is worn when necessary.

Issue appropriate discipline when violations of Company health and safety procedures occur.

➤ EMPLOYEES

Before commencing work, thoroughly check the worksite for hazards or dangerous conditions and not start work unless the worksite is safe. Also, leave the worksite at the end of the shift in a condition that allows work to be resumed safely.

Report all accidents and incidents to their supervisor.

Report any unsafe conditions immediately to their supervisor.

Obey all safety and health regulations as stated in the Mine Health and Safety Act and Company Safety Program.

Attend all safety and training that may be required.

Not be impaired by alcohol or drugs while at work.

Comply with instructions given for his / her own health and safety and those given for the health and safety of others.

Use the safeguards, safety appliances and personal protective equipment or devices provided by the company.

## ORIENTATION & TRAINING PROGRAMS

The Safety Orientation program is designed to meet the training needs of *all* new and experienced employees arriving on site. This includes all Miramar Hope Bay employees, contractors and service providers.

All persons arriving on site must go through the site induction before working on the Hope Bay belt.

All employees, including contractors, equipment operators and labourers will receive additional training as dictated by the nature of their work. Employees shall not be permitted to perform work without the proper training.

The main elements of the Orientation Program are described as follows:

- Drug and alcohol policy
- Workplace harassment policy
- Emergency Procedures
- Travel safety (snowmobile, helicopter, boat, etc.)
- Recreational travel
- Environmental
- Wildlife Interaction & Protection
- Personal Protective Equipment
- Communication systems
- Right to Refuse Work
- Hygiene Procedures
- Occupational Health and Safety Committee
- Employee Hand Book
- Tour of camp facilities

All employees, including equipment operators, labourers, and any other person as dictated by the nature of their work will receive additional training when required. This may include but not limited to:

- Lock Out Procedures
- 5 Point Safety System\*
- Fuel Handling training
- Maintenance General Safety Rules
- Fall Hazard Protection
- Core Handling and Cutting Procedures
- Hot Work Permit System
- Confined Space Procedures
- Safety rules for working around or on heavy equipment
- Any other specific training required by their work

\* At Hope Bay, all contract drilling crews, camp maintenance, equipment operators and labourers are required as a condition of employment, to participate in the 5-point safety system.

## 5 POINT SAFETY SYSTEM

The 5 Point Safety System, as the name indicates, is made up of five simple, but practical steps to follow. These steps are to be used by the supervisor as he checks on his work crews and by the workers themselves as they travel to their workplace and conduct their assigned work activities.

The steps are as follows:

- 1. Is the entrance and travelway to your work place in good order?**
- 2. Is your work area in order?**
- 3. Are employees working properly?**
- 4. Do an “Act of safety”**
- 5. Can and Will your employees continue to work safely?**

At Hope Bay, all contract drilling crews, camp maintenance, equipment operators, labourers and geology/exploration staff participate in the 5-Point Safety System.

All employees are encouraged to note any hazards, recommendations, safety concerns and positive feed back on their cards.

The respective management group has a responsibility to follow up in an appropriate and timely manner to any safety concerns identified by an employee.



## EMERGENCY PROCEDURES

Prompt, effective and organized EMERGENCY RESPONSE reduces the consequences and severity of Accidental losses.

At the Windy and Boston Camps Emergency Procedures have been established to ensure the quickest and most effective response is undertaken to save life, minimize property damage and limit the amount of down time. These procedures include efficient means of transportation in the event of a medivac emergency. These procedures are reviewed with employees during orientations and posted throughout the main camp complexes.

Trained Emergency Medical Personnel are located at each camp, and are available 24 hours per day to respond to all medical emergencies.

Emergency Response Teams are setup at each camp and the teams on a regular basis train in fire fighting and first aid.

Emergency heated shelters are in place at each camp and are fitted with all necessary emergency equipment and supplies. These facilities will be audited by the Occupational Health and Safety Committee, and Safety Personnel periodically to ensure they are in a good state.

Miramar Hope Bay has developed a Search and Rescue Plan for all employees reported overdue. These procedures will be initiated as per detailed in the plan.

## OCCUPATIONAL HEALTH AND SAFETY COMMITTEES

An Occupational Health and Safety Committee will be established at the Hope Bay camps. The committee's will be made up of people representing different areas of the operation, including contractors.

The NWT and Nunavut Mine Health and Safety Act and Regulations require employers to establish a Joint Health and Safety Committee that regularly employs 15 or more workers.

To be successful, the committee must operate in an atmosphere of cooperation and be effective in promoting and monitoring a sound occupational health and safety program.

The Committee's role in the workplace includes:

- To promote safe work practices
- To assist in creating a safe and healthy workplace.
- To recommend actions which will improve the effectiveness of the occupational health and safety program and
- To promote compliance with the Mine Health and Safety Act and Regulations.
- To regularly visit work sites and make recommendations; and
- Investigate reportable incidents and dangerous occurrences

Each committee established at the Windy and Boston Camps will have Co-Chairs. The Co-Chairs will be responsible to ensure minutes of meetings, and site inspections are recorded and distributed to the appropriate people for follow up.

Copies of the minutes of meetings will be posted for employees to review.

## JOB SAFETY ANALYSIS / PERFORMANCE OBSERVATION & RISK ASSESSMENTS

It is vital for the organization to develop processes to identify, analyze and find solutions to safety and health hazards associated with work, training, procedures and changes made within the organization. It is equally important to ensure workers are performing their work to the standards set by the Company in order to ensure their well-being, productivity and reduce the potential for other type of losses.

Job Safety Analysis – A Job Safety Analysis (JSA) is a method that can be used to identify, analyze and record

1. the steps involved in performing a specific job;
2. the existing or potential safety and health hazards associated with each step;
3. the recommended action(s)/procedure (s) that will eliminate or reduce these hazards and the risk of a workplace injury or illness.

Performance Observation – The most effective way in accurately determining how well a worker does his/her job is to observe them performing the work. Performance observation is a valuable tool to help the management meet their greatest responsibility – getting optimum performance from every person in your work group.

Risk Assessment – Risk assessment is a process for identifying, quantifying and controlling hazards and risks. It is a system to examine possible loss exposures resulting from hazards, changing conditions, and system failures. It is a proactive process and an integral part of business.

## SUPERVISORS SAFETY MEETINGS

All front line supervision is responsible to ensure that all workers are formally presented with a minimum of two safety meetings per calendar month or as often as required.

- The topics for safety meetings should be carefully selected well in advance of the meeting. Careful selection will ensure this important time is given to critical topics rather than spur-of-the-moment ideas. Selection in advance also allows more time for preparation.
- Audio and Visual Aids. Properly used visual and audio aid help both the supervision and the workers. A good visual aid “is worth a thousand words” because it instantly and vividly portrays things that are nearly impossible to convey verbally; it saves time, creates interest, and brings variety; it adds impact and remains in the memory long after the words have been forgotten.
- Location of the meeting. Most times safety meetings will be presented in a meeting room, lunchroom or training area. However, supervisors are not limited to these areas only. It maybe helpful to hold a meeting at a work station, or in an area where demonstration and/or inspection of equipment can be made. Using a little variety in this way will help catch the attention of the worker.
- Record of the Meeting. The supervisor presenting the meeting will make a record of his meeting by filling out a **Safety Huddle Report Form**.

Senior Company personnel or their designate will attend the supervisors meetings at their discretion.

## MUCKPILE TALKS

Muckpile talk is a communication tool used by supervision to bring safety related information to the attention of workers. These talks are produced as the need arises. These talks do not replace Monthly Safety Meetings, but provides critical information, which must be brought to the attention of workers in a timely manner. Some examples for Muckpile talks are Safety bulletins, addition of new safety procedures, Incident announcements, recommendations from accident/Incident investigations, etc.

- The Safety Department is responsible to prepare and issue a “Muckpile Talk” as requested by front line supervision, foremen or department heads.
- The front line supervisor will be responsible to ensure that the “Muckpile Talk” is reviewed with each of the workers he is responsible for.
- The “Muckpile Talk” can be presented at the workplace on a one to one or one to two basis.
- He must record the names of the people contacted on the “Muckpile Talk” form.
- He must perform the “Muckpile Talk” as soon as possible within one week of receiving the information.
- He must ensure that the completed review of the “Muckpile Talk” is submitted to the Safety Department. All “Muckpile Talks” will be kept on file.

## ACCIDENT/INCIDENT REPORTING

All reported accidents and incidents must be investigated immediately by the appropriate supervisor and/or Occupational Health and Safety Committee.

Prompt reporting and investigation is vital to the investigation program. All personnel are required to report all occupational injuries and illnesses, property and/or environmental damages, production delays and near miss incidents to supervision and the on site medic, at least by the end of the shift on which it occurs.

### Responsibility

The immediate supervisor responsible for the people, property or process involved in an accident or incident will immediately conduct a preliminary investigation of the event to determine the LOSS POTENTIAL RATING.

### Notification

Ensure the appropriate people are notified as indicated by the loss potential rating.

- i) Ratings of five or less require the preliminary investigation by the immediate supervisor only.
- ii) Ratings from five to nine require an in depth investigation by the site superintendent or project manager or their designate and contractor foreman, if it involves one of his employees.
- iii) Ratings of ten and over require an in depth investigation by the site superintendent or project manager or their designate and when appropriate the OH&S committee.

When appropriate the site superintendent or project manager or their designate responsible for any in depth investigation will make the necessary arrangements to have the worker member of the OH&S committee available for the investigation. He will also immediately notify any Government Agencies as required by legislation.

## PLANNED INSPECTION PROGRAM

There are two types of safety inspections required by all front line supervisors:

- Informal or causal inspections**
- Planned inspections**

### INFORMAL OR CASUAL INSPECTIONS

This inspection will be conducted on a daily basis of each active work site as the supervisor makes his rounds. All unsafe conditions and unsafe acts observed must be corrected in a timely manner. Notes of hazards observed and the corrections made will be noted in the shift log book. This type of inspection will continue throughout the shift as the supervisor goes about his /her daily routine.

### PLANNED INSPECTIONS

Each front line supervisor will do a planned safety inspection once a month of their area of responsibility. Whatever amount of time is required to inspect his /her area of responsibility will be designated for solely for conducting the inspection, writing a report and ensuring the necessary corrections are completed.

## CLAIMS MANAGEMENT PROGRAM

The goal of claims management is to return the injured worker to a productive working life. This requires the active participation of the worker, the employer and the health care community, working with the Workers' Compensation Board (WCB) in a cooperative relationship.

The Early Intervention Program (EIP) is a partnership involving injured workers, employers, caregivers – particularly the primary practitioner – and the WCB. The program's goal is to facilitate the injured worker's resumption of normal life activities, including return to work, in the most appropriate, timely and safe manner.

Return to Work Plan – A cooperatively developed return to work plan assists the worker's recovery by making returning to the workplace a part of the rehabilitation process.

---

### Modified Work Program

Temporarily disabled Miramar employees will be provided with alternative employment or modified work in an attempt to help rehabilitate the employee back to full duty status.

Employees who have been injured at work, subsequently attended medical aid, and are disabled from performing their regular work, will be considered for employment under this program.

Verification and determination of medical limitations for employees temporarily disabled from regular work shall be made by the Department Head in consultation with the Safety Department based on the information provided by the Physician's Report form.

### Accident Statistical Database

In part with our claims management program, an accident statistical database is constantly maintained, which will allow us to determine accident frequencies and trends. Safety Statistics will be posted for employee information.



## DISCIPLINE SYSTEM

In order to ensure that the Company's facilities operate efficiently and to ensure that all employees are treated fairly and consistently, it is necessary that they follow certain rules and maintain certain basic standards of work, safety and dependability.

The objective of the Company's progressive discipline system is to correct unacceptable behaviour in a positive fashion. Shortcomings are to be brought to the attention of the employee and if the employee continues to fail to meet reasonable standards of behaviour, discipline in the form of formal warnings together with, in the appropriate case, disciplinary suspensions will result. In the event that an employee fails to modify his or her behaviour to conform to acceptable standards, discharge for cause on the basis of a culminating incident will result. There are also some infractions which by themselves justify immediate discharge."



## Employee Indoctrination Program



*Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731*

### **MEMORANDUM**

**TO:** Site Superintendent, Site Supervisors & Safety Coordinator  
**FROM:** Dave Power  
**CC:** Project Managers  
**SUBJECT:** **Employee Indoctrination Program**  
**REVISION DATE:** January 5, 2007  
**REVISED FROM:** May 17, 2006 & November 14, 2005

---

This memo updates induction procedures for **ALL** people working on the Hope Bay project.

1. At the start of each drill season, all employees, contractors, consultants and service providers must go through the site induction process **before** working on the Hope Bay belt.
2. All employees, contractors and service providers returning to camp from their schedule time off or for other reasons, will be briefed on any new information regarding their health and safety. This will ensure all new information is properly reviewed prior to employees being released to their specific work area.
3. The induction and safety briefing will be presented by the Site Supervisor or Safety Coordinator and will be assisted by the Site Superintendent and Project Manager.
4. Be aware that some employees arriving may not have English as their first language. Do not assume that they have completely understood spoken instructions.
5. It must be made very clear that Miramar takes its environmental and safety obligations and procedures very seriously, that all employees must comply with the company's policies and procedures, and that failure to do so could result in disciplinary action, up to and including dismissal.
6. The indoctrination process will follow an approved written format and address the following major areas:
  - i) Hope Bay Safety Policy
  - ii) Drug and alcohol policy
  - iii) No Smoking policy
  - iv) Workplace harassment policy
  - v) Wildlife interaction policy
  - vi) Emergency procedures / Medical emergency procedures
  - vii) Fire extinguishers
  - viii) Personal protective equipment
  - ix) Environmental conditions
  - x) Travel safety
  - xi) Recreational travel policy
  - xii) Communications
  - xiii) Environmental policy /procedures



7. Following the induction process, all personnel will be required to sign the attached “Acknowledgement of Hope Bay Project Policies” form, which will be kept on file (page #3).
8. Following a return to work briefing, all personnel will be required to sign the attached “Return To Camp Safety Briefing” form, which will be kept on file (Page 4).
9. Additional acknowledgement of training can be found on Page 5.
10. All Miramar personnel and contractors will be provided with an Employee Handbook.
11. All personnel and contractors will provide a medical history and emergency contact information on a confidential basis. This information will be filled out on a form provided during the Induction.
12. A tour of the camp facilities including the emergency refuge, fire pull station locations, first aid and emergency equipment locations, common areas, work areas and sleeping areas is to be given as part of the induction process.
13. Following the induction and camp tour, all personnel and contractors should report to their supervisor for any additional briefing for more specific tasks/procedures pertinent to their employ.
14. All employees including contractors, service providers and visitors will receive additional training, as required by the work they perform, or the area they will be visiting. The following lists some, but not limited to all additional training.
  - Lock out procedures
  - 5 Point Safety System
  - Fuel Handling Safety Training
  - Maintenance General Safety Rules (outlined in Employee Handbook)
  - Safety Rules for working around or on heavy mobile equipment
  - Core Handling and Cutting Safety Procedures
  - Hot work permit system
  - Confined space
  - Unsafe tag procedure
  - Fire extinguisher training
  - Fall hazard protection
  - Fire fighting equipment
  - Storage & Handling of Explosives
  - Bear Protection Training
  - Any other specific training required by their work or the area visited.
15. The Site Supervisors or Safety Coordinator will record and file the names of everyone attending the Indoctrination or Return To Camp Safety Briefing



*Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731*

## **ACKNOWLEDGEMENT OF HOPE BAY PROJECT POLICIES & PROCEDURES**

### **Employee Indoctrination Program**

Miramar Hope Bay Ltd. owns and operates the Hope Bay project in Nunavut and has a number of policies and safety procedures in place to ensure the health and safety of all personnel working in the belt, and to ensure the protection of the environment. By doing so, we will provide a safe workplace for all.

Miramar's policies & procedures state that:

1. The health and safety of people is paramount and all activities will be carried out in accordance with Miramar's policies and safety procedures;
2. The protection of the environment is a priority and all work will be carried out in accordance with Miramar's environmental policies;
3. Outdoor recreational activities are only permitted in accordance with Company procedures;
4. The No Smoking Policy will be adhered to at all times.
5. The presence of drugs or alcohol on the Hope Bay belt will not be tolerated and is cause for immediate dismissal or removal from Miramar property;
6. Workplace harassment, including sexual harassment, is not acceptable.

I, the undersigned hereby acknowledge that I have been informed of Miramar's policies and procedures, that these policies and procedures have been explained to me and that I have been provided a copy of the employee handbook. I fully understand my rights, duties and obligations as outlined in this induction. I also understand that failure to comply with company policies and procedures may result in disciplinary action, up to and including dismissal or removal from Miramar property.

---

**Date**

---

**Name (print)**

---

**Company Name**

---

**Signature**



*Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731*

### **RETURN TO CAMP SAFETY BRIEFING**

All employees, contractors and service providers are required to undergo a FULL induction at the start of each drilling season or upon their first time arriving at camp. After ANY absence from camp for a period greater than one week and/or when NEW information is available, those employees MUST meet with the Site Supervisor, Safety Coordinator or his designate for a safety briefing prior to being released to their specific work area.

---

**Medical Information:** (check one)

Has your medical information changed since you filled out the last PERSONAL MEDICAL QUESTIONNAIRE?

☐ Yes ☐ No (If yes, fill out another Medical Questionnaire)

---

**Safety Briefing**

- |   |  |
|---|--|
| <input type="checkbox"/> Alcohol and Drug Policy                    | <input type="checkbox"/> Fire Extinguishers                              |
| <input type="checkbox"/> No Smoking Policy                          | <input type="checkbox"/> Personal Protective Equipment Procedure         |
| <input type="checkbox"/> Workplace Harassment Policy                | <input type="checkbox"/> Recreational Travel Policy                      |
| <input type="checkbox"/> Right to Refuse Unsafe Work                | <input type="checkbox"/> Medical Emergencies / Medivac Procedures        |
| <input type="checkbox"/> Fire Evacuation Procedure & Muster Station | <input type="checkbox"/> Wildlife Interaction /Bear Protection Procedure |
| <input type="checkbox"/> Environmental Conditions (weather)         | <input type="checkbox"/> Environment & Spill Procedures                  |

☐ **Other:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

**Check box if information was covered during safety briefing. Write in any new information covered during the safety briefing.**

---

**Site Supervisor/ Safety Coordinator: This employee has received a Safety Briefing upon his/her return to camp**

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Employee: I, the undersigned hereby acknowledge that I have been informed of all new information as describe above and/or Policies or Procedures which required some clarifying.**

Name: \_\_\_\_\_ (Print)

Signature \_\_\_\_\_ Date \_\_\_\_\_



Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731

## **ACKNOWLEDGEMENT OF HOPE BAY TRAINING**

- Lock Out Procedure
- 5 Point Safety System
- Fuel Handling Training
- Maintenance General Safety Rules (outlined in Employee Handbook)
- Safety Rules for working around or on heavy mobile equipment
- Core Handling and Cutting Safety Procedures
- Hot work permit system
- Confined Space
- Unsafe Tag Procedure
- Fire Extinguisher Training
- Fall Hazard Protection
- Fire Fighting Equipment
- Storage & Handling of Explosives
- Bear Protection Training
- (Other Training) \_\_\_\_\_  
(specify) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Instructor:** *This employee has received instruction & training in the items checked.*

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Supervisor:** *This employee has received an area orientation as per MSR-6.03(a).*

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Employee:** *I have received induction orientation & training as described above and it is my responsibility to review and become fully informed of the Mine Safety Regulations and Safety Hand Book issued during my induction.*

Signature \_\_\_\_\_ Date \_\_\_\_\_



# Drug & Alcohol Policy

**Policy Custodian:** Human Resources

**Date Last Reviewed:** August 3, 2005

## POLICY STATEMENT

Miramar Mining Corporation is committed to maintaining a safe, healthy and productive work environment for all employees, contractors, visitors and guests.

Miramar has *zero tolerance* for the unlawful manufacture, distribution, dispensation, possession or use of illegal drugs or possession or use of alcohol at any Miramar operation or field location. The policy is designed to ensure that employees know and understand our position on zero tolerance and that all employees will be dealt with fairly.

We believe that every employee has a role to play in maintaining a safe, healthy and productive work environment and each employee has the responsibility to report for work in a condition suitable to carry out assigned duties in a safe and efficient manner. The responsibility of promoting prevention is shared among the company, contractors, and employees. The Company encourages employees and contractors affected by substance abuse to seek assistance with the assurance of our support and confidentially through that process.

## POLICY SCOPE

This policy applies to all employees of Miramar Mining Corporation and its subsidiaries working at any Miramar office, operation or field location such as an exploration camp.

Contractors are required to have a corresponding policy that supports our requirements. Visitors will be informed of our policy of zero tolerance to drugs and alcohol at the time their visit is approved. The site manager and/or any Miramar employee will have the right to refuse a visitor access to the site if they have reason to suspect the visitor is under the influence of drugs or alcohol.

All employees and contractors will be provided with education at the time of orientation to ensure their understanding of this policy.

## FITNESS FOR DUTY

Fitness for duty standards identify employees' individual responsibility to be free from the influence of harmful substances when reporting for work to ensure they are capable of performing their work functions in a safe and efficient manner.

## POLICY VIOLATIONS

Any suspected violation of any provision of this Policy will mean that the employee or contractor will be suspended pending investigation. In the event that there is a violation of the policy, the employee will be terminated or the contractor will be removed from the work site.

---

**READ, AGREED & REVIEWED on:**

Date: \_\_\_\_\_

Name: \_\_\_\_\_  
(PRINT)

Company Name: \_\_\_\_\_  
(PRINT)

Signature: \_\_\_\_\_





*Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731*

## **Hope Bay Project - New Arrival Induction Outline**

Miramar Hope Bay Ltd. owns and operates the Hope Bay project and has a number of policies & procedures in place that address the health and safety of all personnel working in the belt, and to ensure the protection of the environment, and to ensure operations are conducted in a good and workmanlike manner. This session is designed to ensure you understand your rights, duties and obligations in respect of these policies and procedures and that failure to comply with these policies and procedures may result disciplinary action, up to and including dismissal.

### **1) Safety Policy**

Miramar Hope Bay Ltd. is committed to providing a safe and healthy work place by developing, maintaining and promoting safe and productive work practices in all aspects of its business.

To achieve this, MHB will:

- Include safety and occupational health considerations as an integral part of its operations, from design to closure.
- Take all reasonable and practical measures to ensure the work place is free of potentially hazardous conditions.
- Provide information, training, procedures and protective equipment to enable employees to work productively in a safe environment.
- Ensure that all employees understand and follow established safe work practices and procedures.
- Ensure that all contractors employed by MHB abide by this policy.
- Maintain trained individuals or teams capable of dealing with medical and emergency situations.
- Improve occupational health and safety through continuous review and improvement of procedures.
- Ensure that all incidents are thoroughly investigated to eliminate or reduce any future occurrences.

On behalf of Miramar Hope Bay Ltd.

Anthony Walsh  
President and CEO  
Miramar Hope Bay Ltd.



## **2) Drug and alcohol policy:**

### **POLICY STATEMENT**

Miramar Mining Corporation is committed to maintaining a safe, healthy and productive work environment for all employees, contractors, visitors and guests.

Miramar has *zero tolerance* for the unlawful manufacture, distribution, dispensation, possession or use of illegal drugs or possession or use of alcohol at any Miramar operation or field location. The policy is designed to ensure that employees know and understand our position on zero tolerance and that all employees will be dealt with fairly.

We believe that every employee has a role to play in maintaining a safe, healthy and productive work environment and each employee has the responsibility to report for work in a condition suitable to carry out assigned duties in a safe and efficient manner. The responsibility of promoting prevention is shared among the company, contractors, and employees. The Company encourages employees and contractors affected by substance abuse to seek assistance with the assurance of our support and confidentially through that process.

### **POLICY SCOPE**

This policy applies to all employees of Miramar Mining Corporation and its subsidiaries working at any Miramar office, operation or field location such as an exploration camp.

Contractors are required to have a corresponding policy that supports our requirements. Visitors will be informed of our policy of zero tolerance to drugs and alcohol at the time their visit is approved. The site manager and/or any Miramar employee will have the right to refuse a visitor access to the site if they have reason to suspect the visitor is under the influence of drugs or alcohol.

All employees and contractors will be provided with education at the time of orientation to ensure their understanding of this policy.

### **FITNESS FOR DUTY**

Fitness for duty standards identify employees' individual responsibility to be free from the influence of harmful substances when reporting for work to ensure they are capable of performing their work functions in a safe and efficient manner.

### **POLICY VIOLATIONS**

**Any suspected violation of any provision of this Policy will mean that the employee or contractor will be suspended pending investigation. In the event that there is a violation of the policy, the employee will be terminated or the contractor will be removed from the work site.**



### **General camp rules and regulations:**

#### **3) Smoking**

a) Smoking is permitted only in designated areas. Do not smoke around fuel storage areas or aircraft. Maintain a safe distance of at least 30 meters at all times. Smoking where it is not permitted or tampering with smoke detectors may result in immediate dismissal. Cigarette butts must be disposed properly; it is not acceptable to throw them on the ground.

**b) Instructor – Review NO SMOKING POLICY.**

### **NO SMOKING POLICY**

Miramar Mining is committed to providing its employees with a smoke-free work environment to protect the health, safety and comfort of employees from the adverse effects of tobacco smoke.

This is supported by the *Environmental Tobacco Smoke Worksite Regulations*, which comes into effect starting May 1, 2004. This legislation requires smoking in all enclosed workplaces in the NWT and Nunavut be banned.

Employees and contractors working on any surface operation owned and operated by Miramar Mining in the NWT or Nunavut will be permitted smoking privileges only during regular scheduled breaks, outside the enclosed worksite within a three meter radius of any entrance to or exit from the enclosed worksite. Smoking breaks cannot incur any safety risks or cause production delays.

Visitors will not be permitted to smoke on any of its surface operations owned and operated by Miramar Mining in the NWT or Nunavut.

Employees, contractors and visitors working or visiting any underground operations owned and operated by Miramar Mining in the NWT or Nunavut will not be permitted to smoke at any time.

A worksite is enclosed once the walls are up and the roof is in place. Doors and windows do not need to be in place for it to be considered enclosed. This includes, at any time, all Company vehicles, and all other vehicles operating on any of its properties.

Miramar Mining does recognize that tobacco is an addictive substance. In the spirit of good health and fitness, all employees using tobacco are encouraged to give the product up. There are enormous benefits to be gained by quitting smoking. As soon as you stop, your body begins to repair the damage caused to it, and you start to reduce the risk of smoking-related diseases.

Miramar Mining takes this legislation seriously and requires that all employees and contractors comply with it at all times while on any of their premises in the NWT and Nunavut regions.



#### **4) Workplace harassment policy:**

- a) Workplace harassment, including sexual harassment, is not acceptable.
- b) Workplace harassment (including sexual harassment) is one or a series of incidents involving unwelcome comments or actions concerning the person's race, colour, ancestry, place of origin, political belief, religion, marital status, physical or mental disability, age, sex, or sexual orientation
  - i) when such conduct might reasonably be expected to cause emotional or physical insecurity, discomfort, offence or humiliation to another person or group;
  - ii) when submission to such conduct is made either implicitly or explicitly a condition of employment;
  - iii) when submission to or rejection of such conduct is used as a basis for any employment decision including, but not limited to, matters of promotion, raise in salary, job security or benefits affecting the employee; or
  - iv) when such conduct has the purpose or the effect of interfering with a person's work performance or creating an intimidating or hostile or offensive work environment.
- c) This policy applies not only to work but to work-related social functions, work assignments which take place outside the office or in the field, over the telephone or elsewhere if the person harassed is there as a result of work-related responsibilities or a work-related relationship.
- d) Members and employees of the company against whom a claim of workplace harassment is substantiated may be disciplined, up to and including dismissal. This policy will be applied without regard to status or seniority.
- e) A person who considers that she or he has been subjected to workplace harassment is encouraged to bring the matter to the attention of the person responsible for the conduct. Where the complainant does not wish to bring the matter directly to the attention of the person responsible, or where such an approach is attempted and does not produce a satisfactory result, the complainant should seek the advice of either our Vice President of Human Resources, Heather Duggan or general counsel, David Long, who have been appointed as advisors.
- f) Details of the policy and procedures for making a complaint are provided in the Employee Handbook.

#### **5) Wildlife interaction policy:**

- a) Avoid direct contact with wildlife.
- b) Do not feed wildlife.
- c) No firearms are allowed on the property, with the exception of the Site Supervisors, Safety Coordinator or Project Manager, who will have access to Company registered firearms for safety purposes. The Site Supervisor, Safety Coordinator or Project Manager must have a valid possession licence and ensure that the firearms are stored in a secure, locked facility under his / her supervision. If local Inuit travelers bring firearms to camp while visiting, they are to be stored in the same secure, locked facility.



- d) There are grizzly bears in the Hope Bay area and they can be VERY DANGEROUS. Learn about bear safety measures and how to reduce your chances of being injured should you have an encounter with one. Your supervisor, Safety Coordinator or the Site Supervisor can provide you with training, literature, and videos dealing with this very important subject. An awareness video entitled “Safety in Bear Country” is available for viewing. Do not venture outside the confines of the camp unless you have the proper bear deterrent measures and have received proper training in its use. This includes items, such as, bear bangers and bear mace. **INSTRUCTOR: Review Bear Protection Procedure (May to October).**
- e) Rabies has been confirmed in foxes near Windy & Boston Camps. Treat any animal that does not appear to be acting normally as though it may have rabies. Report any unusual animal behaviour to the Site Supervisor. Be especially careful around foxes and wolves.

## 6) Emergency procedures

- a) Fire precautions:
  - i) Smoke detectors are located throughout the camp complex. Check them periodically by pressing the test button, and report any problems with them to the site supervisor. **NEVER TAMPER WITH THEM OR REMOVE THE BATTERY.**
  - ii) Emergency clothing – Always have boots and warm clothing available in your sleeping area when sleeping;
  - iii) Evacuation plans are posted throughout the camp – **Instructor - review these procedures.**

### Fire Procedures

- On discovering a fire, carry out the following steps immediately: Small fires that can be safely extinguished should be put out. Ensure there is a safe exit or retreat at your back and that you fight a fire from fresh air.
- If unable to put the fire out, initiate emergency procedures. Sound the alarm nearest to you.
- Remain calm;
- Report the fire IMMEDIATELY (radio, telephone, etc)
- Give your full name; location you are calling from; the location and size of the fire, and advise you are evacuating to the muster station;
- Call out to the people in the area to warn them of the danger;
- Evacuate all persons to the muster station;
- Do not pass through smoke;
- Feel all doors before you open them – if they are hot to the touch, use another route. If no other route is available, return to the closest safe place and close the door;
- Go to the window and open it to get fresh air and call for help to get assistance if necessary to exit through an open window.
- Close (but do not lock) all doors behind you as you leave the area;
- Never re-enter an area of a fire until the **ALL CLEAR** has been given by the Senior Person in charge.
- Report to the muster station



-A roll call will be taken by the supervisor (s) in charge

-If you are able to put the fire out yourself, make sure the fire is completely out before leaving the scene. Use the radio or telephone to inform the site responsible person and inform them of the details. Maintain a fire watch until there is no chance that the fire will restart.

iv) Muster stations – **Describe & show location for appropriate camp;**

v) Emergency supplies – Sleeping bags, stoves and food, etc., are kept in Muster Station.

vi) **Advise having Medivac Procedures.**

b) Air horns /sirens:

i) Airhorns/sirens are used for emergency situations:

ii) Airhorns/sirens are located in the following locations [**describe**];

iii) Signals are posted by the air horns.

iv) Windy camp has sirens strategically located throughout the camp [**describe**]

c) Fire Extinguishers

**Know where they are!**

Operating instructions for cartridge operated Dry Chemical Extinguishers.

1. Remove Ring Pin.
2. Remove hose from clamp.
3. Push down lever (this pressurizes the extinguisher and you should hear a “hissing” sound).
4. Squeeze nozzle (open nozzle fully – do not throttle the nozzle).
5. Direct stream at base of flames, sweeping stream rapidly side to side. (Advance slowly while sweeping flames and overlap the fire area. Keep wind and drafts at your back.) Never turn your back on the fire.

Operating instructions for Carbon Dioxide (Co2) Fire Extinguishers. Predominantly used on electrical fires.

1. Remove Ring Pin.
2. Remove hose from clamp
3. Squeeze trigger.
4. Direct stream at base of flames sweeping rapidly side to side. (This extinguisher is a gas type and is not very effective where wind or drafts are present.) Do not spray yourself or others as this will cause severe freezing.



## **7) Personal Protective Equipment**

- a) Review the Personal Protective Equipment Procedure.

## **8) Environmental Conditions (winter):**

- a) Weather at Hope Bay can be severe:
  - i) Be aware of weather conditions, they can change very quickly.
  - ii) White-out conditions with high winds and poor visibility are extremely dangerous. Do not work outside when conditions are unsafe.
  - iii) An official “White out” will be called by the Project Manager or his designate after consulting with the Site Superintendent or his designate. All work must stop and personnel will not move from their location until the ‘All Clear’ is given by the Project Manager. The same situation may arise from time to time during the warmer months when helicopter support is unable to access remote work sites when the weather is not favourable for flying.
  - iv) Always dress appropriately when working outdoors.
  - v) Be aware of the symptoms of, and the treatment for frostbite and hypothermia. The Medic can provide information on this topic.
  - vi) Refer to the Winter Survival training course.
  - vii) Do not allow yourself to be rushed.

## **9) Travel safety (snowmobile, helicopter, boat).**

- a) Miramar has procedures regarding travel by boat, snowmobile, plane and helicopter, which are detailed in the Employee Handbook.
- b) Ensure you are familiar with these policies and procedures before travelling by one of these methods.
  - i) Snowmobiles (in season)
    - (1) Keep speed in and around camp to a minimum (20 km) and slower when travelling near pedestrians.
    - (2) Watch out for equipment and people
    - (3) review snowmobile operation/refuelling procedures and minor repairs from the operators manual
    - (4) No travelling on bare tundra
    - (5) Roads and trails are picketed, so follow these routes and stand up any fallen pickets.

### **Instructor - Review Snowmobile Travel from Employee Handbook – (winter)**

- ii) Runways and planes
  - (1) Stay off runways unless given permission by the Site Supervisor;
  - (2) Do not tamper with aircraft radio or altimeter settings – these are critical to safe landing and takeoff.



iii) Helicopter (in season)

- (1) Advise of location of helicopter landing sites;
- (2) Only approach helicopters from the front, once the pilot has seen you;
- (3) NEVER approach the tail section of the helicopter.
- (4) A helicopter safety orientation is to be undertaken by the pilots prior to your first flight each operating season, and will be reinforced at all times. The pilots will provide the Site Supervisor or Safety Coordinator with a list of the names of those who have attended this training.

**10) Recreational travel policy (individual for each camp):**

- a) Outdoor recreational travel is only permitted in accordance with Company policies, as set out in the Employee Handbook, which addresses issues such as:
  - i) Obtaining permission, signing in and out;
  - ii) Permitted hours and areas for recreational travel;
  - iii) Size of travel group and safety equipment.

**Instructor - review Policy for travel outside of Camp Areas**

- Any person leaving the camp for work purposes shall receive permission from their immediate supervisor.
- Any person leaving the camp for recreational purposes shall obtain the permission of either the Project Manager or the Site Supervisor.
- Recreational travel shall only be permitted between the hours of 7:00 AM to 10:00PM between the months of May and September and 8:00 AM to 8:00 PM between the months of October and April.
- In addition to receiving permission from management to leave the immediate camp area but staying within the proscribed area all persons are required to sign out on the board provided, noting their intended location and expected return time. Upon completion of your trip you are responsible to remove your name from the board. Under no circumstances is any other person permitted to do so.
- Persons shall be permitted to travel alone ONLY within the hiking limits outlined on the area site map and shall be required to carry a 2-way radio at all times and any other equipment as directed by the supervisor. This map and these guidelines will be posted in a conspicuous place and shall also be given to each person upon camp orientation (employee handbook).
- All recreational travel outside the proscribed area shall be done in a minimum of pairs and shall remain in sight of each other at all times. If you are leaving the proscribed area an agenda including arrival time back to the camp must be given to the Project Manager or the Site Supervisor.
- All work travel outside the proscribed area shall be done in a minimum of pairs who shall remain in sight of each other or in radio contact. Your immediate supervisor must be made aware of your work location.
- If traveling via snowmobile make sure to carry sufficient fuel to complete a round trip with at least one half tank of gas in reserve, upon trip completion. Survival gear must be carried when traveling distances which may make returning to camp difficult in the event of a breakdown or encountering severe weather conditions.
- All travelers outside of radio communication range shall carry a portable satellite telephone, and must have received training to its use.
- Any boat travel must be in accordance with the company's boat travel policy.





## 11) Communications -

- a) Provide details of radio channels (**ensure employees are directed to use the proper channel as per their location, and not to tie-up other frequencies un-necessarily.** (ie; using repeater frequency for communication within the camp) **STRESS THE IMPORTANCE OF THIS ISSUE.**
  - i) Windy Camp & First Aid – Channel 1
  - ii) Boston Camp & First Aid – Channel 4
  - iii) Boston repeater – Channel 3
  - iv) Drillers – Channel 7
  - v) Surveyors – Channel 8
- b) Have personnel write current telephone numbers in Employee Handbook
  - i) Site Supervisor (Boston and Windy)
  - ii) Project Manager (Boston and Windy)
  - iii) Emergency Telephone (Boston and Windy)

## 12) Medical emergency procedures:

- a) Provide the name and location of First Aid Attendant/Medic/Nurse currently on site;
- b) **Non-limb or non-life threatening:** Provide ABC's of First Aid and keep patient warm. Do not leave injured person alone. Contact First Aid Attendant immediately for instruction.
- c) **Life or limb threatening:** i.e. Dislocations and fractures with major joint involvement, injuries to the head, neck, collarbone, chest or abdominal areas accompanied with severe pain or breathing problems and massive bleeding. Provide ABC's of First Aid and keep patient warm. Keep patient still and lying down. Do not leave injured person alone. Contact Nurse/Medic who must be dispatched to the patient immediately with a Satellite telephone.
- d) To summon First Aid Attendant/Medic/Nurse:
  - i) Use Radio channel [**state channel for appropriate camp**]: “Medic, Medic, Medic.”
  - ii) Stay calm, talk clearly and keep silent if not involved. Stay on the same radio channel and stand by for instructions. All work must stop!
- e) Any Medivac will be initiated by the Nurse/Medic who will call Stanton hospital and liaise with the Accepting Physician. The patient's condition will be given at which point the route and transportation will be decided in-conjunction with the Site Superintendent /Site Supervisor and Project Manager.



### **13) Good Hygiene**

- a) Good hygiene practices can reduce the spread of disease. Discuss the importance of regular showering and the practice of washing hands frequently. Help the Camp Staff by picking up after yourself. Don't leave dirty dishes around. Take them back to the kitchen for proper cleaning. Boots in the main camp are not allowed.

### **Environmental Policy**

- 1) The protection of the environment is a priority and all work will be carried out in accordance with Miramar's environmental policy.
- 2) This policy is detailed in the Employee Handbook, and should be reviewed. Special care should be taken to:
  - a) Ensure all operations are conducted in an environmentally sound manner to ensure compliance with all applicable national and local regulations;
  - b) Avoid releasing any deleterious substances (including chemical, fuel, drill cuttings or other unauthorized materials) into the environment, and especially any water body;
  - c) Minimize its impacts on land and vegetation;
  - d) Avoid unnecessary disturbance to wildlife from our activities.
  - e) There are requirements for handling of deleterious substances (including fuel). Make sure your supervisor has familiarized you with these requirements before you do anything.
- 3) Miramar has established and maintains appropriate emergency response plans for all activities and facilities – familiarize yourself with those applicable to your work area;
- 4) Report all spills to your supervisor who is to notify the Site Superintendent /Site Supervisor and Project Manager, who are responsible for determining what further action needs to be taken;
- 5) Please put all litter in the appropriate receptacles.
- 6) All employees are encouraged to report to their supervisors or the project manager any known or suspected departure from these policies and procedures.

### **Know What to Do about Spills**

Accidental fuel or oil spills may cause impacts to the land, water and fish habitat. To minimize the occurrence of spills, we require personnel to conduct regular maintenance and inspections of any equipment that uses fuel or oil.

You should be familiar with the spill containment and clean-up procedures outlined in the Spill Contingency Plan, which is posted at key locations in each camp.



If you notice a spill, do what you can to stop and contain the discharge, and notify your supervisor as soon as possible.

When refueling vehicles, machinery or tent supply barrels, place Enviromat sorbant beneath hoses, valves or nozzles. Enviromat is available from the site warehouse/stores.

Spill kits should be located at fuel caches, and on all heavy equipment. If you notice the absence of a spill kit, please advise the Site Supervisor

### **HOPE BAY ENVIRONMENTAL POLICY**

Miramar Hope Bay is committed to maintaining sound environmental practices in all of its activities.

To achieve this, MHB is working with its employees and contractors will:

- Examine the potential impact to the environment of all proposed activities and take steps to minimize or where possible eliminate the impact.
- Ensure that all activities are in compliance with all environmental legislation and regulations.
- On a continuous basis, determine the MHB impact to the environment and through continuous improvement, strive to attain higher levels of environmental performance.
- Maintain a high level of environmental protection by applying practices and technologies that minimize impacts and enhance environmental quality.
- Maintain dialogue with communities and other stakeholders within the area of influence of the Hope Bay Project.
- Progressively rehabilitate disturbed areas, develop closure plans that can be continuously improved and incorporate new technologies where practical.
- Encourage cooperative research programs with government and other stakeholders to better understand and monitor impacts associated with the Hope Bay Project.
- Train all employee and contractors to understand their environmental responsibility related to MHB.

On behalf of Miramar Hope Bay Ltd.

Anthony Walsh  
President and CEO



### **Safety Statement**

- 1) The health and safety of people is paramount and all activities will be carried out in accordance with Miramar's policy.
- 2) The Mine Health and Safety Act of Nunavut requires that an Occupational Health and Safety Committee (OHSC) be established at each work site. The committee is to be comprised of worker representatives from all work areas and its purpose is to discuss concerns about workplace health and safety. The committee will address concerns and may make recommendations to management.
- 3) Miramar Hope Bay is committed to working with the OHSC to improve safety. If you have concerns about health and safety matters, you should talk to a fellow worker who is a member of the OHSC. *We urge you to do so, because we would prefer to hear your concerns and address them rather than to wait until someone is injured.*
- 4) Miramar's policy states that "Miramar Hope Bay Ltd. is committed to providing a safe and healthy work place by developing, maintaining and promoting safe and productive work practices in all aspects of its business." Please refer to the Safety Policy statement in your Employee Handbook.
- 5) To achieve this, Miramar includes safety and occupational health considerations as an integral part of its operations. Details of the policies and procedures are outlined in the Employee Handbook for your review.
- 6) You have the right to refuse unsafe work. If you believe conditions or the task is unsafe, do not proceed and notify your supervisor, the Site Superintendent / Site Supervisor or the Project Manager.
- 7) You are required to immediately report all injuries to the medic and your supervisor. Also, all incidents causing damage, close calls and near misses must be reported to your supervisor as soon as possible.

### **Conclusion**

Miramar's Management and board of directors take their responsibility towards safety, environment and workplace practices seriously and we expect everyone working on the Hope Bay belt to do so as well. Through this induction process, you have now been informed of Miramar's policies, had them explained to you and been provided a copy of these policies in the form of the Employee Handbook, which you should review from time to time to remain familiar with these policies.

You should now fully understand your rights, duties and obligations in respect of these policies. As previously mentioned failure to comply with these policies may result in disciplinary action, up to and including dismissal.



## **WORKPLACE HARASSMENT POLICY**

### **Introduction**

Miramar Mining Corporation is committed to providing a collegial working environment in which all individuals are treated with respect and dignity. Each individual has the right to work in a corporate atmosphere which promotes equal opportunities and prohibits discriminatory practices. At the outset, we wish to point out that the following policy is not intended to constrain social interaction between people in the company. However, it must be recognized that workplace harassment is offensive, degrading and threatening. The company has adopted the following policy to make clear that workplace harassment will not be tolerated in our company. The company encourages the reporting of all incidents of workplace harassment, regardless of who the offender may be. Individuals, regardless of seniority, found to have engaged in conduct constituting workplace harassment will be disciplined.

The company recognizes that its members and employees may be subjected to workplace harassment by clients, consultants, or by others who conduct business with the company. In these circumstances, the company acknowledges its responsibility to take all reasonable steps in its power to support and assist the person subjected to such harassment.

This policy applies to everybody (secretarial, support, professional, executive and administrative staff). Workplace harassment will not be tolerated.

Workplace harassment includes sexual harassment as defined below and is one or a series of incidents involving unwelcome comments or actions concerning the person's race, colour, ancestry, place of origin, political belief, religion, marital status, physical or mental disability, age, sex, or sexual orientation:

- a) when such conduct might reasonably be expected to cause emotional or physical insecurity, discomfort, offence or humiliation to another person or group;
- b) when submission to such conduct is made either implicitly or explicitly a condition of employment;
- c) when submission to or rejection of such conduct is used as a basis for any employment decision including, but not limited to, matters of promotion, raise in salary, job security or benefits affecting the employee; or
- d) when such conduct has the purpose or the effect of interfering with a person's work performance or creating an intimidating or hostile or offensive work environment.

Sexual harassment is defined as one or a series of incidents involving unwelcome sexual advances, requests for sexual favours or other verbal or physical conduct of a sexual nature:

- a) when such conduct might reasonably be expected to cause embarrassment, emotional or physical insecurity, discomfort, offence or humiliation to another person or group;
- b) when submission to such conduct is made either implicitly or explicitly a condition of employment;
- c) when submission to or rejection of such conduct is used as a basis for any employment decision (including, but not limited to, matters of promotion, raise in salary, job security or benefits affecting the employee); or
- d) when such conduct has the purpose or the effect of interfering with a person's work performance or creating an intimidating, hostile or offensive work environment.

Types of behaviour which constitute sexual harassment include, but are not limited to:

- a) sexist jokes causing embarrassment or offence, told or carried out after the joker has been advised that they are embarrassing or offensive, or that are by their nature clearly embarrassing or offensive;
- b) leering;
- c) the display of offensive material of a sexual nature;
- d) sexually degrading words used to describe a person;
- e) derogatory or degrading remarks directed towards members of one sex or one sexual orientation;
- f) sexually suggestive or obscene comments or gestures;
- g) unwelcome sexual flirtations, advances or propositions;
- h) unwelcome enquiries or comments about a person's sex life;
- i) requests for sexual favours;
- j) unwanted touching;
- k) verbal or written abuse or threats; and
- l) sexual assault.

It should be noted that this policy is subject to the provisions of the Human Rights Act and in particular discrimination in employment which is, in certain circumstances, permissible based upon a bona fide occupational requirement.

This policy applies not only to the office but to office-related social functions, work assignments which take place outside the office, over the telephone or elsewhere if the person harassed is there as a result of work-related responsibilities or a work-related relationship.

Members and employees of the company against whom a claim of workplace harassment is substantiated may be severely disciplined, up to and including dismissal. This policy will be applied without regard to status or seniority.

Retaliation against any individual for reporting discrimination or harassment will not be tolerated and will be grounds for discipline, including discharge. Equally, because false accusations can have serious effects on innocent persons, the wilful misuse of the policy or the deliberate making of false accusations will also be grounds for discipline, including discharge.

The firm recognizes the difficulty of coming forward with a complaint of workplace harassment and the complainant's interest in keeping the matter confidential. To protect the interest of the complainant, the person complained against and others who may report incidents of workplace harassment, confidentiality will be maintained throughout the process and information relating to the complaint will only be disclosed to the extent necessary to carry out these procedures.

## **PROCEDURE**

A person who considers that she or he has been subjected to workplace harassment is encouraged to bring the matter to the attention of the person responsible for the conduct. A direct approach to the person who has caused the offence is suggested as the first step. Frequently, people are unaware that their conduct is offensive and all that is needed to prevent its repetition is a simple statement that the conduct is unwelcome. However, that is merely a suggestion.

Where the complainant does not wish to bring the matter directly to the attention of the person responsible, or where such an approach is attempted and does not produce a satisfactory result, the complainant should seek the advice of our Vice President, Human Resources, Heather Duggan, or our general counsel, David Long, who have been appointed as advisors.

Initially, a complainant should meet with an advisor so that it can be determined if the conduct in question is workplace harassment or not. If a complainant brings to the attention of the advisor facts which the advisor thinks constitute prima facie evidence of workplace harassment but the complainant does not wish to make a written complaint, the following steps may be taken:

- a) the complainant may request the advisor to meet with the person whose conduct has caused the offence with a view to obtaining an apology and an assurance that the offensive conduct will not be repeated;
- b) where the complainant does not wish the advisor to take any further action, the advisor may nevertheless meet at the earliest opportunity, with the person who has caused the offence if the advisor is satisfied that this can be done without disclosing, directly or indirectly, the identity of the complainant; or
- c) where the complainant does not wish the advisor to take any further action, the advisor may nevertheless make a written complaint to the Chief Executive Officer if there have been previous complaints against the alleged harasser, or if the alleged harasser has given an assurance not to repeat previous workplace harassment;

If the advisor does speak to the alleged harasser, the advisor will keep a confidential written record of that discussion.

It is hoped that almost all complaints can be dealt with informally and confidentially and that by discussion amongst the complainant, the advisor and the alleged harasser, misunderstandings can be resolved by discussion and, if appropriate, an apology be given. However, if the circumstances demand, a more formal procedure can be followed.

If the complainant, after meeting with the advisor, decides to make a formal written complaint, the advisor will assist the complainant to draft a written complaint which must be signed by the complainant and the advisor will immediately give copies of that signed complaint to the person against whom the complaint is made as well as to the complainant.

Where the complainant decides to make a written complaint, the advisor may seek a meeting with the alleged harasser with a view to obtaining an apology or such other resolution as will satisfy the complainant.

Where the complainant is not satisfied with the outcome of the meeting held between the alleged harasser and the advisor, the advisor will, without delay, forward the written complaint, an account of the alleged harasser's view of the facts and the advisor's recommendations concerning the resolution of the complaint to the Chief Executive Officer.

The Chief Executive Officer will investigate every written complaint and where appropriate take disciplinary action. Advisors will not undertake the investigation. If the Chief Executive Officer is the subject of a complaint, then the investigator will be the general counsel, David Long, in place of the Chief Executive Officer.

When the investigation results in a finding that the complaint of workplace harassment is substantiated, the outcome of the investigation and any disciplinary action will be recorded in the company's records relating to the offender.

When the investigation results in a finding that the complaint of workplace harassment is not substantiated, all record of the complaint shall be removed from the company's record relating to the alleged harasser.

The complainant will be informed of the outcome of the investigation and any disciplinary action taken by the Chief Executive Officer.

Where a person believes that a colleague has experienced or is experiencing workplace harassment and reports this belief to an advisor, the advisor will meet with the person who is said to have been subjected to workplace harassment and shall then proceed in accordance with this policy as set out above.

A member or employee of the company who considers that she or he has been subjected to workplace harassment by a person who is not a member or employee of the company shall seek the advice of an advisor. The advisor will take whatever action is necessary to ensure that the company fulfils its responsibility to support and assist the person subjected to such harassment.

## **CONCLUSION**

This policy will only work if people are prepared to use it. Any person who believes that he/she has suffered workplace harassment is encouraged to seek out an advisor. We appreciate that workplace harassment can be embarrassing for a complainant. That is why the company will try to treat all complaints on as confidential a basis as possible. However, the company can't help if the complainant remains silent. If there is a problem, talk to an advisor.





## Employee Handbook



HOPE BAY PROJECT

# EMPLOYEE HANDBOOK

Miramar Hope Bay Ltd.  
Revised: August 2006



## WELCOME

Miramar Hope Bay Ltd., which owns and operates the Hope Bay project, has a number of corporate policies in place:

- the health and safety of all personnel on the belt;
- the protection of the environment;
- operations are conducted in a good and workmanlike manner.

This handbook is designed to ensure you understand your rights, duties and obligations in respect of these policies. Failure to comply with Miramar's policies may result in disciplinary action, up to and including dismissal.

Whether you are an employee, a contractor or a visitor, this Employee Handbook provides some guiding principles that will give you an opportunity to assist in environmental care and safe work practices while at Hope Bay.

At the Hope Bay Project, we are committed to minimizing the impact of our activities on the land, water and local wildlife. We want to develop an environmentally aware and safety conscious workforce. We have advisors and technical specialists to help us meet our environmental goals, but we also need you to do your part.

That means helping us to properly dispose of all wastes, to prevent spills of fuel, oil or hazardous materials, to implement the principles of "reduce, reuse, recycle" and to respect sites of archaeological or cultural significance.

Please keep these goals in mind, and welcome to our team.



Windy Lake Camp



Boston Camp



## Table of Contents

WELCOME.....	i
GETTING TO KNOW THE AREA .....	2
HOPE BAY ENVIRONMENTAL POLICY .....	4
PERMITS AND LICENSES .....	5
ENVIRONMENTAL GUIDELINES .....	6
Water.....	6
Land and Vegetation .....	6
Wildlife.....	6
Fishing.....	7
Respect Archaeological Sites .....	7
Camp Cleanliness .....	7
Know What to Do about Spills .....	8
Drilling Activities .....	9
HOPE BAY SAFETY POLICY .....	10
SAFETY GUIDELINES.....	11
Site Orientation .....	11
Particular Hazards in the Hope Bay Area .....	11
Work Safely.....	11
Safety Awareness .....	11
Occupational Health and Safety Committee .....	12
General .....	12
Safety Equipment.....	13
Safe Operation of Equipment.....	14
Maintenance.....	15
General Safety Rules.....	15
Policy for travel outside of Camp Areas.....	17
Helicopter Travel .....	21
Aircraft Travel .....	21
Travel by Foot .....	22
Snowmobile Travel .....	22
Water Travel.....	23
Safety around Drill Rigs .....	24
Weather Conditions and Hazards .....	25
First Aid, Injuries and Illness .....	25
Wildlife Hazards .....	26
Emergency Procedures .....	27
Communications .....	27
Internet, Email and Computers .....	29



Workplace Harassment Policy .....	29
WORKPLACE HARASSMENT POLICY .....	35



## GETTING TO KNOW THE AREA

The Hope Bay Project is located just south of the Arctic Ocean in Canada's newest territory, Nunavut. The Project lies on surface and subsurface lands that are owned jointly by all Inuit of Nunavut. In return for the right to work on Inuit land, we have an obligation to protect the land, water and other natural resources.

The remote area is accessible only by air. The nearest communities are Umingmaktok, which is located 65 km to the west, Cambridge Bay which is located 160 km to the northeast, and Bathurst Inlet, located 110 km to the southwest. The city of Yellowknife, situated 685 km southwest, is the major staging area and source of supplies for current project activities.

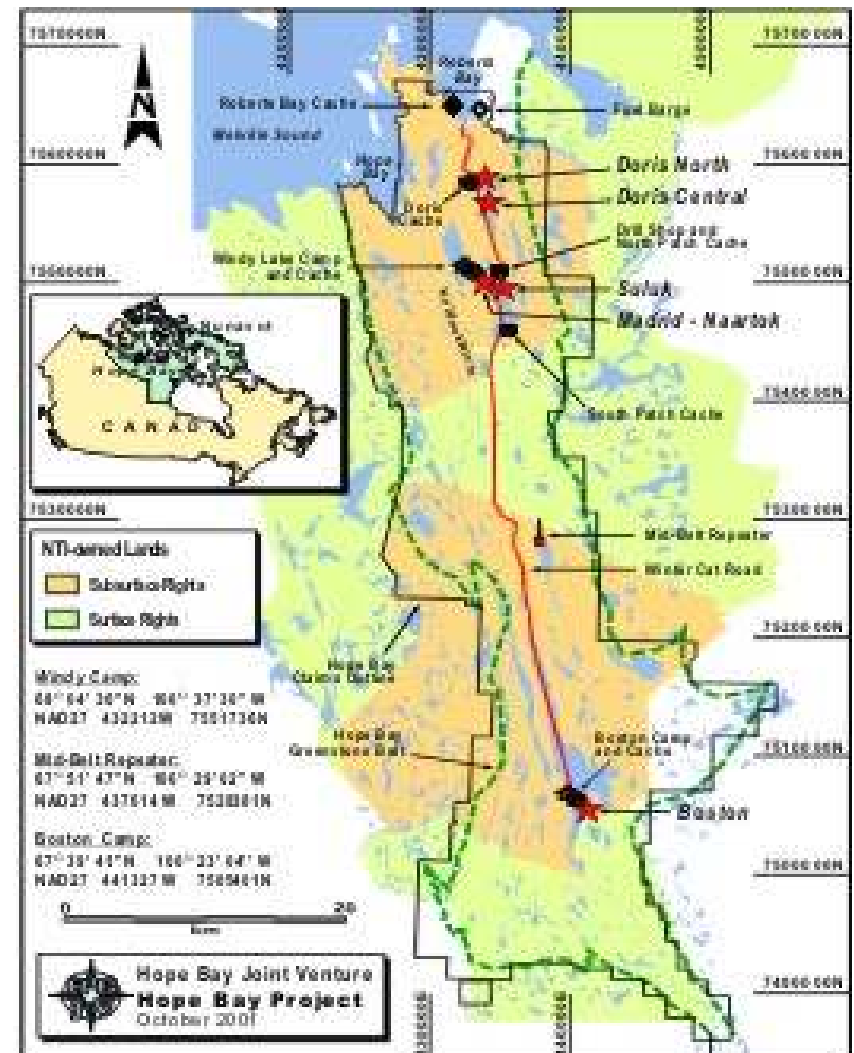
The Hope Bay Project is spread over a very large area from tidewater at Roberts Bay on the Arctic coast, southward for approximately 80 km. The Windy Camp is located on the southeast shore of Kapehelegtuk (Windy) Lake. A small tent camp was established at this site in 1993 and has grown over the years. It now accommodates approximately 60 people. The Boston Camp is located 45 km south of Windy Camp along the shore of Aimaogaktak (Spyder) Lake. The original exploration camp was established in 1991 just southeast of the present site. The Boston Camp can accommodate approximately 50 people.

Current areas of significant exploration activity include:

- ❖ Doris, at the north end of the belt, which is currently being permitted for development;
- ❖ Madrid, approximately 7km south of Doris, where drilling along the western edge of Patch Lake has identified extensive mineralized trends;
- ❖ Boston, the site of a major deep drilling program.



In addition, exploration is carried out in many different parts of the Hope Bay belt.





## HOPE BAY ENVIRONMENTAL POLICY

Miramar Hope Bay is committed to maintaining sound environmental practices in all of its activities.

To achieve this, MHB is working with its employees and contractors will:

- Examine the potential impact to the environment of all proposed activities and take steps to minimize or where possible eliminate the impact.
- Ensure that all activities are in compliance with all environmental legislation and regulations.
- On a continuous basis, determine the MHB impact to the environment and through continuous improvement, strive to attain higher levels of environmental performance.
- Maintain a high level of environmental protection by applying practices and technologies that minimize impacts and enhance environmental quality.
- Maintain dialogue with communities and other stakeholders within the area of influence of the Hope Bay Project.
- Progressively rehabilitate disturbed areas, develop closure plans that can be continuously improved and incorporate new technologies where practical.
- Encourage cooperative research programs with government and other stakeholders to better understand and monitor impacts associated with the Hope Bay Project.
- Train all employee and contractors to understand their environmental responsibility related to MHB.

On behalf of Miramar Hope Bay Ltd.

Anthony Walsh  
President and CEO  
Miramar Hope Bay Ltd.



## PERMITS AND LICENSES

At Hope Bay, we operate under several land and water use permits/licenses that are administered and monitored by different organizations.

Land use activities are conducted under Inuit Land Use licenses that are renewed and amended annually. The permits undergo a review, community consultation and approval process that is coordinated and monitored by the Kitikmeot Inuit Association (KIA).

Use of water and the discharge of waste (greywater and sewage) is licensed by the Nunavut Water Board (NWB). Licenses are reviewed and amended as required.

Miramar Hope Bay has monthly and annual compliance reporting obligations, specified in each permit/license.

The permits and licenses are posted in each camp and can be reviewed at your leisure. If you have any questions about these documents, do not hesitate to talk to the Project Manager.

In addition to the land use permits and water licenses, several other government agencies monitor our activities for compliance with a wide range of regulations and guidelines that are intended to protect the environment and ensure safe working conditions.

Federal Department of Indian and Northern Affairs;

- water use inspections, compliance with water license terms and conditions
- land use inspections on non-Inuit owned lands
- spill reporting and remediation

Nunavut Department of Sustainable Development

- spill contingency planning
- fuel storage/transfer, waste oil management and disposal
- wildlife and habitat protection
- hazardous waste management and disposal
- garbage and waste disposal and incineration,



Federal Department of Fisheries and Oceans (DFO)

- monitor potential impacts to fish and/or fish habitat

Nunavut Department of Culture, Language, Elders and Youth

- protection and preservation of archaeological sites

Workers Compensation Board of the NWT and Nunavut  
Prevention Services

- Mines Inspector
- Safe Workplace

### **ENVIRONMENTAL GUIDELINES**

Everyone at the Hope Bay Project is responsible for maintaining the companies' Environmental Policy objectives. The following are specific guidelines for working in and around the Hope Bay Project, to be followed by all employees, contractors and visitors.

#### ***Water***

Special care must be taken to avoid releasing any chemical, fuel, drill cuttings or other unauthorized materials into the water.

#### ***Land and Vegetation***

Miramar Hope Bay strives to minimize its impacts on land and vegetation, this includes proper use of vehicles to avoid rutting and proper cleanup of completed drill sites.



#### ***Wildlife***

The project area has a broad range of wildlife species and MHB does not discourage wildlife in the area, however, we do discourage any unnecessary disturbance to wildlife from our activities. It is prohibited to feed wildlife and food must be stored in safe places that are inaccessible to wildlife. Do not leave food waste on the tundra or in your tent as it will attract wildlife.



If you wish to remove animal remains (bones or antlers) from Nunavut you must obtain a permit from a Nunavut Wildlife Officer.

Hunting is strictly prohibited in the project area by employees, visitors or contractors. Firearms are not allowed on the property. Failure to observe this may be grounds for immediate dismissal.

The only exception to this rule is site management who are authorized to have registered Company firearms for predator protection.

#### ***Fishing***

Miramar Hope Bay encourages the principles of "catch and release". Fishing is allowed in the project area but all personnel **must** have a valid Nunavut fishing license and adhere to all regulations accompanying that license.



#### ***Respect Archaeological Sites***

Archaeological sites provide a strong link to the people who lived and hunted on this land many years ago. If you encounter what you think are archaeological artifacts do not remove or disturb anything, record the location and give the information to the Project Manager. Disturbing or removing an archaeological artifact is strictly prohibited in Nunavut and may be cause for immediate dismissal.

#### ***Camp Cleanliness***

We encourage all site personnel to do their part in maintaining a clean camp. Cigarette butts and all other refuse should be placed in





the appropriate sealed containers, which will then be disposed of by camp maintenance personnel. Garbage will be incinerated daily.



Waste petroleum products (oil, lubricants) must be stored in appropriate sealed containers for subsequent disposal in the waste oil burner.



### ***Know What to Do about Spills***

Accidental fuel or oil spills may cause impacts to the land, water and fish habitat. To minimize the occurrence of spills, we require personnel to conduct regular maintenance and inspections of any equipment that uses fuel or oil.

You should be familiar with the spill containment and clean-up procedures outlined in the Spill Contingency Plan which is posted at key locations in each camp.



If you notice a spill, do what you can to stop and contain the discharge, and notify your supervisor as soon as possible.

When refueling vehicles, machinery or tent supply barrels, place Enviromat sorbant beneath hoses, valves or nozzles. Enviromat is available from the site warehouse/stores.

Spill kits should be located at fuel caches, and on all heavy equipment. If you notice the absence of a spill kit, please advise the Site Supervisor

### ***Drilling Activities***

All drilling activities and drill sites must be maintained in a clean and orderly manner. All garbage and debris must be cleaned up, sorted into burnable, and non-burnable and brought to camp for disposal in the proper designated areas. There should be minimal evidence of surface disturbance once a drill site is abandoned.

In most cases, MHB uses the "PolyDrill" method to recover cuttings during core drilling. Cuttings from reverse circulation drilling and core saw cutting are also collected. All cuttings must be disposed of in the designated disposal areas. Ensure that you know precisely where these sites are located. The perimeter of each disposal site should be flagged and picketed to ensure the site can be located after a snowfall.



Special care must be taken when moving drills or other heavy equipment on land to ensure that minimal damage occurs to the land. Our current land use licenses allow overland travel only during periods of sufficient snow cover. Movement of drills and other heavy equipment at other times will only be undertaken with approval from the responsible regulatory agency.





## HOPE BAY SAFETY POLICY

Miramar Hope Bay Ltd. is committed to providing a safe and healthy work place by developing, maintaining and promoting safe and productive work practices in all aspects of its business.

To achieve this, MHB will:

- Include safety and occupational health considerations as an integral part of its operations, from design to closure.
- Take all reasonable and practical measures to ensure the work place is free of potentially hazardous conditions.
- Provide information, training, procedures and protective equipment to enable employees to work productively in a safe environment.
- Ensure that all employees understand and follow established safe work practices and procedures.
- Ensure that all contractors employed by MHB abide by this policy.
- Maintain trained individuals or teams capable of dealing with medical and emergency situations.
- Improve occupational health and safety through continuous review and improvement of procedures.
- Ensure that all incidents are thoroughly investigated to eliminate or reduce any future occurrences.

On behalf of Miramar Hope Bay Ltd.

Anthony Walsh  
President and CEO  
Miramar Hope Bay Ltd.



## SAFETY GUIDELINES

Miramar Hope Bay is serious about safety and the prevention of injuries and damage to property. Our safety policy and common sense guidelines will help maintain a safe and injury-free work place.

### **Site Orientation**

On your arrival at Hope Bay you will attend a site orientation meeting that will introduce you to the camp and cover safety related topics. This orientation is very important so please pay close attention and feel free to ask questions if there is anything that you do not completely understand or if you would like more information.

### **Particular Hazards in the Hope Bay Area**

Everyone at Hope Bay must be conscious of hazards such as:

- The climate and cold
- Encounters with wildlife
- Isolation and the potential to become lost.

### **Work Safely**

- The health and safety of our personnel is our first priority
- All injuries are preventable
- Each person is responsible for the welfare of the group as well as the individual
- No job is so urgent that we need to depart from safe work practices

### **Safety Awareness**

- The Nunavut Mine Health and Safety Act state that you have the right to refuse unsafe work. A copy of the Right to Refuse Unsafe Work is posted on a bulletin board in each camp for you to read. **Remember you have the right to refuse unsafe work.** It is very important that you understand this basic right. If you feel that the job you are given is unsafe, contact your Supervisor so the situation can be corrected.
- Many accidents result from lack of familiarity with work situations. Always follow safe work procedures, do not take short cuts.
- Ask for instructions if you are unsure of the correct operation of any equipment or machinery.



- Your co-workers may not have English as their first language. It is important that you ensure they understand all communications and safety instructions before proceeding with work.

### **Occupational Health and Safety Committee**

The Mine Health and Safety Act of Nunavut requires an Occupational Health and Safety Committee



(OHSC) at each work site. The committee is comprised of at least as many workers as it has management representatives. Its purpose is to deal with worker concerns about health and safety. Minutes from OHSC meetings are posted on bulletin boards in camp and are sent directly to the Chief Mines Inspector. This ensures that any issues raised at an OHSC meeting come to the attention of the Prevention Services Branch of the Worker's Compensation Board.

Miramar Hope Bay is committed to working with the OHSC to improve safety. If you have concerns about health and safety matters, you should talk to a fellow worker who is a member of the OHSC. We urge you to do so, because we would prefer to hear your concerns and address them rather than to wait until someone is injured. If you would like to become a member of this important committee please see your supervisor or the Site Supervisor.

### **General**

- **Illegal drugs and all alcohol are strictly prohibited in the project area. Possession or usage is cause for immediate dismissal. Refer to the Alcohol and Drug Policy located at the back of this booklet.**
- Smoking is permitted only in designated smoking areas. Smoking where it is not permitted may result in a fine and/or immediate dismissal.
- It is every employee's responsibility to work safely, carefully checking his or her area of work and equipment, to ensure that all is safe and in good order before starting work.



- Report all injuries, accidents, near misses, unsafe conditions, and damage of equipment to your supervisor and the Project Manager so that appropriate measures are taken to investigate and prevent future occurrences.
- Ensure that you are aware of all safety procedures and safe operating practices before you attempt a new task. If you are uncertain about any aspect of the task, ask your supervisor or the Project Manager.
- Follow the sign-out procedures if you leave the immediate camp area. Indicate the time you left, estimated time of return and the general direction you have gone. Record this on the appropriate white-board. Remember to sign back in upon your return.
- At Windy Camp the white-board is located in the Main Complex building. At Boston Camp the white-board is located in the Site Supervisor's office. You must also fill out an itinerary and have signed permission to leave the camp area.
- Employee's requiring WHMIS (Workplace Hazardous Materials Information System), such as, Material Safety Data Sheets, must contact their supervisor.
- Manual lifting procedure: Stand close to the object. Ensure firm footing, bend knees, keep back straight, grasp object firmly, and lift with legs. **Get help when handling heavy or awkward loads.**

### **Safety Equipment**

- If you leave camp for any reason, you must take a handheld radio with you. If you travel or work out of radio range, then you must have another form of communication with you.
- Personal safety equipment and supplies are catalogued and distributed by the Medic or Site Supervisor.
- Survival packs are available from Site Supervisors for use when you are required to travel longer distances, such as between camps by skidoo or elsewhere within the project area.
- In case of fire, there is a safety refuge located at each camp. The refuge has an emergency satellite telephone, food and supplies.



- Each employee should maintain his/her personal survival kit.

### ***Safe Operation of Equipment***

Only persons trained, qualified and authorized by supervision are permitted to operate mobile equipment. If in doubt, check with your supervisor or the Site Supervisor.



The proper technique to instruct somebody in the use and operation of equipment is as follows:

- Clearly explain the purpose and operation of the equipment.
- Demonstrate correct usage, caution against incorrect usage.
- Have trainee demonstrate the use of equipment.
- Point out any errors and correct procedures. Demonstrate again and have trainee repeat until fully understood.
- All training must be documented and placed on the employees file.
- Be aware that fellow employees may not have English as their first language. Do not assume that they have completely understood spoken instructions.
- All mobile equipment must be equipped with a fire extinguisher in good working order at all times.
- Defective mobile equipment must be tagged out with a "Do Not Operate Tag" and deficiencies shall be reported to supervision without undue delay.
- Operators must complete pre-operational inspection checks each day before using mobile equipment.
- Always be alert for pedestrian traffic.
- Establish a "Safe Work Zone" when operating in areas where visibility is limited. Use barricades, pylons or other physical barriers to prevent unauthorized person from entering the work area.



- Passengers are permitted only on equipment that is provided with proper passenger seating.
- Always wear your seatbelt.
- Unattended equipment must be properly parked with brakes applied, and any hydraulic attachments must be rested on the ground.
- Never go into the midship area of articulating units unless the unit is shut down and hydraulic pressure is "bled" from the controls.
- Engines must be shut down while refueling.
- Materials and equipment being transported shall be so loaded and secured as to prevent any movement of the load that could create a hazard to any person.

### ***Maintenance***

#### **General Safety Rules**

- Employees are forbidden to operate any machinery or equipment for which they have not been trained, or are not authorized to operate.
- Treat all wires, cables, switchgear, etc., as live until you have proven otherwise.
- Ensure all mechanical and electrical equipment is shut off and **locked out** prior to commencing work on the equipment.
- Ensure all tools and equipment is inspected before use and free of any defects. **Defective equipment must not be used.**
- Defective equipment, which is left unattended during repairs, must be tagged "Do Not Operate".
- Never remove or bypass guards or protective devices on machinery or equipment.
- Do not clean or service moving machinery where there is danger of contact with moving parts.
- Employees must not wear clothing, jewelry or other articles that may become caught in equipment.
- Long hair (facial and cranial), which has the potential to become caught in equipment must be confined or cut short.
- Ensure grinding tools have guards and tool rests adjusted properly before operating the tool.



- Full face protection is required when operating any type of grinding tool.
- Never exceed safe load limits on cranes, chain blocks, slings, hooks, etc. When unsure of the weight of material to be lifted, do not perform the lift until the weight has been confirmed.
- Machine tools shall not be left running unattended. Portable tools shall be shut off and unplugged when left unattended.
- Never work on lines or hoses that are under pressure. Follow appropriate lockout procedures. Lock, block and bleed prior to starting the work.
- Paint, lubricants, cleaners and other types of flammables must be stored in approved flammable storage cabinets.
- Approved respirators and eye protection shall be worn for any spray painting operation. This includes spraying with aerosol paints.
- When working on equipment in enclosed areas, adequate ventilation must be provided and any exhaust must be properly routed out of the building.
- Only qualified persons authorized by supervision are permitted to do welding or burning.
- All Pressurized gas cylinders must be secured upright at all times and when not being used must have the protective cap placed on the tank.
- Clean up oil and grease spills immediately covering with absorbent spill pads.
- No employee shall allow refuse or waste material to accumulate so as to constitute a hazard.
- After work is completed, the work area is to be cleaned up properly. **Good housekeeping is a must in any work area.**
- Employees must use the correct tool for the job they are performing.
- Employees must use only those ladders, which are in a safe working condition.
- All employees shall wear approved fall protection equipment when working at an elevation of 3 meters or more above grade or floor level; where a fall could result in drowning, and where it is impractical to provide adequate work platforms or guarding.



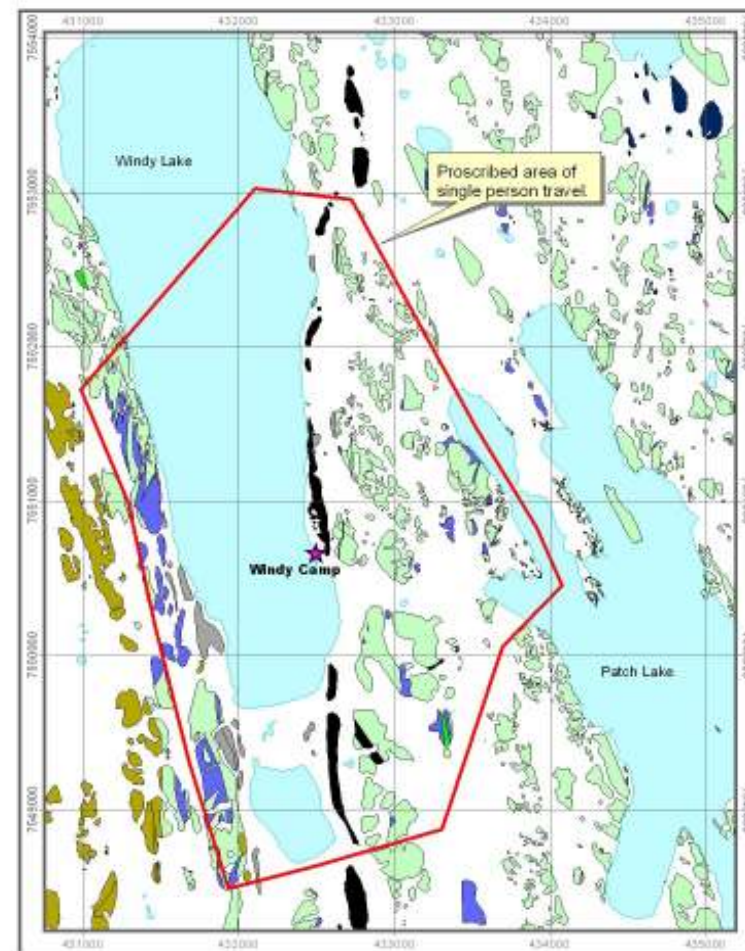
### ***Policy for travel outside of Camp Areas***

- Any person leaving the camp for work purposes shall receive permission from their immediate supervisor.
- Any person leaving the camp for recreational purposes shall obtain the permission of either the Project Manager or the Site Supervisor.
- Recreational travel shall only be permitted between the hours of 7:00 AM to 10:00PM between the months of May and September and 8:00 AM to 8:00 PM between the months of October and April.
- In addition to receiving permission from management to leave the immediate camp area but staying within the proscribed area all persons are required to sign out on the board provided, noting their intended location and expected return time. Upon completion of your trip you are responsible to remove your name from the board. Under no circumstances is any other person permitted to do so.
- Persons shall be permitted to travel alone ONLY within the hiking limits outlined on the area site map and shall be required to carry a 2-way radio at all times. This map and these guidelines will be posted in a conspicuous place and shall also be given to each person upon camp orientation.
- All recreational travel outside the proscribed area shall be done in a minimum of pairs and shall remain in sight of each other at all times. If you are leaving the proscribed area an agenda including arrival time back to the camp must be given to the Project Manager or the Site Supervisor.
- All work travel outside the proscribed area shall be done in a minimum of pairs who shall remain in sight of each other or in radio contact. Your immediate supervisor must be made aware of your work location.
- If traveling via snowmobile make sure to carry sufficient fuel to complete a round trip with at least one half tank of gas in reserve, upon trip completion. Survival gear must be carried when traveling distances which may make returning to camp difficult in the event of a breakdown or encountering severe weather conditions.

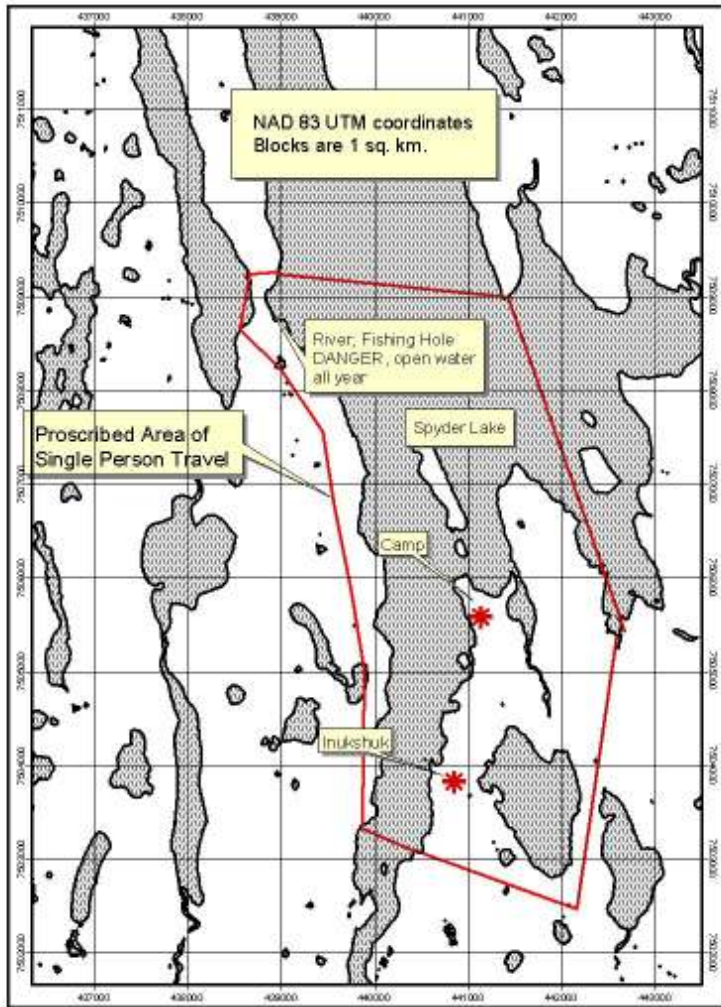




- All travelers outside of radio communication range shall carry a portable satellite telephone, and must have received training to its use.
- Any boat travel must be in accordance with the company's boat travel policy.



Windy Camp – Proscribed Area of Single Person travel



Boston Camp – Proscribed area of single person travel



### Helicopter Travel

Helicopter Pilots will provide details of helicopter safety procedures. You must receive a safety briefing from a helicopter pilot before your first flight each year. You must also receive a safety briefing specific to the type of helicopter you are going to fly in. Even if you don't work around helicopters you may be around one in an emergency situation. Key safety procedures include:

- Never approach or leave a helicopter from the rear.
- Never approach or leave a helicopter without making eye contact with the pilot so that he/she is aware of where you are.
- Never leave a helicopter in an uphill direction, or approach from an uphill direction.



- Landing areas must be kept clear at all times.
- Secure hand tools, safety helmets and equipment awaiting transport.
- Always wear hearing protection or use headphones while working near or travelling in a helicopter.
- Smoking is prohibited onboard and near landing or refuelling areas.
- Helicopter personnel will give guidance to anyone on the ground that is helping with sling loads.
- Never throw anything near helicopter and ensure all articles of clothing and gear are properly secured while boarding
- Anything being carried to or from the helicopter is to be carried at waist level.
- Do not allow yourself to be rushed.

### Aircraft Travel

- **Appropriate clothes** (parka, snow pants, boots, mitts, hat) **must be worn for winter aircraft travel in case of an emergency.** Winter dress must meet or exceed -60°C protection. The requirement for





winter season dress will be in force from approximately the beginning of October to the end of May. **You will not be allowed to board an aircraft unless you are properly dressed for the conditions.** This is for your protection should the aircraft be required to land in an unsheltered area.

### ***Travel by Foot***

- Use the sign-out white-board to indicate your travel plans, time of departure and expected return time. Notify your supervisor or the Site Supervisor before you leave and when you return.
- Avoid travelling alone.
- Always ensure that you have appropriate clothing, including severe weather gear.
- If traveling away from camp, carry a compass, bear deterrents, a first aid kit and radio (Channel 1 for First Aid/Emergency).
- If you become lost, stay calm and remain in one place. Locate yourself on high ground to enable better radio reception.

### ***Snowmobile Travel***

- Only those people who have received training and are qualified shall be permitted to operate a snowmobile.
- Helmets, goggles and adequate winter clothing must be worn at all times.
- Conduct a pre-ride inspection; ensure the survival kit attached to the back of the skidoo is intact before you set out from camp.
- Use the sign-out white-board to indicate your travel plans, time of departure and expected return time. Notify your supervisor or the Site Supervisor before you leave and when you return.
- If you are traveling between camps make sure the Site Supervisor at the other camp has been phoned or radioed with your departure time and intended route.
- Always travel at a safe speed for given conditions. Reckless driving or excessive speeds are cause for immediate dismissal. The speed limit in or near camp is 20 km per hour and slower when passing near people.
- Review the safety orientation information for snowmobile use that is provided to all people in camp.



- Do not travel over thin ice. If ice conditions are uncertain, go around the lake.
- Mark hazards for your co-workers.
- Personal use of snowmobiles must be approved by the Project Manager and Site Supervisor.

### ***Water Travel***

- To use a boat for work or recreational purposes you must obtain permission from the Site Supervisor.
- For recreational purposes the boat must be operated by a qualified trained and designated operator. A list of designated operators is available from the Site Supervisor. These operators are available on a volunteer basis only. If one is not available then the boat will not be operated.
- A MHLB Travel Itinerary & Permission Form is required before travel.
- Maximum capacity is 3-persons i.e. one operator and two passengers.
- The Site Supervisor will provide boat-safety training and examination to all designated operators who will in turn orientate all passengers before departing. Issues to be addressed include:
  - Ensure that you have adequate fuel, life jackets, emergency paddles, a bailing device and a whistle or noise-maker.
  - Check to ensure that outboard motor is firmly attached to the transom. The motor should also be tied to the boat with a rope.
  - The outboard motor must be in neutral before starting.
  - Where possible, and for safety reasons, travel close to shore.
- Personal Flotation Devices must be worn at ALL times by everyone on board the boat
- All passengers must be dressed appropriately for the current and anticipated weather conditions
- All passengers must remain seated.



- The operator must have a radio at all times.
- The boat must be equipped with:
  - Two paddles or oars, a bailing bucket, and an anchor with rope
  - a portable safety kit that will include; portable first aid kit; 3-space blankets; spare spark plugs; plug wrench; vise-grip pliers; assorted wrenches; hammer; spare shear pins; waterproof matches; flare launcher; 6 flares; 6 bear bangers; bear spray, 2 marine flares.
- When the boat is not in use it will be hauled out of the lake onto the temporary slipway provided. The fuel can, bailing device and oars will be removed and placed in a designated storage facility marked by the Site Supervisor and located well above the high water mark.
- Upon returning to camp, the personal floatation devices and safety kit will be stored in a location designated by the Site Supervisor. Ensure that they are returned. Please hang floatation devices so they can dry.
- Wash inside of boat after use and ensure all fish residue is removed.

### **Safety around Drill Rigs**

- Personal protective gear (hardhats, safety glasses, steel-toed boots, and hearing protection) is required at all times around the drills.



- The drill operator is the supervisor of the drill, and his direction in matters of safety must be followed. Do not enter the drill floor area without his

permission.

- Be vigilant when approaching drills, always approach directly toward the front entrance, never walk under the drill tower.
- Be cautious if the door is closed, it may open without warning. Be aware, drill rods and core tubes are slung through this entranceway.



### **Weather Conditions and Hazards**

- Be aware of weather conditions, they can change very quickly.
- White-out conditions with high winds and zero visibility are extremely dangerous. Do not work outside when conditions are unsafe. Diamond drilling will stop when conditions become unsafe.
- When a white-out condition is determined by site management you must remain inside where you are, whether that is a drill, workshop or camp.
- Always dress appropriately when working outdoors.
- Be aware of the symptoms of, and the treatment for frostbite and hypothermia.
- Refer to the Winter Survival training course.
- Do not allow yourself to be rushed.



### **First Aid, Injuries and Illness**

- You are required to report all injuries, to the First Aid Attendant and your supervisor.
- **Medical emergency procedures:**
  - Provide the name and location of First Aid Attendant/Medic/Nurse currently on site;
  - **Non-limb or non-life threatening:** Provide ABC's of First Aid and keep patient warm. Do not leave injured person alone. Contact First Aid Attendant immediately for instruction.
  - **Life or limb threatening:** i.e. Dislocations and fractures with major joint involvement, injuries to the head, neck, collarbone, chest or abdominal areas accompanied with severe pain or breathing problems and massive bleeding. Provide ABC's of First Aid and keep patient warm. Keep patient still and lying down. Do not leave injured person alone. Contact Nurse/Medic who must be dispatched to the patient immediately with a Satellite telephone.





- **To summon First Aid Attendant/Medic/Nurse:**

- Use Radio channel 1 for Windy and 4 for Boston;
  - Call: "Medic, Medic, Medic."
  - Stay calm, talk clearly and keep silent if not involved. Stay on the same radio channel and stand by for instructions. All work must stop!
- Any Medivac will be initiated by the Nurse/Medic who will call Stanton hospital and liaise with the Accepting Physician. The patient's condition will be given at which point the route and transportation will be decided. This will then be relayed to the Site Supervisor and Project Manager.

**Wildlife Hazards**

- Avoid direct contact with wildlife.
- Do not feed wildlife.
- There are grizzly bears in the Hope Bay area and they can be very dangerous. Learn about bear safety measures and how to reduce your chances of being injured should you have an encounter with one. Your supervisor or the Site Supervisor can provide you with training, literature, and videos dealing with this very important subject. An awareness manual entitled "Safety in Bear Country" is provided for your viewing.
- Rabies has been confirmed in foxes near Windy Camp. Treat any animal that does not appear to be acting normally as though it may have rabies. Report any unusual animal behavior to the Site Supervisor. Be especially careful around foxes.



## Emergency Procedures

**Fire precautions:**

- Smoke detectors are located throughout the camp. (DO NOT TAMPER WITH THIS EQUIPMENT);
- Emergency clothing - Keep boots and warm clothing in your sleeping area when sleeping;
- Evacuation plans are posted throughout the camp – review them;
- Muster stations –In the event of a fire you will be required to report to a muster station. Know where the one for your camp is located;
- Emergency supplies – Sleeping bags, stoves and food are kept in the Muster Station or near it.
- Air horns and/or sirens are used for alerting of emergency situations.
  - Air horns are posted by all main exits;
  - Signals are posted by the air horns
  - Good housekeeping is the best protection against fire. Dispose of scrap, paper, rags, etc, by placing them in the proper containers with lids secured. Clean up oil and grease spills immediately. These are both fire and safety hazards.

**Communications**

- Radio channels:
  - Windy Camp & First Aid – Channel 1
  - Boston Camp & First Aid – Channel 4
  - Drillers – Channel 7
  - Surveyors – Channel 8



- Telephone numbers

- Site Supervisor

- Boston .....604-677-0671

- Windy .....604-677-0636

- Project Manager:

- Boston .....604-677-0675

- Windy.....604-677-0618

- Emergency Telephone

- Boston .....604-677-0671

- Windy .....604-677-0636

At each camp at least two telephones will be designated for public use. They will have local numbers in the 604 area code. All calls outside of the 604 area code will be long distance and must be made collect or with a calling card only. Please be considerate if others are waiting to use the phones.

Your fellow workers may take messages for you on these phones. Site Supervisors will only take messages in special situations.

- Public phone numbers are:

- Boston.....To be announced at Orientation

- Windy.....To be announced at Orientation



### ***Internet, Email and Computers***

At each camp (when possible) a computer will be set aside for general employees to use for email and internet access. Non-technical staff is not allowed to use other computers. We have a limited amount of band width, and so have to have the following rules:

- No use of Instant Messaging such as MSN Messenger, Yahoo, or AIM;
- Compose long emails in Word and cut and paste it into your Hotmail to limit time on line;
- No interactive games;
- No pornographic sites are to be visited.

### **DRUG AND ALCOHOL POLICY**

#### **POLICY STATEMENT**

Miramar Mining Corporation is committed to maintaining a safe, healthy and productive work environment for all employees, contractors, visitors and guests.

Miramar has *zero tolerance* for the unlawful manufacture, distribution, dispensation, possession or use of illegal drugs or possession or use of alcohol at any Miramar operation or field location. The policy is designed to ensure that employees know and understand our position on zero tolerance and that all employees will be dealt with fairly.

We believe that every employee has a role to play in maintaining a safe, healthy and productive work environment and each employee has the responsibility to report for work in a condition suitable to carry out assigned duties in a safe and efficient manner. The responsibility of promoting prevention is shared among the company, contractors, and employees. The Company encourages employees and contractors affected by substance abuse to seek assistance with the



assurance of our support and confidentially through that process.

### **POLICY SCOPE**

This policy applies to all employees of Miramar Mining Corporation and its subsidiaries working at any Miramar office, operation or field location such as an exploration camp.

Contractors are required to have a corresponding policy that supports our requirements. Visitors will be informed of our policy of zero tolerance to drugs and alcohol at the time their visit is approved. The site manager and/or any Miramar employee will have the right to refuse a visitor access to the site if they have reason to suspect the visitor is under the influence of drugs or alcohol.

All employees and contractors will be provided with education at the time of orientation to ensure their understanding of this policy.

### **FITNESS FOR DUTY**

Fitness for duty standards identify employees' individual responsibility to be free from the influence of harmful substances when reporting for work to ensure they are capable of performing their work functions in a safe and efficient manner.

### **POLICY VIOLATIONS**

Any suspected violation of any provision of this Policy will mean that the employee or contractor will be suspended pending investigation. In the event that there is a violation of the policy, the employee will be terminated or the contractor will be removed from the work site.



## **CONSENT TO SEARCH POLICY**

### **POLICY STATEMENT**

Miramar Mining Corporation is committed to maintaining a safe, healthy and productive work environment for all employees, contractors, visitors and guests.

Miramar has *zero tolerance* for the unlawful manufacture, distribution, dispensation, possession or use of illegal drugs or possession or use of alcohol at any Miramar operation or field location. To avoid drugs or alcohol getting to the work sites the company is introducing random or unannounced searches prior to leaving any airport for the Project site. It is not intended to search employees once they have arrived at camp.

All employees and contractors visiting the Hope Bay Exploration sites will be required to sign a Consent to Search Form at the time of their employment or contract offer. Random and unannounced searches may be conducted prior to boarding an aircraft destined for any of the camps.

### **POLICY SCOPE**

This policy applies to all employees of Miramar Mining Corporation and its subsidiaries working at any Miramar office, operation or field location such as an exploration camp who travel to the Project site. Contractors will be required to sign the Consent to Search as a condition of employment. All visitors will be informed of our policy of zero tolerance to drugs and alcohol at the time their visit is approved and also asked to sign the Consent to Search Form. The Project Manager or Camp Manager will have the right to refuse a visitor access to the site if they refuse to sign the Consent to Search Form.



## PROCEDURES

Searches will be conducted by third-party personnel at the departure airports or by local police. Drug dogs may be used from time-to-time. If any alcohol is found, the person will not be allowed on the flight. Action will be taken to terminate their employment. They will be ineligible for work on the project for the remainder of the season but may be considered for employment the following season. If an illegal drug is found, the police or RCMP will be called and action will be taken as deemed appropriate. Any drugs found will be handed over to the RCMP for disposal. The individual will be terminated. They will be ineligible for work on the project for the remainder of the season but may be considered for employment the following season under certain conditions. If in the course of searching for drugs or alcohol, any other contraband such as weapons, are found, these will be dealt with as appropriate to the situation.

## POLICY VIOLATIONS

As the Consent to Search is a condition of employment, any person refusing to sign the document and cooperate with the search procedure will not be allowed to board a plane for the Project.

### *Workplace Harassment Policy*

- Workplace harassment, including sexual harassment, is not acceptable
- Workplace harassment (including sexual harassment) is one or a series of incidents involving unwelcome comments or actions concerning the person's race, colour, ancestry, place of origin, political belief, religion, marital status, physical or mental disability, age, sex, or sexual orientation
  - when such conduct might reasonably be expected to cause emotional or physical insecurity, discomfort, offence or humiliation to another person or group;



- when submission to such conduct is made either implicitly or explicitly a condition of employment;
- when submission to or rejection of such conduct is used as a basis for any employment decision including, but not limited to, matters of promotion, raise in salary, job security or benefits affecting the employee; or
- when such conduct has the purpose or the effect of interfering with a person's work performance or creating an intimidating or hostile or offensive work environment.
- This policy applies not only to work but to work-related social functions, work assignments which take place outside the office or in the field, over the telephone or elsewhere if the person harassed is there as a result of work-related responsibilities or a work-related relationship.
- Members and employees of the company against whom a claim of workplace harassment is substantiated may be severely disciplined, up to and including dismissal. This policy will be applied without regard to status or seniority.
- A person who considers that she or he has been subjected to workplace harassment is encouraged to bring the matter to the attention of the person responsible for the conduct. Where the complainant does not wish to bring the matter directly to the attention of the person responsible, or where such an approach is attempted and does not produce a satisfactory result, the complainant should seek the advice of either our office administrator, Nicole Copley, or our general counsel, David Long, who have been appointed as advisors.
- Details of the policy and procedures for making a complaint are provided at the end of this Employee Handbook.

Your awareness and understanding of these environment and safety guidelines are essential parts of MHB's commitment to a healthy natural environment.



For more information, contact the on-site Project Manager, Environmental staff, or

**John Wakeford**

Exploration Manager, Miramar Hope Bay  
#300-889 Harbourside Dr.  
North Vancouver, BC V7P 3S1  
(604) 985-2572 / 1-800-663-8780  
or

*(for environment related information)*

**Larry Connell**

Manager, Environmental Affairs  
Miramar Mining Corporation  
#300-889 Harbourside Dr.  
North Vancouver, BC V7P 3S1  
(604) 985-2572 / 1-800-663-8780



# MIRAMAR MINING CORPORATION

## WORKPLACE HARASSMENT POLICY

### Introduction

Miramar Mining Corporation is committed to providing a collegial working environment in which all individuals are treated with respect and dignity. Each individual has the right to work in a corporate atmosphere which promotes equal opportunities and prohibits discriminatory practices. At the outset, we wish to point out that the following policy is not intended to constrain social interaction between people in the company. However, it must be recognized that workplace harassment is offensive, degrading and threatening. The company has adopted the following policy to make clear that workplace harassment will not be tolerated in our company. The company encourages the reporting of all incidents of workplace harassment, regardless of who the offender may be. Individuals, regardless of seniority, found to have engaged in conduct constituting workplace harassment will be disciplined.

The company recognizes that its members and employees may be subjected to workplace harassment by clients, consultants, or by others who conduct business with the company. In these circumstances, the company acknowledges its responsibility to take all reasonable steps in its power to support and assist the person subjected to such harassment.

This policy applies to everybody (secretarial, support, professional, executive and administrative staff). Workplace harassment will not be tolerated.



Workplace harassment includes sexual harassment as defined below and is one or a series of incidents involving unwelcome comments or actions concerning the person's race, colour, ancestry, place of origin, political belief, religion, marital status, physical or mental disability, age, sex, or sexual orientation:

- a) when such conduct might reasonably be expected to cause emotional or physical insecurity, discomfort, offence or humiliation to another person or group;
- b) when submission to such conduct is made either implicitly or explicitly a condition of employment;
- c) when submission to or rejection of such conduct is used as a basis for any employment decision including, but not limited to, matters of promotion, raise in salary, job security or benefits affecting the employee; or
- d) when such conduct has the purpose or the effect of interfering with a person's work performance or creating an intimidating or hostile or offensive work environment.

Sexual harassment is defined as one or a series of incidents involving unwelcome sexual advances, requests for sexual favours or other verbal or physical conduct of a sexual nature:

- a) when such conduct might reasonably be expected to cause embarrassment, emotional or physical insecurity, discomfort, offence or humiliation to another person or group;
- b) when submission to such conduct is made either implicitly or explicitly a condition of employment;
- c) when submission to or rejection of such conduct is used as a basis for any employment decision (including, but not limited to, matters of promotion, raise in salary, job security or benefits affecting the employee); or



- d) when such conduct has the purpose or the effect of interfering with a person's work performance or creating an intimidating, hostile or offensive work environment.

Types of behaviour which constitute sexual harassment include, but are not limited to:

- a) sexist jokes causing embarrassment or offence, told or carried out after the joker has been advised that they are embarrassing or offensive, or that are by their nature clearly embarrassing or offensive;
- b) leering;
- c) the display of offensive material of a sexual nature;
- d) sexually degrading words used to describe a person;
- e) derogatory or degrading remarks directed towards members of one sex or one sexual orientation;
- f) sexually suggestive or obscene comments or gestures;
- g) unwelcome sexual flirtations, advances or propositions;
- h) unwelcome enquiries or comments about a person's sex life;
- i) requests for sexual favours;
- j) unwanted touching;
- k) verbal or written abuse or threats; and
- l) sexual assault.

It should be noted that this policy is subject to the provisions of the Human Rights Act and in particular discrimination in employment





which is, in certain circumstances, permissible based upon a bona fide occupational requirement.

This policy applies not only to the office but to office-related social functions, work assignments which take place outside the office, over the telephone or elsewhere if the person harassed is there as a result of work-related responsibilities or a work-related relationship.

Members and employees of the company against whom a claim of workplace harassment is substantiated may be severely disciplined, up to and including dismissal. This policy will be applied without regard to status or seniority.

Retaliation against any individual for reporting discrimination or harassment will not be tolerated and will be grounds for discipline, including discharge. Equally, because false accusations can have serious effects on innocent persons, the wilful misuse of the policy or the deliberate making of false accusations will also be grounds for discipline, including discharge.

The firm recognizes the difficulty of coming forward with a complaint of workplace harassment and the complainant's interest in keeping the matter confidential. To protect the interest of the complainant, the person complained against and others who may report incidents of workplace harassment, confidentiality will be maintained throughout the process and information relating to the complaint will only be disclosed to the extent necessary to carry out these procedures.

## PROCEDURE

A person who considers that she or he has been subjected to workplace harassment is encouraged to bring the matter to the attention of the person responsible for the conduct. A direct approach to the person who has caused the offence is suggested as the first step. Frequently, people are unaware that their conduct is offensive and all that is needed to prevent its repetition is a simple statement that the conduct is unwelcome. However, that is merely a suggestion.



Where the complainant does not wish to bring the matter directly to the attention of the person responsible, or where such an approach is attempted and does not produce a satisfactory result, the complainant should seek the advice of our Vice President, Human Resources, Heather Duggan, or our general counsel, David Long, who have been appointed as advisors.

Initially, a complainant should meet with an advisor so that it can be determined if the conduct in question is workplace harassment or not. If a complainant brings to the attention of the advisor facts which the advisor thinks constitute prima facie evidence of workplace harassment but the complainant does not wish to make a written complaint, the following steps may be taken:

- a) the complainant may request the advisor to meet with the person whose conduct has caused the offence with a view to obtaining an apology and an assurance that the offensive conduct will not be repeated;
- b) where the complainant does not wish the advisor to take any further action, the advisor may nevertheless meet at the earliest opportunity, with the person who has caused the offence if the advisor is satisfied that this can be done without disclosing, directly or indirectly, the identity of the complainant; or
- c) where the complainant does not wish the advisor to take any further action, the advisor may nevertheless make a written complaint to the Chief Executive Officer if there have been previous complaints against the alleged harasser, or if the alleged harasser has given an assurance not to repeat previous workplace harassment;

If the advisor does speak to the alleged harasser, the advisor will keep a confidential written record of that discussion.

It is hoped that almost all complaints can be dealt with informally and confidentially and that by discussion amongst the complainant, the advisor and the alleged harasser, misunderstandings can be resolved



by discussion and, if appropriate, an apology be given. However, if the circumstances demand, a more formal procedure can be followed.

If the complainant, after meeting with the advisor, decides to make a formal written complaint, the advisor will assist the complainant to draft a written complaint which must be signed by the complainant and the advisor will immediately give copies of that signed complaint to the person against whom the complaint is made as well as to the complainant.

Where the complainant decides to make a written complaint, the advisor may seek a meeting with the alleged harasser with a view to obtaining an apology or such other resolution as will satisfy the complainant.

Where the complainant is not satisfied with the outcome of the meeting held between the alleged harasser and the advisor, the advisor will, without delay, forward the written complaint, an account of the alleged harasser's view of the facts and the advisor's recommendations concerning the resolution of the complaint to the Chief Executive Officer.

The Chief Executive Officer will investigate every written complaint and where appropriate take disciplinary action. Advisors will not undertake the investigation. If the Chief Executive Officer is the subject of a complaint, then the investigator will be the general counsel, David Long, in place of the Chief Executive Officer.

When the investigation results in a finding that the complaint of workplace harassment is substantiated, the outcome of the investigation and any disciplinary action will be recorded in the company's records relating to the offender.

When the investigation results in a finding that the complaint of workplace harassment is not substantiated, all record of the complaint shall be removed from the company's record relating to the alleged harasser.



The complainant will be informed of the outcome of the investigation and any disciplinary action taken by the Chief Executive Officer.

Where a person believes that a colleague has experienced or is experiencing workplace harassment and reports this belief to an advisor, the advisor will meet with the person who is said to have been subjected to workplace harassment and shall then proceed in accordance with this policy as set out above.

A member or employee of the company who considers that she or he has been subjected to workplace harassment by a person who is not a member or employee of the company shall seek the advice of an advisor. The advisor will take whatever action is necessary to ensure that the company fulfils its responsibility to support and assist the person subjected to such harassment.

## **CONCLUSION**

This policy will only work if people are prepared to use it. Any person who believes that he/she has suffered workplace harassment is encouraged to seek out an advisor. We appreciate that workplace harassment can be embarrassing for a complainant. That is why the company will try to treat all complaints on as confidential a basis as possible. However, the company can't help if the complainant remains silent. If there is a problem, talk to an advisor.





## **5 POINT SAFETY SYSTEM**



## 5 Point Safety

1. The 5 Point Safety System was developed by Neil George (1908-1988) who is a member of the Canadian Mining Hall of Fame. His system was created in response to the apparently high accident rates in the mining industry (in particular INCO) prior to the Second World War.
2. The 5 Point Safety System, as the name indicates, is made up of five simple, but practical steps to follow. These steps are to be used by the supervisor as he checks on his work crews and by the workers themselves as they travel to their workplace and conduct their assigned work activities. The steps are as follows:
  1. **Is the entrance and travelway to your work place in good order?**
  2. **Is your work area in order?**
  3. **Are employees working properly?**
  4. **Do an "Act of safety"**
  5. **Can and Will your employees continue to work safely?**
3. The system has the added benefit of assisting communications between management and the workforce if used proactively. In theory, the system should be able to operate without any written materials however to assist memory and to act as a record, generally some manner of written documentation is kept.
4. Please note: at Hope Bay we have implemented this program using a physical card system (5SS Cards see attached) with a chain of events that are to be followed to ensure that all levels of management are informed of hazards and requirements and that the information of corrections or answers to queries are given to workers. All levels of action personnel (i.e. supervisors, foreman and superintendents) are required to sign off on the card to confirm that they have read the information and completed their part of the card.
5. All camp maintenance, equipment operators, kitchen staff, labourers, geology and exploration staff are required, as a condition of employment, to participate in the 5 Point Safety System and complete a card and turn it in to their respective supervisor at the end of their shift. Deficiencies noted on the cards are to be actioned as applicable by the supervisor and an answer given both verbally and written (on the card) to the worker.
6. The Drilling Company has their own 5-point safety card system and will be required to follow the program as outlined in their Safety Program.
7. The details of each step are broken down into a series of sub-steps as follows:

**1. CHECK ENTRANCE & TRAVELWAY TO WORKPLACE**

- Workers inspect the entrance and travelway to their immediate workplace for substandard (unsafe) conditions that could potentially cause injury, occupational illness, damage to equipment and materials, or harm to the environment.
- Conditions are corrected immediately (or reported to the supervisor) before proceeding on to the workplace.
- Upon arrival, the supervisor checks again to confirm that workers have effectively controlled all hazards at the entrance and travelway to the immediate workplace.

**2. ARE WORKPLACE AND EQUIPMENT IN GOOD WORKING ORDER?**

- Workers inspect immediate workplace for substandard (unsafe) conditions.
- They inspect the condition of their equipment (e.g. hand tools, machinery, Personal protective equipment, guards, etc.) to ensure everything is in good working order prior to use.
- All substandard conditions are corrected immediately before routine work is conducted.
- Upon arrival, the supervisor checks again to confirm that workers have adequately corrected any substandard conditions in the immediate workplace.

**3. ARE EMPLOYEES WORKING PROPERLY?**

- Workers must determine whether they are following proper job procedures or practices.
- They determine if they are in compliance with all the provision of the Act and its regulations.
- They determine whether they are putting themselves or their co-workers needlessly at risk.
- Workers must also determine if the proper tools and equipment are being used.
- Upon arrival, the supervisor is responsible for checking the work methods and confirming that all proper procedures/practices are being followed and regulations are being contravened.

**4. DO AN ACT OF SAFETY**

- This is conducted once the supervisor arrives for the first time at the workplace.
- The supervisor and the workers together discuss a particular safety topic.
- This usually entails a short discussion about specific hazards, work procedures or special company policies.
- This step is regarded as a key opportunity for the supervisor to encourage safe work habits and raise safety awareness among employees.

**5. CAN AND WILL THE EMPLOYEES CONTINUE TO WORK PROPERLY?**

- Supervisors must determine if workers have the ability and the motivation (attitude) to continue to follow safe work practices and procedures once he/she leaves the immediate work area.
  - Workers must determine if they have sufficient knowledge and skill to perform the work in a safe manner (i.e. experience, adequate training, clear understanding of job instructions).
  - A determination must also be made concerning the continued safe condition of equipment and materials through to the end of the shift.
  - Supervisors and workers have a “shared” responsibility for ensuring that the final step in the system is followed.
8. In conclusion, the 5 Point Safety System is a five step plan. It is to help everyone get their work done safely without exposing themselves or anyone else to unnecessary risks.
9. The idea is to report and correct substandard workplace conditions, for example: poor housekeeping, improper tools/equipment, temperature extremes, excessive noise etc, or substandard workplace practices, for example: improper lifting, speeding, taking an improper position, operating without authority, not wearing PPE, etc. When used properly, the 5 Point Safety System will help identify and control hazards, serve as a reminder to check work methods and encourage compliance with proper, established job procedures.
10. Again, some added benefits are of assisting in effective communication of hazards and safety points up to and including senior management if implemented correctly. The attached card is the one, which will be used on site.
11. The site superintendent will be responsible for storing the 5 point safety cards until the operating season has completed.

(5-point safety card – “sample”)

<p>Employee Comments: _____</p> <p>Safety Related Items Requiring Work Orders: _____</p> <p>Supervisors Comments/ Action Taken: _____</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"><b>Reminder: Know Your Emergency Phone Numbers.</b> They are Posted for your information.</div>	<div style="text-align: right; font-weight: bold; font-size: 1.2em;">5 Point Safety</div> <div style="text-align: center;"><b>MIRAMAR MINING WORKPLACE SAFETY SYSTEM</b> Surface &amp; Maintenance Operations</div> <p>Date: _____</p> <p>Employee Name: _____ Employee # _____</p> <p>Workplace(s): _____</p> <p>Employee completes points 1 &amp; 2      Supervisor checks 1&amp;2, completes 3,4 &amp; 5</p> <div style="display: flex; justify-content: space-between;"><div><input checked="" type="checkbox"/> Item in good condition</div><div><input type="checkbox"/> Item requires work</div></div> <p><b>#1 Is the entrance and travelway to your work place in good order?</b></p> <table border="0" style="width: 100%;"><tr><td><input type="checkbox"/> Condition of Roadways</td><td><input type="checkbox"/> Obstructions (pipes, cables, etc)</td></tr><tr><td><input type="checkbox"/> Good Housekeeping</td><td><input type="checkbox"/> Exits - "free and clear"</td></tr><tr><td><input type="checkbox"/> Stairways "free and clear"</td><td><input type="checkbox"/> Overhead Security</td></tr><tr><td><input type="checkbox"/> Slip, trip and fall hazards removed</td><td><input type="checkbox"/> Other _____</td></tr></table> <p><b>#2 Is your work area in order?</b></p> <table border="0" style="width: 100%;"><tr><td><input type="checkbox"/> Overhead Security</td><td><input type="checkbox"/> Ventilation Fans "On"</td></tr><tr><td><input type="checkbox"/> Good Housekeeping</td><td><input type="checkbox"/> Unsafe areas - roped off</td></tr><tr><td><input type="checkbox"/> Stairways "free and clear"</td><td><input type="checkbox"/> Escape Routes checked</td></tr><tr><td><input type="checkbox"/> Slip, trip and fall hazards removed</td><td><input type="checkbox"/> Fire Hazards</td></tr><tr><td><input type="checkbox"/> Lighting</td><td><input type="checkbox"/> Other _____</td></tr></table> <p><b>Is your equipment in good order?</b></p> <table border="0" style="width: 100%;"><tr><td><input type="checkbox"/> Hand Tools (hammer, wrenches)</td><td><input type="checkbox"/> Electrical Tools/Equipment</td></tr><tr><td><input type="checkbox"/> Safety Lock and Tags available</td><td><input type="checkbox"/> Safety Guards in place</td></tr><tr><td><input type="checkbox"/> Fire Protection Equipment</td><td><input type="checkbox"/> First Aid Kit</td></tr><tr><td><input type="checkbox"/> Personal Protective Equipment</td><td><input type="checkbox"/> Other _____</td></tr></table> <p><b>#3 Are employees working properly?</b>      <b>Comments</b> (write on the back cover if required)</p> <p>YES/NO _____</p> <p>Have they corrected unsafe conditions? _____</p> <p>Are they following standard practices? _____</p> <p>Are they using hand tools or equipment properly? _____</p> <p>Are they using personal protective equipment as required? _____</p> <p>Are they avoiding occupational health hazards? _____</p> <p>If "NO" is answered to any of the above points, explain the corrective action taken.</p> <p>_____</p> <p>_____</p> <p><b>#4 Do an "Act of safety"</b></p> <p>_____</p> <p>_____</p> <p>_____</p> <p><b>#5 Can and Will your employees continue to work safely?</b></p> <p>YES/NO _____</p> <p>Do they understand the instructions? _____</p> <p>Have they done this work before? _____</p> <p>Are they working as instructed? _____</p> <p>Do they wear protective equipment where required? _____</p> <p>If your answer is "NO" to any of the above then you must correct the situation before you leave the workplace.</p> <p>_____</p> <p>_____</p> <p>_____</p>	<input type="checkbox"/> Condition of Roadways	<input type="checkbox"/> Obstructions (pipes, cables, etc)	<input type="checkbox"/> Good Housekeeping	<input type="checkbox"/> Exits - "free and clear"	<input type="checkbox"/> Stairways "free and clear"	<input type="checkbox"/> Overhead Security	<input type="checkbox"/> Slip, trip and fall hazards removed	<input type="checkbox"/> Other _____	<input type="checkbox"/> Overhead Security	<input type="checkbox"/> Ventilation Fans "On"	<input type="checkbox"/> Good Housekeeping	<input type="checkbox"/> Unsafe areas - roped off	<input type="checkbox"/> Stairways "free and clear"	<input type="checkbox"/> Escape Routes checked	<input type="checkbox"/> Slip, trip and fall hazards removed	<input type="checkbox"/> Fire Hazards	<input type="checkbox"/> Lighting	<input type="checkbox"/> Other _____	<input type="checkbox"/> Hand Tools (hammer, wrenches)	<input type="checkbox"/> Electrical Tools/Equipment	<input type="checkbox"/> Safety Lock and Tags available	<input type="checkbox"/> Safety Guards in place	<input type="checkbox"/> Fire Protection Equipment	<input type="checkbox"/> First Aid Kit	<input type="checkbox"/> Personal Protective Equipment	<input type="checkbox"/> Other _____																						
<input type="checkbox"/> Condition of Roadways	<input type="checkbox"/> Obstructions (pipes, cables, etc)																																																
<input type="checkbox"/> Good Housekeeping	<input type="checkbox"/> Exits - "free and clear"																																																
<input type="checkbox"/> Stairways "free and clear"	<input type="checkbox"/> Overhead Security																																																
<input type="checkbox"/> Slip, trip and fall hazards removed	<input type="checkbox"/> Other _____																																																
<input type="checkbox"/> Overhead Security	<input type="checkbox"/> Ventilation Fans "On"																																																
<input type="checkbox"/> Good Housekeeping	<input type="checkbox"/> Unsafe areas - roped off																																																
<input type="checkbox"/> Stairways "free and clear"	<input type="checkbox"/> Escape Routes checked																																																
<input type="checkbox"/> Slip, trip and fall hazards removed	<input type="checkbox"/> Fire Hazards																																																
<input type="checkbox"/> Lighting	<input type="checkbox"/> Other _____																																																
<input type="checkbox"/> Hand Tools (hammer, wrenches)	<input type="checkbox"/> Electrical Tools/Equipment																																																
<input type="checkbox"/> Safety Lock and Tags available	<input type="checkbox"/> Safety Guards in place																																																
<input type="checkbox"/> Fire Protection Equipment	<input type="checkbox"/> First Aid Kit																																																
<input type="checkbox"/> Personal Protective Equipment	<input type="checkbox"/> Other _____																																																
<div style="display: flex; justify-content: space-between;"><div style="width: 30%;"><p><b>EQUIPMENT PRE-OP</b></p><div style="display: flex; justify-content: space-between;"><div><input checked="" type="checkbox"/> Item in good condition</div><div><input type="checkbox"/> Item requires work</div></div><table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Equipment # _____</th><th>Equipment # _____</th><th>Equipment # _____</th></tr><tr><th>Hour meter _____</th><th>Hour meter _____</th><th>Hour meter _____</th></tr></thead><tbody><tr><td>Lights _____</td><td>Lights _____</td><td>Lights _____</td></tr><tr><td>Leaks _____</td><td>Leaks _____</td><td>Leaks _____</td></tr><tr><td>Gauges _____</td><td>Gauges _____</td><td>Gauges _____</td></tr><tr><td>Engine Oil _____</td><td>Engine Oil _____</td><td>Engine Oil _____</td></tr><tr><td>Hyd Fluid _____</td><td>Hyd Fluid _____</td><td>Hyd Fluid _____</td></tr><tr><td>Belts _____</td><td>Belts _____</td><td>Belts _____</td></tr><tr><td>Horn _____</td><td>Horn _____</td><td>Horn _____</td></tr><tr><td>Brake Test _____</td><td>Brake Test _____</td><td>Brake Test _____</td></tr><tr><td>Steering _____</td><td>Steering _____</td><td>Steering _____</td></tr><tr><td>Trans Oil _____</td><td>Trans Oil _____</td><td>Trans Oil _____</td></tr><tr><td>Fire Ext. _____</td><td>Fire Ext. _____</td><td>Fire Ext. _____</td></tr><tr><td>Tires _____</td><td>Tires _____</td><td>Tires _____</td></tr><tr><td>Battery Fluid Level _____</td><td>Battery Fluid Level _____</td><td>Battery Fluid Level _____</td></tr><tr><td>Seat Belts _____</td><td>Seat Belts _____</td><td>Seat Belts _____</td></tr></tbody></table></div><div style="width: 30%;"><p>Comments: _____</p><p>_____</p><p>_____</p></div><div style="width: 30%;"><p>Comments: _____</p><p>_____</p><p>_____</p></div></div>		Equipment # _____	Equipment # _____	Equipment # _____	Hour meter _____	Hour meter _____	Hour meter _____	Lights _____	Lights _____	Lights _____	Leaks _____	Leaks _____	Leaks _____	Gauges _____	Gauges _____	Gauges _____	Engine Oil _____	Engine Oil _____	Engine Oil _____	Hyd Fluid _____	Hyd Fluid _____	Hyd Fluid _____	Belts _____	Belts _____	Belts _____	Horn _____	Horn _____	Horn _____	Brake Test _____	Brake Test _____	Brake Test _____	Steering _____	Steering _____	Steering _____	Trans Oil _____	Trans Oil _____	Trans Oil _____	Fire Ext. _____	Fire Ext. _____	Fire Ext. _____	Tires _____	Tires _____	Tires _____	Battery Fluid Level _____	Battery Fluid Level _____	Battery Fluid Level _____	Seat Belts _____	Seat Belts _____	Seat Belts _____
Equipment # _____	Equipment # _____	Equipment # _____																																															
Hour meter _____	Hour meter _____	Hour meter _____																																															
Lights _____	Lights _____	Lights _____																																															
Leaks _____	Leaks _____	Leaks _____																																															
Gauges _____	Gauges _____	Gauges _____																																															
Engine Oil _____	Engine Oil _____	Engine Oil _____																																															
Hyd Fluid _____	Hyd Fluid _____	Hyd Fluid _____																																															
Belts _____	Belts _____	Belts _____																																															
Horn _____	Horn _____	Horn _____																																															
Brake Test _____	Brake Test _____	Brake Test _____																																															
Steering _____	Steering _____	Steering _____																																															
Trans Oil _____	Trans Oil _____	Trans Oil _____																																															
Fire Ext. _____	Fire Ext. _____	Fire Ext. _____																																															
Tires _____	Tires _____	Tires _____																																															
Battery Fluid Level _____	Battery Fluid Level _____	Battery Fluid Level _____																																															
Seat Belts _____	Seat Belts _____	Seat Belts _____																																															



## Emergency Procedures



## **Emergency Response Plan for Remote Work Areas (Winter - 2007)**

### **Miramar Hope Bay Boston & Windy Camps**

After the medic receives a request for medical aid, initiate the following guideline:

**ALL WORK WILL STOP. RADIO SILENCE WILL BE OBSERVED BY THOSE  
NOT DIRECTLY INVOLVED.**

The medic will proceed to the main ENTRANCE of the camp complex with emergency gear and radio.

The Project Manager will make arrangements immediately for snowmobile transportation, satellite telephone and additional radios. Proceed to the main ENTRANCE of the camp complex to meet the medic. Hook up the designated emergency skimmer and assist with the loading of first aid kit; spine board and **oxygen** for all remote emergencies. The Project Manager, assisted, if necessary, by a geologist or Drill Supervisor, to act as a guide, will transport the medic to emergency location and stand by to provide assistance.

The Site Superintendent/Supervisor will standby phones and radio in the SS office to open lines of communication to whomever the medic wishes and to coordinate logistics (Note this is especially important if Satellite Communication is failing or if the Medic is too busy to call directly). As well, he will initiate and maintain a log of radio traffic to establish an accurate timeline and reference for later reports.

All camp laborers will start additional snowmobiles, and check condition of the airstrip, prepare the runway lights or emergency back-up, and ensure that adequate fuel is ready for a pending aircraft. Prepare to standby to provide assistance from the direction of the Site Superintendent/Supervisor. In the event of a night time emergency Medivac situation light the airstrip lights. In the event no electric lights are available fuel smudge pots and await radio call from Site Superintendent/Supervisor for lighting time prior to ETA of aircraft.

The site logistics staff will stand-by the phones and radio in the SS office to make arrangements for emergency aircraft and other logistical considerations.

The medic in consultation with the Site Superintendent/Supervisor and logistics staff will decide on the most appropriate mode of transportation based on availability, weather, available daylight and medical urgency. Ultimately, the final decision will be that of the Site Superintendent/Supervisor or in his absence the Project Manager.

In the event of a serious trauma or a life-threatening situation, the medic may declare a Medivac before he/she returns to the camp and /or before he/she has consulted with a physician so valuable time is not lost. In this case the Site Superintendent/Supervisor in conjunction with the site logistics staff will initiate the Medivac flight based on the recommendations of the medic's assessment of the seriousness of the trauma.

If the situation is not critical the Medic will return to camp with the patient, and will consult with a physician. The medic will then inform the crew of the Medivac decision and preferred route. Ultimately, the final decision will be that of the Site Superintendent/Supervisor or in his absence the Project Manager.

The Site Superintendent/Supervisor and the logistics staff will keep the phone lines clear for incoming Medivac-related calls from the MedFlight team and/or air-crew.

The aircraft will be met by the Project Manager or delegated members of his crew who will bring the medical team and gear to the medic and his/her patient. The crew will stand-by to assist the pilots and the Medivac team as required. Once the patient has been handed off to the Medivac flight team and is on the aircraft, the site logistics staff will stand by for the pilots ETA to Yellowknife or Cambridge Bay, and will relay the information to the appropriate agencies.

Serious accidents will be reported immediately to the 24 Hour Accident Report Line (1-800-661-0792) and within 72 hours following the incident, a written report will be submitted to the Chief Mines Inspector.

In addition, all serious accidents must be reported as soon as possible to the following Company personnel in Yellowknife:

Scott Stringer, Manager, Northern Operations, Office: 867-766-5311, Home: 867-873-8301, Cell: 867-444-8091

Dave Power, Safety Coordinator, Office: 867-766-5303, Home: 867-873-8824, Cell: 867-444-8089

### **CAVEAT:**

- A. The following personnel must carry a radio and monitor channel 4 at Boston Camp and channel 1 at Windy Camp, at all times to ensure a proper response to any emergency situation that may arise:

1. Site Superintendent
2. Site Supervisor;
3. Project Manager;
4. Logistics Staff;
5. Helicopter pilots (When not flying);
6. Camp Medic; and
7. All members of the Emergency Response Team

- B. This document is to be used as a general guideline. Due to the many variables involved in medical emergencies and in the logistics of implementing this plan it is unrealistic to expect that these options will be adhered too at all times. The decisions made during any such emergency will be made with the patients' best interest in mind while also taking into account all the logistical challenges.





## **WINDY CAMP MEDIVAC GUIDELINES** **(Winter Operations - 2007)**

**Camp Phone Number:** 1-604-677-0636

Latitude 68<sup>0</sup> – 03' – 44"  
Longitude 106<sup>0</sup> – 36' – 50"

### **TO SUMMON MEDIC ON CHANNEL # 1: "MEDIC, MEDIC, MEDIC"**

**Stay calm, talk clearly and keep radio silence if not involved.**

In the event of a medical emergency, the following steps must be taken. The medic will decide the necessity of a Medivac, and will take steps #1 and #2, as is appropriate. The SS will take step #3 and stand-by for further information from the medic.

#1 – Medic or the SS\* (as designated by the medic) will call Cambridge Health Centre 1-867-983-4500 to inform CHC of the emergency, and inquire about availability of a Doctor/Nurse. If CHC is unable to respond, see #2.

#2 – Medic or the SS (as designated by the medic) will call Stanton Hospital and will speak with the attending physician on duty 1-800-661-0867. Inform them of patients' status. If unable to contact the ER, call 24-hour hotline at 1-867-669-4115. Stanton Medical Travel will initiate their Medivac protocol.

#3 – The SS will contact Discovery Mining Services at 1-867-920-4600, and inform them of the situation.

*\*SS – Site Supervisor or Site Superintendent*

### **Important Numbers**

RCMP Cambridge Bay:	1-867-983-1111 (in case of fatality)
Stanton Hospital:	1-867-873-4100
Adlair:	1-867-983-2569 or 1-867-983-2247 (hanger)
Mines Inspector:	1-867-920-3888

**For additional information see the attached appendix "A"**



## **BOSTON CAMP MEDIVAC GUIDELINES** (Winter Operations - 2007)

**Camp Phone Number:** 1-604-677-0675

Latitude 67° – 39' – 41"  
Longitude 106° – 23' – 04"

### **TO SUMMON MEDIC ON CHANNEL #4: "MEDIC, MEDIC, MEDIC"**

**Stay calm, talk clearly and keep radio silence if not involved.**

In the event of a medical emergency, the following steps must be taken. The medic will decide the necessity of a Medivac, and will take steps #1 and #2, as is appropriate. The SS will take step #3 and stand-by for further information from the medic.

#1 – Medic or the SS (as designated by the medic) will call Cambridge Health Centre 1-867-983-4500 to inform CHC of the emergency, and inquire about availability of a Doctor/Nurse. If CHC is unable to respond, see #2.

#2 – Medic or the SS (as designated by the medic) will call Stanton Hospital and will speak with the attending physician on duty 1-800-661-0867. Inform them of patients' status. If unable to contact the ER, call 24-hour hotline at 1-867-669-4115. Stanton Medical Travel will initiate their Medivac protocol.

#3 – The SS will contact Discovery Mining Services at 1-867-920-4600, and inform them of the situation.

*\*SS – Site Supervisor or Site Superintendent*

### **Important Numbers**

RCMP Cambridge Bay:	1-867-983-1111 (in case of fatality)
Stanton Hospital:	1-867-873-4100
Adlair:	1-867-983-2569 or 1-867-983-2247 (hanger)
Mines Inspector:	1-867-920-3888

**For additional information see the attached appendix "A"**



## ***BOSTON/WINDY CAMP MEDIVAC GUIDELINES***

### **APPENDIX “A”**

#### **MEDIVAC OPTIONS (WINTER TIME)**

##### **Direct to Cambridge Bay:**

- A. If no nurse is required, call Adlair at 1-867-983-2569 to request an aircraft.
- B. If a nurse is required to accompany the flight. Contact the Cambridge Bay Health Centre at 1-867-983-4500. Inform the nurse of the patients' condition. The nurse will assume all logistical responsibilities through Cambridge Bay Health Centre for the Medivac to take place.
- C. Consider the need for ground transportation and lodging.

##### **Direct to Yellowknife:**

- A. **If no nurse is required:** Call Air Tindi at 1-867-669-8200 (Dispatch) or 1-867-669-8218. Then contact Discovery Mining Services at 1-867-920-4600 to have expeditor meet the aircraft and transport the patient to Stanton Hospital.  
**(Regularly scheduled crew change flights should be utilized whenever possible)**

The medic should make a courtesy call to the attending physician at Stanton and advise him/her of the patient being sent in for further investigation along with an ETA.

- B. **If a nurse is required:** The attending physician at Stanton Hospital ER should be contacted first at 1-800-661-0867 to discuss the patients' condition prior to arranging the Medivac, when possible. Once that has been done, Stanton Medical Travel should be contacted at 1-867-669-4115 to have all the arrangements made for the Medivac.

Stanton Medical Travel is the dispatch for Med-Flight and will require some basic information about the patient. The information that will be required can be found on the attached work sheet in Appendix “B”.

The flight nurse will call back to the camp to get a clinical report from the camp medic prior to takeoff.

Stanton Medical Travel Dispatch will also call back with an ETA for the aircraft.

### **Through Jericho Diamond Mine:**

<b>Airstrip Coordinates:</b>	<b>Latitude</b>	<b>66° – 01.74 minutes North</b>
	<b>Longitude</b>	<b>111° – 27.82 minutes West</b>

- A. Call the Jericho Diamond Mine Process Plant (24 hours) at 1-780-644-9158 and advise that we will be running a medivac from Hope Bay through their airstrip. Obtain the latest weather information for the Jericho airstrip and pass onto the pilot and/or airline company.
- B. Advise them of an ETA to their site.
- C. Arrange for receiving aircraft to continue medivac from the Jericho Diamond Mine to Yellowknife.

***Note: It will take approx 45 min. for the Medivac crew (Med-Flight) to prepare for takeoff out of Yellowknife.***

### **OTHER OPTIONS:**

Air Tindi	1-867-669-8218
Summit Air	1-867-669-9789
Arctic Sun West	1-867-873-4464
Stanton Medical Travel	1-867-669-4115 (Nurse Attendance)

### **IMPORTANT PHONE NUMBERS:**

Medic North Emergency Services	1-867-669-9111
R.C.M.P. Cambridge Bay	1-867-983-1111
Chief Mines Inspector	1-867-920-3888
24-Hour Serious Injury Line	1-800-661-0792
Stanton Hospital ER Dept.	1-867-669-4100
Discovery Mining Services	1-867-920-4600
Jericho Diamond Mine	1-780-644-9158
Adlair Dispatch (Cambridge Bay)	1-867-983-2569
Cambridge Bay Health Centre	1-867-983-4500
Matrix Helicopter Solutions	1-604-538-4574 or 250-712-9459
Aurora-TeleNet	1-604-765-7600



## **BOSTON/WINDY CAMP MEDIVAC GUIDELINES**

### **APPENDIX “B”**

***(To be completed when conducting Medivac through Stanton Medical Travel)***

\*\*\*Tell Dispatch that the King Air will not land at our site and that we need a Twin Otter if Medivac is coming direct to camp\*\*\*

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Home Address: \_\_\_\_\_

Health Care #: \_\_\_\_\_ Province: \_\_\_\_\_

Employer: \_\_\_\_\_

Miramar paying for Medivac? \_\_\_\_\_

WCB Claim? \_\_\_\_\_

Presenting Diagnosis: \_\_\_\_\_

**Note: Missing information will be required for billing purposes and MUST be sent to Stanton Medical Travel once available.**



## **Emergency Response Plan for Remote Work Areas (Summer - 2007)**

### **Miramar Hope Bay Boston and Windy Camps**

After the medic receives a request for medical aid, initiate the following guideline:

#### **ALL WORK MUST STOP. RADIO SILENCE WILL BE OBSERVED BY THOSE NOT DIRECTLY INVOLVED.**

The medic will proceed to the first aid entrance of the camp complex with emergency gear and radio. He/she will respond to the scene via the first available helicopter and complete an assessment of the patient.

Emergency response team members will proceed to the first aid entrance of the camp complex to meet the medic and assist with loading the helicopter with the first aid kit, spine board, and oxygen. The medic, for all remote emergencies, must also take a Satellite phone.

Additional personnel may be required at the site and will be called for by the medic once he/she has determined a need. This may require the initial helicopter to return to camp to pick up the additional manpower or the utilization of a second helicopter.

The Supervisor (SS) will stand-by the phones and radio in the SS office to open lines of communication for the medic as required. *(This is especially important if the Satellite phone is failing or if the medic is too busy to call directly)*. As well, he will initiate and maintain a log of radio traffic to establish an accurate timeline and reference for later reports.

The site logistics staff will stand-by the phones and radio in the SS office to make arrangements for emergency aircraft and other logistical considerations.

The medic in consultation with the Site Superintendent /Supervisor and logistics staff will decide on the most appropriate mode of transportation based on availability, weather, available daylight and medical urgency. Ultimately, the final decision will be that of the Site Superintendent /Supervisor or in his absence the Project Manager.

Camp laborers will ensure that adequate fuel is ready for pending aircraft. They will also prepare to stand-by to provide assistance on the direction of the Site Supervisor.

In the event of a serious trauma or life-threatening situation, the medic may declare a Medivac before he/she returns to camp and /or before he/she has consulted with a physician so that valuable time is not lost. In this case, the Site Superintendent /Supervisor in conjunction with the site logistics staff will initiate the Medivac flight based on the medic's assessment of the seriousness of the trauma.

If the situation is not critical, the medic will return to camp with the patient and will consult with a physician. The medic will then inform the crew of the Medivac decision and preferred route. Ultimately, the final decision will be that of the Site Superintendent /Supervisor or in his absence the Project Manager.

The Site Superintendent /Supervisor and the logistics staff will keep the phone lines clear for incoming Medivac-related calls from the MedFlight team and/or aircrew.

The aircraft will be met by the project manager or delegated members of his crew who will bring the medical team and their gear to the medic and his/her patient. The crew will then stand-by to assist the pilots and the Medivac team as required. Once the patient has been handed off to the Medivac flight team and is on the aircraft, the site logistics staff will stand-by for the pilots ETA to Yellowknife or Cambridge Bay, and will relay the information to the appropriate agencies.

Serious accidents will be reported immediately to the 24 Hour Accident Report Line (1-800-661-0792) and within 72 hours following the incident, a written report will be submitted to the Chief Mines Inspector.

In addition, all serious accidents must be reported as soon as possible to the following Company personnel in Yellowknife:

Scott Stringer, Manager, Northern Operations, Office: 867-766-5311, Home: 867-873-8301, Cell: 867-444-8091

Dave Power, Safety Coordinator, Office: 867-766-5303, Home: 867-873-8824, Cell: 867-444-8089

**CAVEAT:**

- A. The following personnel must carry a radio and monitor channel 4 at Boston Camp and channel 1 at Windy Camp, at all times to ensure a proper response to any emergency situation that may arise:

1. Site Superintendent
2. Site Supervisor
3. Project Manager;
4. Logistics Staff;
5. Helicopter pilots (When not flying);
6. Camp Medic; and
7. Members of the Emergency Response Team

- B. This document is to be used as a general guideline. Due to the many variables involved in medical emergencies and in the logistics of implementing this plan it is unrealistic to expect that these options will be adhered too at all times. The decisions made during any such emergency will be made with the patients' best interest in mind while also taking into account all the logistical challenges.



## **WINDY CAMP MEDIVAC GUIDELINES** **(Summer Operations - 2007)**

**Camp Phone Number:** 1-604-677-0636

Latitude 68° – 03' – 44"  
Longitude 106° – 36' – 50"

### **TO SUMMON MEDIC ON CHANNEL # 1: "MEDIC, MEDIC, MEDIC"**

**Stay calm, talk clearly and keep radio silence if not involved.**

In the event of a medical emergency, the following steps must be taken. The medic will decide the necessity of a Medivac, and will take steps #1, #2, and #3 as is appropriate. The Site Supervisor will take step #4 and #5 and stand-by for further information from the medic.

#1 – Medic or the SS\* (as designated by the medic) will call Cambridge Health Centre 1-867-983-4500 to inform CHC of the emergency, and inquire about availability of a Doctor/Nurse. If CHC is unable to respond, see #2.

#2 – Medic or the SS (as designated by the medic) will call Stanton Hospital and will speak with the attending physician on duty 1-800-661-0867. Inform them of patients' status. If unable to contact the ER, call 24-hour hotline at 1-867-669-4115. Stanton Medical Travel will initiate their Medivac protocol.

#3 – Medic or the SS (as designated by the medic) will contact the Boston Camp Medic and inform of patient status if evac to be conducted through Boston Camp.

#4 – The SS will contact Discovery Mining Services, and inform them of the situation. 1-867-920-4600

#5 – The SS will contact Boston Camp Logistics, and inform them of the need to run a Medivac out of Boston Camp.

*\*SS – Site Supervisor or Site Superintendent*

### **Important Numbers**

RCMP Cambridge Bay:	1-867-983-1111 (in case of fatality)
Stanton Hospital:	1-867-873-4100
Adlair:	1-867-983-2569 or 1-867-983-2247 (hanger)
Mines Inspector:	1-867-920-3888

**For additional information see the attached appendix "A"**





## **BOSTON CAMP MEDIVAC GUIDELINES** (Summer Operations - 2007)

**Camp Phone Number:** 1-604-677-0675

Latitude 67<sup>0</sup> – 39' – 41"  
Longitude 106<sup>0</sup> – 23' – 04"

### **TO SUMMON MEDIC ON CHANNEL #4: "MEDIC, MEDIC, MEDIC"**

**Stay calm, talk clearly and keep radio silence if not involved.**

In the event of a medical emergency, the following steps must be taken. The medic will decide the necessity of a Medivac, and will take steps #1 and #2, as is appropriate. The Site Supervisor will take step #3 and stand-by for further information from the medic.

#1 – Medic or the SS\* (as designated by the medic) will call Cambridge Health Centre 1-867-983-4500 to inform CHC of the emergency, and inquire about availability of a Doctor/Nurse. If CHC is unable to respond, see #2.

#2 – Medic or the SS (as designated by the medic) will call Stanton Hospital and will speak with the attending physician on duty 1-800-661-0867. Inform them of patients' status. If unable to contact the ER, call 24-hour hotline at 1-867-669-4115. Stanton Medical Travel will initiate their Medivac protocol.

#3 – The SS will contact Discovery Mining Services at 1-867-920-4600, and inform them of the situation.

*\*SS – Site Supervisor or Site Superintendent*

### **Important Numbers**

RCMP Cambridge Bay:	1-867-983-1111 (in case of fatality)
Stanton Hospital:	1-867-873-4100
Adlair:	1-867-983-2569 or 1-867-983-2247 (hanger)
Mines Inspector:	1-867-920-3888

**For additional information see the attached appendix "A"**



# BOSTON/WINDY CAMP MEDIVAC GUIDELINES

## APPENDIX “A”

### MEDIVAC OPTIONS (SUMMER TIME)

#### Direct to Cambridge Bay:

- A. If no nurse is required, call Adlair at 1-867-983-2569 to request an aircraft. ***(Windy camp must ensure they request for an aircraft on floats)***
- B. If a nurse is required to accompany the flight. Contact the Cambridge Bay Health Centre at 1-867-983-4500. Inform the nurse of the patients' condition. The nurse will assume all logistical responsibilities through Cambridge Bay Health Centre for the Medivac to take place. ***(Windy camp must ensure they advise the nurse of the need for an aircraft on floats)***
- C. Consider the need for ground transportation and lodging.

#### Direct to Yellowknife:

- A. **If no nurse is required:** Call Air Tindi (Caravan, Twin Otter) at 1-867-669-8200 (Dispatch) or 1-867-669-8218 (Float Base). Then contact Discovery Mining Services at 1-867-920-4600 to have expeditor meet the aircraft and transport the patient to Stanton Hospital. **(Regularly scheduled crew change flights should be utilized whenever possible)**

The medic should make a courtesy call to the attending physician at Stanton and advise him/her of the patient being sent in for further investigation along with an ETA.

- B. **If a nurse is required:** The attending physician at Stanton Hospital ER should be contacted first at 1-800-661-0867 to discuss the patients' condition prior to arranging the Medivac, when possible. Once that has been done, Stanton Medical Travel should be contacted at 1-867-669-4115 to have all the arrangements made for the Medivac.

Stanton Medical Travel is the dispatch for Medflight and will require some basic information about the patient. The information that will be required can be found on the attached work sheet in Appendix “B”.

The flight nurse will call back to the camp to get a clinical report from the camp medic prior to takeoff.

Stanton Medical Travel Dispatch will also call back with an ETA for the aircraft.

### **Through Jericho Diamond Mine:**

<b>Airstrip Coordinates:</b>	<b>Latitude</b>	<b>66° – 01.74 minutes North</b>
	<b>Longitude</b>	<b>111° – 27.82 minutes West</b>

- A. Call the Jericho Diamond Mine Process Plant (24 hours) at 1-780-644-9158 and advise that we will be running a medivac from Hope Bay through their airstrip. Obtain the latest weather information for the Jericho airstrip and pass onto the pilot and/or airline company.
- B. Advise them of an ETA to their site.
- C. Arrange for receiving aircraft to continue medivac from the Jericho Diamond Mine to Yellowknife.

***Note: It will take approx 45 min. for the Medivac crew to prepare for takeoff out of Yellowknife.***

### **Through Boston Camp:**

- A. Notify Boston Logistics or Site Supervisor of the Medivac requirement, so that arrangements can be made for the appropriate aircraft and for weather reporting to the airline. Medivac protocols will be based on Boston Camp Procedures.
- B. Windy Camp Medic should contact the Boston Camp Medic to inform of all relevant patient medical information.
- C. Windy Camp Medic will accompany patient and will turn over care to the Boston Camp Medic then will return to Windy Camp.

### **OTHER OPTIONS:**

Air Tindi	1-867-669-8218 (Caravan, Twin Otter)
Summit Air	1-867-669-9789 (Dornier, Sky Van)
Arctic Sun West	1-867-873-4464 (Twin Otter)
Stanton Medical Travel	1-867-669-4115 (Nurse Attendance)

### **IMPORTANT PHONE NUMBERS:**

Medic North Emergency Services	1-867-669-9111
R.C.M.P. Cambridge Bay	1-867-983-1111
Chief Mines Inspector	1-867-920-3888
24-Hour Serious Injury Line	1-800-661-0792
Stanton Hospital ER Dept.	1-867-669-4100
Discovery Mining Services	1-867-920-4600
Jericho Diamond Mine	1-780-644-9158
Adlair Dispatch (Cambridge Bay)	1-867-983-2569
Cambridge Bay Health Centre	1-867-983-4500
Matrix Helicopter Solutions	1-604-538-4574 or 250-712-9459
Aurora-TeleNet	1-604-765-7600



## BOSTON/WINDY CAMP MEDIVAC GUIDELINES

### APPENDIX “B”

*(To be completed when conducting Medivac through Stanton Medical Travel)*

**\*\*\*Tell Dispatch that the King Air will not land at our site and that we need a Twin Otter if Medivac is coming direct to camp\*\*\***

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Home Address: \_\_\_\_\_

Health Care #: \_\_\_\_\_ Province: \_\_\_\_\_

Employer: \_\_\_\_\_

Miramar paying for Medivac? \_\_\_\_\_

WCB Claim? \_\_\_\_\_

Presenting Diagnosis: \_\_\_\_\_

**Note: Missing information will be required for billing purposes and MUST be sent to Stanton Medical Travel once available.**



## **Emergency Response Plan for Remote Work Areas (Summer - 2007)**

### **Miramar Hope Bay Boston and Windy Camps**

After the medic receives a request for medical aid, initiate the following guideline:

#### **ALL WORK MUST STOP. RADIO SILENCE WILL BE OBSERVED BY THOSE NOT DIRECTLY INVOLVED.**

The medic will proceed to the first aid entrance of the camp complex with emergency gear and radio. He/she will respond to the scene via the first available helicopter and complete an assessment of the patient.

Emergency response team members will proceed to the first aid entrance of the camp complex to meet the medic and assist with loading the helicopter with the first aid kit, spine board, and oxygen. The medic, for all remote emergencies, must also take a Satellite phone.

Additional personnel may be required at the site and will be called for by the medic once he/she has determined a need. This may require the initial helicopter to return to camp to pick up the additional manpower or the utilization of a second helicopter.

The Supervisor (SS) will stand-by the phones and radio in the SS office to open lines of communication for the medic as required. *(This is especially important if the Satellite phone is failing or if the medic is too busy to call directly)*. As well, he will initiate and maintain a log of radio traffic to establish an accurate timeline and reference for later reports.

The site logistics staff will stand-by the phones and radio in the SS office to make arrangements for emergency aircraft and other logistical considerations.

The medic in consultation with the Site Superintendent /Supervisor and logistics staff will decide on the most appropriate mode of transportation based on availability, weather, available daylight and medical urgency. Ultimately, the final decision will be that of the Site Superintendent /Supervisor or in his absence the Project Manager.

Camp laborers will ensure that adequate fuel is ready for pending aircraft. They will also prepare to stand-by to provide assistance on the direction of the Site Supervisor.

In the event of a serious trauma or life-threatening situation, the medic may declare a Medivac before he/she returns to camp and /or before he/she has consulted with a physician so that valuable time is not lost. In this case, the Site Superintendent /Supervisor in conjunction with the site logistics staff will initiate the Medivac flight based on the medic's assessment of the seriousness of the trauma.

If the situation is not critical, the medic will return to camp with the patient and will consult with a physician. The medic will then inform the crew of the Medivac decision and preferred route. Ultimately, the final decision will be that of the Site Superintendent /Supervisor or in his absence the Project Manager.

The Site Superintendent /Supervisor and the logistics staff will keep the phone lines clear for incoming Medivac-related calls from the MedFlight team and/or aircrew.

The aircraft will be met by the project manager or delegated members of his crew who will bring the medical team and their gear to the medic and his/her patient. The crew will then stand-by to assist the pilots and the Medivac team as required. Once the patient has been handed off to the Medivac flight team and is on the aircraft, the site logistics staff will stand-by for the pilots ETA to Yellowknife or Cambridge Bay, and will relay the information to the appropriate agencies.

Serious accidents will be reported immediately to the 24 Hour Accident Report Line (1-800-661-0792) and within 72 hours following the incident, a written report will be submitted to the Chief Mines Inspector.

In addition, all serious accidents must be reported as soon as possible to the following Company personnel in Yellowknife:

Scott Stringer, Manager, Northern Operations, Office: 867-766-5311, Home: 867-873-8301, Cell: 867-444-8091

Dave Power, Safety Coordinator, Office: 867-766-5303, Home: 867-873-8824, Cell: 867-444-8089

**CAVEAT:**

- A. The following personnel must carry a radio and monitor channel 4 at Boston Camp and channel 1 at Windy Camp, at all times to ensure a proper response to any emergency situation that may arise:

1. Site Superintendent
2. Site Supervisor
3. Project Manager;
4. Logistics Staff;
5. Helicopter pilots (When not flying);
6. Camp Medic; and
7. Members of the Emergency Response Team

- B. This document is to be used as a general guideline. Due to the many variables involved in medical emergencies and in the logistics of implementing this plan it is unrealistic to expect that these options will be adhered too at all times. The decisions made during any such emergency will be made with the patients' best interest in mind while also taking into account all the logistical challenges.



## **WINDY CAMP MEDIVAC GUIDELINES** **(Summer Operations - 2007)**

**Camp Phone Number:** 1-604-677-0636

Latitude 68° – 03' – 44"  
Longitude 106° – 36' – 50"

### **TO SUMMON MEDIC ON CHANNEL # 1: "MEDIC, MEDIC, MEDIC"**

**Stay calm, talk clearly and keep radio silence if not involved.**

In the event of a medical emergency, the following steps must be taken. The medic will decide the necessity of a Medivac, and will take steps #1, #2, and #3 as is appropriate. The Site Supervisor will take step #4 and #5 and stand-by for further information from the medic.

#1 – Medic or the SS\* (as designated by the medic) will call Cambridge Health Centre 1-867-983-4500 to inform CHC of the emergency, and inquire about availability of a Doctor/Nurse. If CHC is unable to respond, see #2.

#2 – Medic or the SS (as designated by the medic) will call Stanton Hospital and will speak with the attending physician on duty 1-800-661-0867. Inform them of patients' status. If unable to contact the ER, call 24-hour hotline at 1-867-669-4115. Stanton Medical Travel will initiate their Medivac protocol.

#3 – Medic or the SS (as designated by the medic) will contact the Boston Camp Medic and inform of patient status if evac to be conducted through Boston Camp.

#4 – The SS will contact Discovery Mining Services, and inform them of the situation. 1-867-920-4600

#5 – The SS will contact Boston Camp Logistics, and inform them of the need to run a Medivac out of Boston Camp.

*\*SS – Site Supervisor or Site Superintendent*

### **Important Numbers**

RCMP Cambridge Bay:	1-867-983-1111 (in case of fatality)
Stanton Hospital:	1-867-873-4100
Adlair:	1-867-983-2569 or 1-867-983-2247 (hanger)
Mines Inspector:	1-867-920-3888

**For additional information see the attached appendix "A"**



## **BOSTON CAMP MEDIVAC GUIDELINES** (Summer Operations - 2007)

**Camp Phone Number:** 1-604-677-0675

Latitude 67<sup>0</sup> – 39' – 41"  
Longitude 106<sup>0</sup> – 23' – 04"

### **TO SUMMON MEDIC ON CHANNEL #4: "MEDIC, MEDIC, MEDIC"**

**Stay calm, talk clearly and keep radio silence if not involved.**

In the event of a medical emergency, the following steps must be taken. The medic will decide the necessity of a Medivac, and will take steps #1 and #2, as is appropriate. The Site Supervisor will take step #3 and stand-by for further information from the medic.

#1 – Medic or the SS\* (as designated by the medic) will call Cambridge Health Centre 1-867-983-4500 to inform CHC of the emergency, and inquire about availability of a Doctor/Nurse. If CHC is unable to respond, see #2.

#2 – Medic or the SS (as designated by the medic) will call Stanton Hospital and will speak with the attending physician on duty 1-800-661-0867. Inform them of patients' status. If unable to contact the ER, call 24-hour hotline at 1-867-669-4115. Stanton Medical Travel will initiate their Medivac protocol.

#3 – The SS will contact Discovery Mining Services at 1-867-920-4600, and inform them of the situation.

*\*SS – Site Supervisor or Site Superintendent*

### **Important Numbers**

RCMP Cambridge Bay:	1-867-983-1111 (in case of fatality)
Stanton Hospital:	1-867-873-4100
Adlair:	1-867-983-2569 or 1-867-983-2247 (hanger)
Mines Inspector:	1-867-920-3888

**For additional information see the attached appendix "A"**





# BOSTON/WINDY CAMP MEDIVAC GUIDELINES

## APPENDIX “A”

### MEDIVAC OPTIONS (SUMMER TIME)

#### Direct to Cambridge Bay:

- A. If no nurse is required, call Adlair at 1-867-983-2569 to request an aircraft. ***(Windy camp must ensure they request for an aircraft on floats)***
- B. If a nurse is required to accompany the flight. Contact the Cambridge Bay Health Centre at 1-867-983-4500. Inform the nurse of the patients' condition. The nurse will assume all logistical responsibilities through Cambridge Bay Health Centre for the Medivac to take place. ***(Windy camp must ensure they advise the nurse of the need for an aircraft on floats)***
- C. Consider the need for ground transportation and lodging.

#### Direct to Yellowknife:

- A. **If no nurse is required:** Call Air Tindi (Caravan, Twin Otter) at 1-867-669-8200 (Dispatch) or 1-867-669-8218 (Float Base). Then contact Discovery Mining Services at 1-867-920-4600 to have expeditor meet the aircraft and transport the patient to Stanton Hospital. **(Regularly scheduled crew change flights should be utilized whenever possible)**

The medic should make a courtesy call to the attending physician at Stanton and advise him/her of the patient being sent in for further investigation along with an ETA.

- B. **If a nurse is required:** The attending physician at Stanton Hospital ER should be contacted first at 1-800-661-0867 to discuss the patients' condition prior to arranging the Medivac, when possible. Once that has been done, Stanton Medical Travel should be contacted at 1-867-669-4115 to have all the arrangements made for the Medivac.

Stanton Medical Travel is the dispatch for Medflight and will require some basic information about the patient. The information that will be required can be found on the attached work sheet in Appendix “B”.

The flight nurse will call back to the camp to get a clinical report from the camp medic prior to takeoff.

Stanton Medical Travel Dispatch will also call back with an ETA for the aircraft.

### **Through Jericho Diamond Mine:**

<b>Airstrip Coordinates:</b>	<b>Latitude</b>	<b>66° – 01.74 minutes North</b>
	<b>Longitude</b>	<b>111° – 27.82 minutes West</b>

- A. Call the Jericho Diamond Mine Process Plant (24 hours) at 1-780-644-9158 and advise that we will be running a medivac from Hope Bay through their airstrip. Obtain the latest weather information for the Jericho airstrip and pass onto the pilot and/or airline company.
- B. Advise them of an ETA to their site.
- C. Arrange for receiving aircraft to continue medivac from the Jericho Diamond Mine to Yellowknife.

***Note: It will take approx 45 min. for the Medivac crew to prepare for takeoff out of Yellowknife.***

### **Through Boston Camp:**

- A. Notify Boston Logistics or Site Supervisor of the Medivac requirement, so that arrangements can be made for the appropriate aircraft and for weather reporting to the airline. Medivac protocols will be based on Boston Camp Procedures.
- B. Windy Camp Medic should contact the Boston Camp Medic to inform of all relevant patient medical information.
- C. Windy Camp Medic will accompany patient and will turn over care to the Boston Camp Medic then will return to Windy Camp.

### **OTHER OPTIONS:**

Air Tindi	1-867-669-8218 (Caravan, Twin Otter)
Summit Air	1-867-669-9789 (Dornier, Sky Van)
Arctic Sun West	1-867-873-4464 (Twin Otter)
Stanton Medical Travel	1-867-669-4115 (Nurse Attendance)

### **IMPORTANT PHONE NUMBERS:**

Medic North Emergency Services	1-867-669-9111
R.C.M.P. Cambridge Bay	1-867-983-1111
Chief Mines Inspector	1-867-920-3888
24-Hour Serious Injury Line	1-800-661-0792
Stanton Hospital ER Dept.	1-867-669-4100
Discovery Mining Services	1-867-920-4600
Jericho Diamond Mine	1-780-644-9158
Adlair Dispatch (Cambridge Bay)	1-867-983-2569
Cambridge Bay Health Centre	1-867-983-4500
Matrix Helicopter Solutions	1-604-538-4574 or 250-712-9459
Aurora-TeleNet	1-604-765-7600



## BOSTON/WINDY CAMP MEDIVAC GUIDELINES

### APPENDIX “B”

*(To be completed when conducting Medivac through Stanton Medical Travel)*

**\*\*\*Tell Dispatch that the King Air will not land at our site and that we need a Twin Otter if Medivac is coming direct to camp\*\*\***

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Home Address: \_\_\_\_\_

Health Care #: \_\_\_\_\_ Province: \_\_\_\_\_

Employer: \_\_\_\_\_

Miramar paying for Medivac? \_\_\_\_\_

WCB Claim? \_\_\_\_\_

Presenting Diagnosis: \_\_\_\_\_

**Note: Missing information will be required for billing purposes and MUST be sent to Stanton Medical Travel once available.**



## **MHBL SEARCH AND RESCUE PLAN FOR THE HOPE BAY BELT:**

### **PRE – SEARCH**

A party will be considered Overdue one hour after their planned return time.

After two hours the Site Superintendent, Site Supervisor and the Project Manager, will initiate the following procedures.

### **SEARCH PROCEDURE - WINTER**

- a) The Site Superintendent /Site Supervisor will attempt to contact person by radio and initiate search of camp facilities. Find and question last person to be in contact.
- b) If radio contact is unsuccessful and a search of the camp fails to locate the person then a two-person search team on separate snowmobiles, equipped with basic first aid gear and survival supplies will search along missing party's planned route of travel. Search party will always travel together and stay in radio contact with camp.

A Party will be considered MISSING when they are more than two hours OVERDUE, have not been in radio contact, and a search on their known route of travel has not located them.

- c) At this time all Project Managers of other operating camps in the area and contractor site supervisors will notified of the situation. They will be asked to search their localities i.e. camps drills etc.
- d) The Site Superintendent /Site Supervisor will consult the travel itinerary and permission slip filled out by the travel party to determine who was in the travel party, their planned destination which snow machines they had, the amount of survival equipment and signaling equipment with them.
- e) Providing conditions are safe any aircraft in the belt will be called in to do an aerial search.
- f) Search parties to maintain radio check-in at scheduled intervals with the site superintendent.
- g) The most experienced people will be initiated to take part in a full scale search involving all safely operable snowmobiles and any other available equipment, such as tracked vehicles. This will be supervised by the Project Manager who will remain at the camp where the person is missing from. Two snowmobiles will remain at Camp ready to transport the First Aid Attendant to the search locality if required.

When a Party has been OVERDUE by FOUR hours, and is MISSING for TWO hours,

- h) The Project Manager shall Contact RCMP in Cambridge Bay (1-867-983-1111), the Exploration Manager, and the Mines Inspector, and report missing person(s). The Project Manager will continue to direct the search, under instructions from the RCMP.
- i) Search parties to maintain radio check-in at scheduled intervals with first aid attendant and the site superintendent.

## 2) SEARCH PROCEDURE – SUMMER

- a) In addition to the above, a helicopter with spotters on both sides of the aircraft will be dispatched immediately to the area where the person(s) were last seen or where they had planned to be and conduct an air search. Ground search crews will be organized and held in reserve to assist in the search if need be.
- b) Outside air support will be called in to assist in the search if required.

## 3) MISSING OR OVERDUE AIRCRAFT

Every aircraft transportation company have procedures for tracking overdue and lost aircraft. Any aircraft reported overdue will be the responsibility of the aircraft company to initiate the search and rescue plans as per aviation industry protocols.

MHBL will integrate their resources both air and ground into this plan to work in-conjunction with the Aircraft Company and Canadian Civilian and Military Search and Rescue Agencies to assist where feasible.

Refer to the **MHBL Emergency Response and Contingency Plans** for further details governing the responsibilities and tracking procedures for aircraft working within the Belt.



## Forms



*Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731*

## **ACKNOWLEDGEMENT OF HOPE BAY TRAINING**

- Lock Out Procedure
- 5 Point Safety System
- Fuel Handling Training
- Maintenance General Safety Rules (outlined in Employee Handbook)
- Safety Rules for working around or on heavy mobile equipment
- Core Handling and Cutting Safety Procedures
- Hot work permit system
- Confined Space
- Unsafe Tag Procedure
- Fire Extinguisher Training
- Fall Hazard Protection
- Fire Fighting Equipment
- Storage & Handling of Explosives
- Bear Protection Training
- (Other Training) \_\_\_\_\_  
(specify) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Instructor:** *This employee has received instruction & training in the items checked.*

*Signature* \_\_\_\_\_ *Date* \_\_\_\_\_

**Supervisor:** *This employee has received an area orientation as per MSR-6.03(a).*

*Signature* \_\_\_\_\_ *Date* \_\_\_\_\_

**Employee:** *I have received induction orientation & training as described above and it is my responsibility to review and become fully informed of the Mine Safety Regulations and Safety Hand Book issued during my induction.*

*Signature* \_\_\_\_\_ *Date* \_\_\_\_\_



## TASK OBSERVATION

Doc: C TOR07.01





## CONFINED SPACE ENTRY PERMIT

### GENERAL INFORMATION

Space to be entered:

Purpose of Entry:

Location/Building:

Authorized duration of Permit:

### PERMIT SPACE HAZARDS

(Indicate specific hazards with initials)

- ☐ Oxygen deficiency (less than 19.5%)
- ☐ Oxygen enrichment (greater than 23.5%)
- ☐ Flammable gases or vapors (greater than 10% of LFL)
- ☐ Airborne combustible dust (meets or exceeds LFL)
- ☐ Toxic gases or vapors (greater than PEL)
- ☐ Mechanical hazards
- ☐ Electrical shock
- ☐ Materials harmful to skin
- ☐ Engulfment
- ☐ Other

### EQUIPMENT REQUIRED FOR ENTRY AND WORK

Specify as required:

Personal Protective Equipment: \_\_\_\_\_

Respiratory Protection: \_\_\_\_\_

Atmospheric Testing/Monitoring: \_\_\_\_\_

Rescue Equipment: \_\_\_\_\_

Other: \_\_\_\_\_

### PREPARATION FOR ENTRY

(Check after steps have been taken)

- ☐ Notification of affected departments of service interruption.
- ☐ Isolation Methods: ☐ Lockout/Tagout ☐ Blank/Blind
- ☐ Purge/Clean ☐ Inert ☐ Ventilate
- ☐ Atmospheric Test ☐ Barriers ☐ Other
- ☐ **Personnel Awareness:**
- ☐ Pre-entry briefing on specific hazards and control methods
- ☐ Notify contractors of permit and hazard conditions
- ☐ Other
- ☐ **Additional Permits required and/or attached:**
- ☐ Hotwork ☐ Line Breaking ☐ Other

### COMMUNICATION PROCEDURES

To be used by attendants and entrants:

### AUTHORIZED ENTRANTS

(List by name or attach roster)

### AUTHORIZED ATTENDANTS

(List by name)

### TESTING RECORD

Time	Acceptable Conditions	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM
Oxygen-min	>19.5%								
Oxygen-max	<23.5%								
Flammability	<10% LEL/LFL								
H <sub>2</sub> S	<10 ppm								
Toxic (Specify)									
Cl <sub>2</sub>	<0.5 ppm								
CO	<35 ppm								
SO <sub>2</sub>	<2 ppm								
Heat	"F / °C								
Other									
Tester Initials									

### EMPLOYEE:

I, \_\_\_\_\_ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed at all times

**SIGNATURE:**

**DATE:**

### EMPLOYEE:

I, \_\_\_\_\_ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed at all times

**SIGNATURE:**

**DATE:**

### EMPLOYEE:

I, \_\_\_\_\_ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed at all times

**SIGNATURE:**

**DATE:**

### SUPERVISOR:

I, \_\_\_\_\_ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed at all times

**SIGNATURE:**

**DATE:**



*Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731*

## **Drug & Alcohol Policy**

**Policy Custodian:** Human Resources

**Date Last Reviewed:** August 3, 2005

### **POLICY STATEMENT**

Miramar Mining Corporation is committed to maintaining a safe, healthy and productive work environment for all employees, contractors, visitors and guests.

Miramar has *zero tolerance* for the unlawful manufacture, distribution, dispensation, possession or use of illegal drugs or possession or use of alcohol at any Miramar operation or field location. The policy is designed to ensure that employees know and understand our position on zero tolerance and that all employees will be dealt with fairly.

We believe that every employee has a role to play in maintaining a safe, healthy and productive work environment and each employee has the responsibility to report for work in a condition suitable to carry out assigned duties in a safe and efficient manner. The responsibility of promoting prevention is shared among the company, contractors, and employees. The Company encourages employees and contractors affected by substance abuse to seek assistance with the assurance of our support and confidentially through that process.

### **POLICY SCOPE**

This policy applies to all employees of Miramar Mining Corporation and its subsidiaries working at any Miramar office, operation or field location such as an exploration camp.

Contractors are required to have a corresponding policy that supports our requirements. Visitors will be informed of our policy of zero tolerance to drugs and alcohol at the time their visit is approved. The site manager and/or any Miramar employee will have the right to refuse a visitor access to the site if they have reason to suspect the visitor is under the influence of drugs or alcohol.

All employees and contractors will be provided with education at the time of orientation to ensure their understanding of this policy.

### **FITNESS FOR DUTY**

Fitness for duty standards identify employees' individual responsibility to be free from the influence of harmful substances when reporting for work to ensure they are capable of performing their work functions in a safe and efficient manner.

### **POLICY VIOLATIONS**

Any suspected violation of any provision of this Policy will mean that the employee or contractor will be suspended pending investigation. In the event that there is a violation of the policy, the employee will be terminated or the contractor will be removed from the work site.

---

### **READ, AGREED & REVIEWED on:**

Date: \_\_\_\_\_

Name: \_\_\_\_\_  
(PRINT)

Company Name: \_\_\_\_\_  
(PRINT)

Signature: \_\_\_\_\_



**EMERGENCY RESPONSE TEAM TRAINING**

(Summary Report)

**Date:**

**Time:**

**In attendance:**

---

---

---

---

---

---

---

---

---

---

**Summary of training completed:**

**Trainer:** \_\_\_\_\_



Location: \_\_\_\_\_

Date: \_\_\_\_\_

Supervisor Name: \_\_\_\_\_

Dept: \_\_\_\_\_

**INSTRUCTIONS:**

Inspections must be completed monthly. Give the completed inspection form to the Department Head responsible for the area, and send a copy to the Safety Department. Track correction of the hazards identified by making notes on the department's copy of the inspection form or by clipping work order requests to it. Call Sr. Safety Supervisor at 867-766-5303 if you require any assistance.

GENERAL	YES	NO	N/A	Comments
1) Is good housekeeping practiced in the work area? Is it free of debris, combustibles, excessive storage and obstructions?				
2) Are storage racks bolted to the floor, wall, or together to form a stable structure?				
3) Are spills promptly cleaned up?				
4) Are wet floor surfaces covered with slip resistant materials?				
5) Is the floor condition satisfactory on flat surfaces and stair treads?				
6) Are floors free of slip, trip and fall hazards?				
7) Are changes in floor elevation clearly visible?				
8) Is there a First Aid kit appropriately stocked and clearly visible?				
9) Are emergency procedures posted?				
10) Are employees wearing required Personal Protective Equipment?				
GENERAL	YES	NO	N/A	Comments
11) Is there a sufficient supply of PPE?				
12) Is the PPE in good condition?				
13) Is material and equipment stored in an orderly fashion?				
14) Has excessive paper accumulated on bulletin boards?				
ILLUMINATION AND EGRESS	YES	NO	N/A	Comments
1) Is the lighting adequate in all areas?				
2) Are exit signs visible and illuminated?				
3) Are all light fixtures working and not damaged?				
4) Are all exit corridors and stairwells free of storage and unobstructed?				
5) Can exit doors be opened from the inside without any difficulty?				
6) Are there sufficient number of emergency lights?				
7) Do all emergency lights work properly and in good condition?				
8) Are all exits free of snow and other materials and debris?				
9) Are people working the area aware of all emergency exits?				



EMERGENCY EQUIPMENT	YES	NO	N/A	Comments
1) Smoke and heat detectors unobstructed?				
2) Is emergency equipment (alarm pull boxes, eyewashes, air horn, etc.) accessible and not blocked?				
3) Are emergency eyewashes and first aid kits inspected monthly?				
EMERGENCY EQUIPMENT	YES	NO	N/A	Comments
4) Are fire extinguishers inspected monthly and inspection tag properly marked?				
5) Are fire extinguishers mounted, clearly visible and fully charged?				
6) Is access to fire extinguishers clear and unobstructed?				
7) Is the no smoking policy enforced?				
ELECTRICAL	YES	NO	N/A	Comments
1) Are the electrical switches, outlets and appliances in good repair?				
2) Are all electrical outlet and switch cover plates in place?				
3) Are electrical extension cords used only for temporary operations and kept out of walkways?				
4) Are all extension cords UL or CSA listed and equipped with a 3 prong plug?				
5) Are electrical cords free from damage, fraying, or cracking?				
6) Is there at least a 30-inch (76cm) clearance in front of electrical panels/breaker boxes?				
7) Is all electrical equipment grounded with 3-prong plugs?				
8) Are electrical panels in good condition?				
9) Are small appliances and hand tools unplugged when not in use?				
10) Are any halogen lamps or portable heaters in use?				
11) Are electrical and telecommunications rooms used for storage?				
12) Is there at least 2-foot clearance between stacked materials and ceiling light fixtures?				
HAZARDOUS MATERIALS	YES	NO	N/A	Comments
1) Are hazardous substances and labeled with the name and hazard of the material?				
2) Are hazardous materials segregated according to compatibility?				
3) Are the Material Safety Data Sheet files available for each material listed on the chemical inventory?				
HAZARDOUS MATERIALS	YES	NO	N/A	Comments
4) Are all flammable containers properly closed/covered to control vapors?				
5) Are all flammable liquid cabinets free of combustible materials?				
6) Are all flammable liquids returned to an approved flammable liquid storage area at the end of the workday?				
7) Do flammable liquid cabinet doors close and latch properly?				
8) Are all gas cylinders properly secured with 2 straps or chains?				
9) Are protective valve caps in place when cylinders are not in use?				
10) Are cylinder valves shut off when not in use?				
11) Are cylinder contents adequately labeled and easily seen?				
12) Are spill control supplies adequate to clean up spills in the work area?				



## Planned Monthly Safety Inspection

TOOLS & EQUIPMENT	YES	NO	N/A	Comments
1) Is a tool storage area provided and utilized?				
2) Are the power tools maintained in good condition?				
3) Are pneumatic and hydraulic hoses on power operated tools and equipment in good condition?				
4) Do air compressors and other self starting equipment have "automatic start" warning signs?				
5) Are the cables and ropes in good condition?				
6) Are safety guards present on points of operation, including gears, belts, pulleys, shafts, saw blades, grinding wheels, etc.?				
7) Are face shields provided in work areas where any type of grinding occurs?				
8) Is ventilation provided for grinders, saws and welding equipment?				
9) Are welding screens available and used?				
10) Is eye protection provided and used?				
TOOLS & EQUIPMENT	YES	NO	N/A	Comments
11) Is personal protective equipment readily available for all personnel, including visitors to the area?				
12) Is dust producing equipment provided with a dust collection system?				
13) Are tools, instruments and machinery positioned to minimized body strain while working?				
14) Are electric hand tools properly grounded or double-insulated?				
15) Are portable ladders and step stools in good repair and safe to use?				
16) Are ladders equipped with non-slip safety feet?				
MOBILE EQUIPMENT	YES	NO	N/A	Comments
1) Guards secured and in place?				
2) Equipment in safe operating condition?				
3) Back up alarm working on equipment?				
4) Rotating light working on Skid Steer and articulating equipment?				
5) Are employees properly trained on mobile equipment?				
6) Are pre-operation checks being completed of mobile equipment?				
<b>WRITE IN ANY OTHER ITEMS OF CONCERN</b>				

Form Developed: December 13, 2006

Ref#06-001

Department Head Review:

Name

Signature

Date:

# FIRE RISK ASSESSMENT

Miramar Hope Bay Ltd.



DATE:	CAMP:		SELECTED BOUNDARY:	
Significant Hazard	People /group of people who are at risk from the hazard	Existing controls and risks which are not adequately controlled	Recommended Actions	-by when? -by who?



Significant Hazard	People /group of people who are at risk from the hazard	Existing controls and risks which are not adequately controlled	Recommended Actions	-by when? -by who?

Significant Hazard	People /group of people who are at risk from the hazard	Existing controls and risks which are not adequately controlled	Recommended Actions	-by when? -by who?





## **FUEL HANDLING TRAINING**

Employee \_\_\_\_\_  
(print)

Man# \_\_\_\_\_

### **All employees working at Hope Bay responsible for fuel handling must receive training on the proper procedures.**

All employees responsible for fueling equipment, transferring fuel, and filling fuel tanks of any size must demonstrate that they can perform this work safely, eliminating the risk of spills. The employee must demonstrate that he or she can competently perform each task listed below before being permitted to perform this work anywhere within the belt. The supervisor in charge of the employee is responsible to ensure this training is completed.

### **Instructions - Description of Task**

- ☐ The employee understands the impact of spills to the **Company** and **Environment**, including smallest of leaks, drips, and residuals petroleum products.
- ☐ **ALL SPILLS MUST BE REPORTED IMMEDIATELY TO THE SUPERVISOR.** If can be done safely without harm to the worker, all leaks must be stopped as soon as possible to lessen the damage to the environment.
- ☐ Check pumps, hoses, valves and fittings for signs of leaks.
- ☐ Check fill hatches, inspection covers and other tank openings for leaks.
- ☐ Check tanks to ensure they are free from rust and in good repair.
- ☐ Identify maximum levels for filling tanks to compensate for fuel expansion. **DO NOT FILL GREATER THAN 85%.**
- ☐ Ensure that the filling process is always monitored **constantly** to prevent overfilling and spilling. In some cases, when filling larger tanks, two people will be required to perform the job.
- ☐ Any tank accidentally overfilled must be reported to the supervisor immediately.
- ☐ Ensure valves, hoses, and pumps are protected from damage.
- ☐ Eliminate any chance of accidental siphoning (ie, keep fuel nozzles stored about the tank connection, turn pumps off when not in use, etc.)
- ☐ Ensure filling hoses and nozzles are kept within the containment areas where possible. Do not have them hanging outside the containment area where a spill could occur
- ☐ Inspect tidy tanks and 45-gallon fuel drums are properly secured to platforms and stands.
- ☐ Inspect all platforms and stands to ensure that they are in good condition.
- ☐ Follow fire safety procedures (no smoking, no open flame within 3 meters). Fire extinguishing equipment must be in place at every fuel supply or filling area
- ☐ Ensure proper absorbent material is placed under valves, tanks, nozzles, and other potential leak areas.

- ☐ Absorbent material is changed often as it reaches its maximum limit for absorbing petroleum products. Oil soaked pads must be properly disposed of. Check with supervisor for proper method.
- ☐ Containment areas are inspected frequently for damages, erosion of fill material, and leaks.
- ☐ Containment areas including drip trays must be kept clean of debris and water at all times.
- ☐ The supervisor must authorize the pumping of water from any containment area or drip tray. Any contaminated water may have to be properly treated before releasing to the environment.
- ☐ Spill containment material must be inspected regularly to ensure there is sufficient material to deal with emergencies. Spill kits must be properly marked and kept in designated areas.
- ☐ Any fuel being transported must have lids, caps and valves closed tightly and where necessary locked.
- ☐ Locks removed from valves, covers and other tank openings for the purpose of fueling, filling or maintenance must be re-secured when the job is completed.
- ☐ Waste oil stored in drums must be inspected regularly and kept upright to prevent accidental spillage. Bungs must be tightly secured.
- ☐ 45-gallon drums of petroleum product must be stored in a safe area where they will not leak or drain into any lake, or body of water, or come in contact with mobile equipment accidentally.
- ☐ Fuel drums must be stored so that proper inspection for leaks can be made of all sides of each drum.
- ☐ Contents of the product lines, tanks, pumps and valves must be clearly identified.
- ☐ Safe access to fuel storage areas must be maintained.
- ☐ If in doubt **STOP**, check with the supervisor in charge.

Signature\_\_\_\_\_

Date\_\_\_\_\_

**SUPERVISOR:** this employee has received training as listed above and has demonstrated his/her ability to perform all tasks in a safe and efficient manner.

Signature\_\_\_\_\_

Date\_\_\_\_\_

**EMPLOYEE:** I have received training in the handling and storage of fuel on site, and responsible for following all instructions that I have been given.

# Fuel Storage Facilities Checklist

## WEEKLY /MONTHLY INSPECTION PROGRAM - Hope Bay

This checklist will be completed once every calendar month. All spills and potential spills must be responded to IMMEDIATELY.

Daily inspections will be completed for fuel spills and potential fuel spill conditions. Daily inspections will be recorded in the Daily Fuel Storage Facility Inspection Logbook.

This document will be forwarded to the Safety and Environmental Departments for review and filing. All inspections are subject to audit.

SELECT ONE:

☐ Weekly Inspection

☐ Monthly Inspection

TANK LOCATION: \_\_\_\_\_

TANK # \_\_\_\_\_

		YES	NO
1. FIRE PREVENTION	1.1 Fire extinguishers are located nearby.		
	1.2 Fire extinguishers are sufficient to comply with regulations.		
	1.3 General area is free from waste material and weeds.		
	1.4 No ignition sources are within 3 meters of tank (s)		
2. ON/ABOVE GROUND EQUIPMENT	2.1 Tank fill points are accessible and clearly identified.		
	2.2 Handrails are safe and in good repair.		
	2.3 Ladders are safe and in good repair.		
	2.4 Tank is free from rust and in good repair.		
	2.5 No visual evidence of product leaking from the INSIDE OR OUTSIDE tank. DO NOT ENTER TANK UNLESS APPROVAL HAS BEEN GRANTED!		
	2.6 Catch containment (s) clean of water, snow, ice and debris.		
	2.7 Catch containment (s) are in good repair.		
	2.8 Tank (s) not filled more than 85% total capacity.		
	2.9 Spill kits are in place and in good condition.		
	3.0 No evidence of leaks from fittings, lines and pump		
3. WATER DRIPPING	3.1 Storage system has been checked for water in the last month.		
	3.2 Excess water has been drained in the past month.		
4. STOCK ROTATION AND STORAGE	4.1 Fuel has been dipped to ascertain unexpected loss		
	4.2 Fuel has been drawn from each tank this month.		
	4.3 Drums of product are stored safely.		
5. TANKER ACCESS	5.1 Safe access to the fuel storage area.		
6. SECURITY	6.1 Access to pump is locked		
7. SIGNAGE & PROCEDURES	7.1 Contents of the product lines, tanks, pumps and valves are clearly identified.		
	7.2 All employees' are familiar with spill response procedures.		

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

## GROUP RISK ASSESSMENT

SYSTEM: \_\_\_\_\_

SCOPE: \_\_\_\_\_

DATE: \_\_\_\_\_

FACILITATED BY: \_\_\_\_\_

GROUP MEMBERS: \_\_\_\_\_

ITEM	CONCERN	IMPACT EXPLANATION	IMPACT RATING H/M/L	PROBABILITY EXPLANATION	PROB. RATING H/M/L	RISK LEVEL H/M/L	RISK CONTROLS BY WHOM? WHEN?	RESID. RISK H/M/L

## INCIDENT ANNOUNCEMENT

<input type="checkbox"/> <b>Personal Injury</b> <input type="checkbox"/> <b>Damage</b> <input type="checkbox"/> <b>Process Loss</b> <input type="checkbox"/> <b>Other Incident</b>	<b>LOCATION:</b>	
	<b>DEPARTMENT /COMPANY:</b>	<b>DATE</b>

<b>NATURE OF LOSS</b>	<b>APPARENT NATURE AND EXTENT OF INJURY, DAMAGE, PROCESS LOSS OR POTENTIAL LOSS:</b>
-----------------------	--

<b>DESCRIPTION OF INCIDENT</b>	<b>INFORMATION AVAILABLE AT THIS TIME:</b>
--------------------------------	--

<b>APPARENT CAUSES</b>	<b>CAUSES APPARENT AT THIS TIME:</b>	
	<b>Report prepared by:</b>	<b>Date:</b>

*This report does not replace the Incident Investigation Report. It provides critical information about the incident prior to the completion of a full investigation.*  
*Reference: Practical Loss Control Leadership*





*Suite 300 - 889 Harbourside Drive, North Vancouver, B.C. V7P 3S1 Canada  
Phone 604-985-2572 Fax 604-980-0731*

**ACKNOWLEDGEMENT OF HOPE BAY PROJECT POLICIES &  
PROCEDURES**

**Employee Indoctrination Program**

Miramar Hope Bay Ltd. owns and operates the Hope Bay project in Nunavut and has a number of policies and safety procedures in place to ensure the health and safety of all personnel working in the belt, and to ensure the protection of the environment. By doing so, we will provide a safe workplace for all.

Miramar's policies & procedures state that:

1. The health and safety of people is paramount and all activities will be carried out in accordance with Miramar's policies and safety procedures;
2. The protection of the environment is a priority and all work will be carried out in accordance with Miramar's environmental policies;
3. Outdoor recreational activities are only permitted in accordance with Company procedures;
4. The No Smoking Policy will be adhered to at all times.
5. The presence of drugs or alcohol on the Hope Bay belt will not be tolerated and is cause for immediate dismissal or removal from Miramar property;
6. Workplace harassment, including sexual harassment, is not acceptable.

I, the undersigned hereby acknowledge that I have been informed of Miramar's policies and procedures, that these policies and procedures have been explained to me and that I have been provided a copy of the employee handbook. I fully understand my rights, duties and obligations as outlined in this induction. I also understand that failure to comply with company policies and procedures may result in disciplinary action, up to and including dismissal or removal from Miramar property.

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Name (print)**

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Signature**



## Injury Report Form

---

Injured /Illness Person Information	
Name:	Company:
Injury /Illness Information	
Date (mm-dd-yy):	Time (hh:mm):
Location of the Incident (detail description):	
Detailed Description of the incident as much as possible:	
Description of injuries and treatment (detail description):	
Medic's Information	
Name:	Signature:

Copy of report must be faxed to 867-873-3083 within 8 hours of treatment.

---

<b>JOB SAFETY ANALYSIS</b>	<b>JOB TITLE:</b> _____ <b>JSA No.</b> _____		<b>DATE:</b> _____	<b>NEW</b> <input type="radio"/> <b>REVISED</b> <input type="radio"/>		
	<b>Page</b> _____ <b>of</b> _____					
	<b>TITLE OF PERSON WHO DOES JOB:</b> _____	<b>SUPERVISOR:</b> _____	<b>ANALYSIS PERFORMED BY:</b> _____			
<b>ORGANIZATION:</b> _____	<b>LOCATION:</b> _____	<b>DEPARTMENT:</b> _____	<b>REVIEWED BY:</b> _____			
<b>SEQUENCE OF BASIC JOB STEPS</b>	<b>POTENTIAL HAZARDS</b>	<b>RECOMMENDED ACTION OR PROCEDURE</b>				



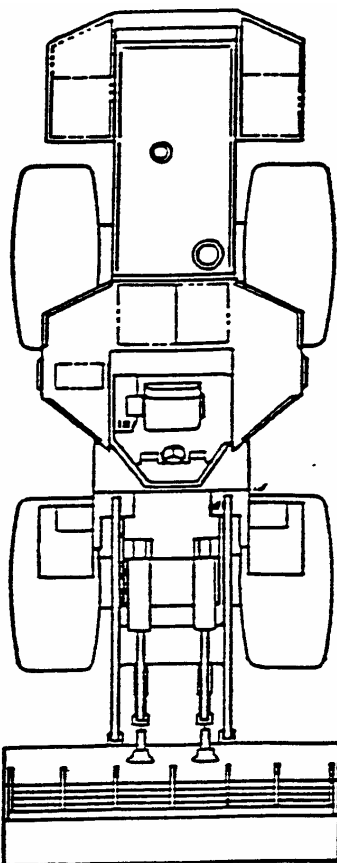
## Miramar Hope Bay Ltd. Loader Maintenance Inspection Sheet

<input type="checkbox"/>	.... Radiator
<input type="checkbox"/>	Fluid Changed YES/NC
<input type="checkbox"/>	Filter Changed YES/NC
Gallons	

<input type="checkbox"/>	.... Engine
<input type="checkbox"/>	Fluid Changed YES/NO
<input type="checkbox"/>	Filter Changed YES/NC
Gallons	0-30 Winter/15-40 Summer

<input type="checkbox"/>	.... Hydraulic System
<input type="checkbox"/>	Fluid Changed YES/NC
<input type="checkbox"/>	Filter Changed YES/NC
Gallons	ATF Winter/XD3-10 Summer

<input type="checkbox"/>	.... Transmission
<input type="checkbox"/>	Fluid Changed YES/NC
<input type="checkbox"/>	Filter Changed YES/NC
Gallons	ATF



### Clean

<input type="checkbox"/>	.... Operator's Cab	Back Up Alarm .. <input type="checkbox"/>
<input type="checkbox"/>	.... Equipment Exterior	Tire Pressure ..... <input type="checkbox"/>

### Walkaround

Check if OK  
Record any Problems

Damage ..... ☐

Fluid Leaks ..... ☐

Frayed Wires ..... ☐

Worn Hoses ..... ☐

Missing Bolts or Covers ..... ☐

### Check

Bucket Wear Strips ..... ☐

Bucket Teeth ..... ☐

Boom ..... ☐

Differential ..... ☐

Final Drive ..... ☐

Ladders ..... ☐

Fire Extinguisher ..... ☐

Mirrors ..... ☐

Lights ..... ☐

Horn ..... ☐

Instrument Panel ..... ☐

Seat Belt ..... ☐

Day/Month/Yea	IT28 966 988	Hour Meter Reading	
<b>YES/ NO Safe For Operation</b>	Fuel Filter Changed YES/NO Air Filters Changed YES/NO	Mechanic	Payroll
Tire Wear/Condition			Comments on Back of Form



## Miramar Hope Bay Ltd. Loader Operators Report

### Top-up

Fill Fuel Tank Every Shift

Park on Level Ground. Lower  
All Equipment. Park Brake On.

<input type="checkbox"/>	.... Radiator
<input type="checkbox"/>	Check Antifreeze Level
Gallons	Antifreeze

<input type="checkbox"/>	.... Engine
	Check Oil Level Fill to Full Mark on Dipstick
Gallons	15-40 Summer 0-30 Winter

<input type="checkbox"/>	.... Hydraulic System
	Check oil level, fill to mark on sight glass
Gallons	XD3-10 Summer ATF Winter

<input type="checkbox"/>	.... Transmission
	Check oil level, fill to mark on sight glass
Gallons	ATF

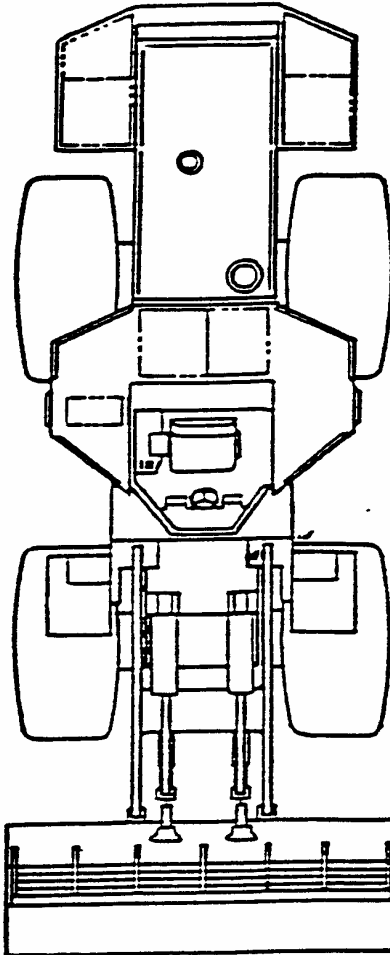
### Clean

☐ .... Operator's Cab

Back Up Alarm .. ☐

☐ .... Equipment Exterior

Tire Pressure ..... ☐



### Walkaround

Check if OK  
Record any Problems

Damage ..... ☐

Fluid Leaks ..... ☐

Frayed Wires ..... ☐

Worn Hoses ..... ☐

Missing Bolts or Covers ..... ☐

### Check

Bucket Wear Strips ..... ☐

Bucket Teeth ..... ☐

Boom ..... ☐

Differential ..... ☐

Final Drive ..... ☐

Ladders ..... ☐

Fire Extinguisher ..... ☐

Mirrors ..... ☐

Lights ..... ☐

Horn ..... ☐

Instrument Panel ..... ☐

Seat Belt ..... ☐

Day/Month/Year	IT28	966	988	Hour Meter Reading	Start ..... Finish
Dayshift	Nightshift	Area	Operator	Payroll	
Problems or Comments				Supervisor	



## BOSTON/WINDY CAMP MEDIVAC GUIDELINES APPENDIX “B”

*(To be completed when conducting Medivac through Stanton Medical Travel)*

**\*\*\*Tell Dispatch that the King Air will not land at our site and that we need a Twin Otter if Medivac is coming direct to camp\*\*\***

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Home Address: \_\_\_\_\_

Health Care #: \_\_\_\_\_ Province: \_\_\_\_\_

Employer: \_\_\_\_\_

Miramar paying for Medivac? \_\_\_\_\_

WCB Claim? \_\_\_\_\_

Presenting Diagnosis: \_\_\_\_\_

**Note: Missing information will be required for billing purposes and MUST be sent to Stanton Medical Travel once available.**



## MHBL Travel Itinerary & Permission Form

(Required for all recreational travel)

**Complete this form before seeking permission to travel outside of the camp area.**

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Other Members In Your Party: \_\_\_\_\_

\_\_\_\_\_

Snowmobile Taken: \_\_\_\_\_

Destination \_\_\_\_\_

Departure Time: \_\_\_\_\_

Expected Return: \_\_\_\_\_

List Survival Gear Taken: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Permission to travel: \_\_\_\_\_

Party has returned: \_\_\_\_\_

### **Reminders:**

Do you have permission from your supervisor, the site superintendent or project manager?

Do you have a radio and or satellite telephone, if your destination is beyond radio range?

Do you have survival gear and extra food?

Have you checked the weather?

Has any of your party been there before?

What do you need for location and navigation?

Wherever possible STAY on marked trails.

Place this form in the box provided before you depart and be sure to get your supervisor to sign-off when you return.

## Miramar Hope Bay

### Safety Rules for Working Around or on Heavy Mobile Equipment

*Working around heavy equipment can be extremely dangerous. Too many workers are injured or killed each year when they are run over or struck by these pieces of machinery. It's important to know the safety precautions to be taken when working in the vicinity of heavy equipment such as dump trucks, front-end loaders, tractors, graders, trucks, etc.*

#### **Safety Rules for Working around Heavy Mobile Equipment**

- Keep clear of moving equipment. A minimum of 30 feet or greater is required.
- Never assume the operator knows where you are or what you are doing.
- If you must walk around a piece of heavy equipment, alert the operator by radio or hand signal so that he can stop the machine before you go by.
- If you are required to work in an area of heavy working equipment, ensure you are in contact with the operator at all times by radio or hand signals. **DO NOT LOSE SIGHT OF THE OPERATOR! IF YOU CAN'T SEE HIS FACE, HE CAN'T SEE YOU!**
- Always be aware of where you are and where moving equipment is at **ALL TIMES**.
- Watch out and stay clear of pinch points, earth moving equipment and cranes.
- Always stay out from under loads on cranes or hoists – even if it means taking the long way around.
- Never walk, stand or work behind a piece of equipment that is backing up.
- If a safe work zone has been established for the operating equipment, **STAY CLEAR!**
- Never walk beside moving equipment or ride on the running board or drawbar.

#### **Safety Rules for Heavy Mobile Equipment Operators**

- Establish a "Safe Work Zone" when operating in areas where visibility is limited. Use barricades, pylons or other physical barriers to prevent unauthorized persons from entering the work area.
- When people are required to work in the area of working equipment, the operator must always have them in sight. Should the operator lose visual contact with the employee, he must stop movement immediately.
- Back up cautiously. Accidents occur more frequently when backing up. Just because you have a back up alarm on your machine, it is not safe to travel in reverse without concern for any distance. You must be still aware of your surroundings, use properly adjusted mirrors, and where possible look over your shoulder to ensure its clear. If someone ventures into the danger zone around where you are working, stop your equipment and ensure the area is clear before proceeding.
- Permit no riders. No one other than the operator should ride the equipment unless it fitted with proper passenger seating and authorization has been granted. Riding in buckets or on equipment without proper passenger seating is **STRICTLY PROHIBITED**.
- Use extreme Caution in Pivot Areas. Articulating equipment has very dangerous pinch points at the pivot. Operators must always check both sides of the machine before moving to make sure no one is in the danger area. When performing maintenance in the area of pinch points, install proper safety bars. This will help protect you by preventing the machine from turning. Such action could crush you!
- Wear your seatbelt at all times. **IT'S THE LAW AND IT MAY SAVE YOUR LIFE.**
- All wheeled heavy mobile equipment operating on surface must be equipped with a working back up alarm. Equipment not fitted with a working back up alarm will not be permitted to operate on the property.
- All front end loaders, forklifts and graders must be equipped with a flashing or rotating amber light, fixed to the top of the equipment where it is unobstructed from view. Equipment not fitted with a working rotating light will not be permitted to operate on the property.

\_\_\_\_\_  
Signature of employee  
(I have read and understand)

\_\_\_\_\_  
Name of employee (Please print)

Date: \_\_\_\_\_

Trainer: \_\_\_\_\_



## **SUPERVISOR'S REPORT OF SAFETY MEETINGS**

Date of meeting \_\_\_\_\_

Main Topic of Discussion: \_\_\_\_\_

Name of Employees: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Key Points Brought to Employees Attention:

a) \_\_\_\_\_

\_\_\_\_\_

b) \_\_\_\_\_

\_\_\_\_\_

c) \_\_\_\_\_

\_\_\_\_\_

d) \_\_\_\_\_

\_\_\_\_\_

Suggestions and Comments Brought Forward: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Supervisor: \_\_\_\_\_

Supervisor's Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Site Superintendent: \_\_\_\_\_ Project Manager: \_\_\_\_\_



## MUCKPILE TALK

Supervisor: \_\_\_\_\_

Date: \_\_\_\_\_

Department: \_\_\_\_\_

Topic: \_\_\_\_\_

**EMPLOYEES CONTACTED:**

**Issued:**

Number	Name	Number	Name

**Topic:** (Supervisor - Describe what was discussed at your muckpile talk).

---

---

---

---

---

\_\_\_\_\_  
**Supervisor**

\_\_\_\_\_  
**Foreman**

\_\_\_\_\_  
**Superintendent**

\_\_\_\_\_

# No Smoking Policy

## Miramar Hope Bay Ltd.

Miramar Mining is committed to providing its employees with a smoke-free work environment to protect the health, safety and comfort of employees from the adverse effects of tobacco smoke.

This is supported by the *Environmental Tobacco Smoke Worksite Regulations*, which comes into effect starting May 1, 2004. This legislation requires smoking in all enclosed workplaces in the NWT and Nunavut be banned.

Employees and contractors working on any surface operation owned and operated by Miramar Mining in the NWT or Nunavut will be permitted smoking privileges only during regular scheduled breaks, outside the enclosed worksite within a three meter radius of any entrance to or exit from the enclosed worksite. Smoking breaks cannot incur any safety risks or cause production delays.

Visitors will not be permitted to smoke on any of its surface operations owned and operated by Miramar Mining in the NWT or Nunavut.

Employees, contractors and visitors working or visiting any underground operations owned and operated by Miramar Mining in the NWT or Nunavut will not be permitted to smoke at any time.

A worksite is enclosed once the walls are up and the roof is in place. Doors and windows do not need to be in place for it to be considered enclosed. This includes, at any time, all Company vehicles, and all other vehicles operating on any of its properties.

Miramar Mining does recognize that tobacco is an addictive substance. In the spirit of good health and fitness, all employees using tobacco are encouraged to give the product up. There are enormous benefits to be gained by quitting smoking. As soon as you stop, your body begins to repair the damage caused to it, and you start to reduce the risk of smoking-related diseases.

Miramar Mining takes this legislation seriously and requires that all employees and contractors comply with it at all times while on any of their premises in the NWT and Nunavut regions.

---

Have reviewed and agree to all the terms and conditions as described in the NO SMOKING POLICY.

Signed: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print)

Title: \_\_\_\_\_

Company: \_\_\_\_\_



# **PERSONAL MEDICAL INFORMATION**

(CONFIDENTIAL INFORMATION TO BE RELEASED ONLY TO MEDICAL PERSONNEL)

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: (     ) \_\_\_\_\_ or (     ) \_\_\_\_\_

Birth date: \_\_\_\_\_ Age: \_\_\_\_\_ Height: \_\_\_\_\_ Weight: \_\_\_\_\_

Health Care Number: \_\_\_\_\_ Province: \_\_\_\_\_

\_\_\_\_\_ City: \_\_\_\_\_

---

## **MEDICAL HISTORY**

Are you taking medication for the following?

- ☐ Diabetes     ☐ Asthma     ☐ Epilepsy     ☐ High Blood Pressure  
☐ Angina     ☐ Thyroid     ☐ Heart Disease

Allergies to Penicillin?     ☐ Yes     ☐ No     ☐ Other Drugs: \_\_\_\_\_

Do you suffer from other Allergies?     ☐ Yes     ☐ No     If so, explain: \_\_\_\_\_

Do you have other medical problems not listed above? \_\_\_\_\_

Have you had a Tetanus shot in the last five years?     ☐ Yes     ☐ No

Do you wear Glasses? \_\_\_\_\_ Contacts? \_\_\_\_\_ Dentures? \_\_\_\_\_

Do you have any medical problems, disabilities, or previous injuries that may affect your ability to conduct your job in a safe and efficient manner?     ☐ Yes     ☐ No

Explain: \_\_\_\_\_

---

## **EMERGENCY CONTACT NUMBER**

(Nearest Relative or Friend)

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: (     ) \_\_\_\_\_ Signature: \_\_\_\_\_

**Contractor:** \_\_\_\_\_





## **RETURN TO CAMP SAFETY BRIEFING**

**All employees, contractors and service providers are required to undergo a FULL induction at the start of each drilling season or upon their first time arriving at camp. After ANY absence from camp for a period greater than one week and/or when NEW information is available, those employees MUST meet with the Site Supervisor or his designate for a safety briefing prior to being released to their specific work area.**

---

### **Medical Information:** (check one)

**Has your medical information changed since you filled out the last PERSONAL MEDICAL QUESTIONNAIRE?**    ☐ Yes    ☐ No    **(If yes, fill out another Medical Questionnaire)**

---

### **Safety Briefing**

- |   |   |
|---|---|
| <input type="checkbox"/> Alcohol and Drug Policy                    | <input type="checkbox"/> Fire Extinguishers                               |
| <input type="checkbox"/> No Smoking Policy                          | <input type="checkbox"/> Personal Protective Equipment Procedure          |
| <input type="checkbox"/> Workplace Harassment Policy                | <input type="checkbox"/> Recreational Travel Policy                       |
| <input type="checkbox"/> Right to Refuse Unsafe Work                | <input type="checkbox"/> Medical Emergencies / Medivac Procedures         |
| <input type="checkbox"/> Fire Evacuation Procedure & Muster Station | <input type="checkbox"/> Wildlife Interaction / Bear Protection Procedure |
| <input type="checkbox"/> Environmental Conditions (weather)         | <input type="checkbox"/> Environment & Spill Procedures                   |
| <br><input type="checkbox"/> <b>Other:</b> _____                    |   |
| _____   |   |
| _____   |   |
| _____   |   |

**Check box if information was covered during safety briefing. Write in any new information covered during the safety briefing.**

**Site Supervisor: This employee has received a Safety Briefing upon his/her return to camp**

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Employee: I, the undersigned hereby acknowledge that I have been informed of all new information as describe above and/or Policies or Procedures which required some clarifying.**

Name: \_\_\_\_\_  
(Print)

Signature \_\_\_\_\_ Date \_\_\_\_\_

**MIRAMAR HOPE BAY LTD.  
RETURN TO WORK REPORT**

**EMPLOYEE'S NAME:** \_\_\_\_\_

**1. I attended this client for the following:** (please check appropriate box below)

- Non-work related Illness ☐
- Non-occupational Injury ☐
- Occupational Injury ☐

**2. Please briefly describe the nature/diagnosis of the client's illness or injury:**

**3. The client was seen at/on:** (please check appropriate box and write in appropriate date below)

- Onset of illness/injury ☐ \_\_\_\_\_.
- At termination of illness/injury ☐ \_\_\_\_\_.
- Last seen on ☐ \_\_\_\_\_.

**4. The client may resume FULL duties on:** (please write the appropriate date below)

**5. The client may resume MODIFIED duties on:** (if applicable, please write appropriate date below)

**6. If the client is unable to perform full duties due to a physical condition, illness or medication, please complete the following:** (please indicate yes or no beside each item below)

- Walking:
- Walking (rough surfaces):
- Climbing stairs:
- Bending:
- Lifting (maximum weight):
- Prolonged standing:
- Working at height:
- Working in damp areas:
- Working in cold areas:
- Working in hot areas:
- Working underground:
- Working in noisy areas:
- Working outdoors:
- Operating/repairing mobile equipment:

**Date:** \_\_\_\_\_

**Medical Authority:** \_\_\_\_\_  
(please sign and print your name)



# Miramar Hope Bay Ltd.

## Track Equipment Operators Report

### Walkaround

Pre-Start Safety Checks

- ☐ .... Damage
- ☐ .... Fluid Leaks
- ☐ .... Frayed Wires
- ☐ .... Worn Hoses
- ☐ .... Broken Glass
- ☐ .... Missing Bolts or Covers

### Top-Up

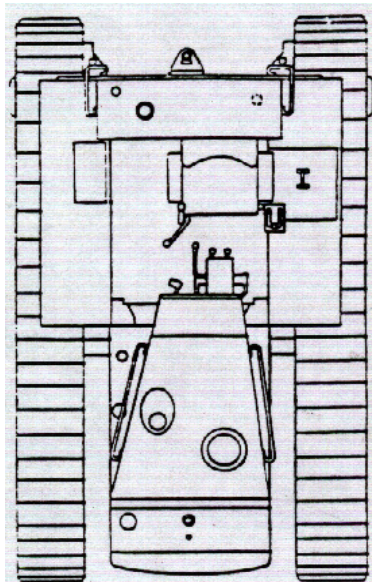
Fill Fuel Tank Every Shift

<input type="checkbox"/> .... Engine Oil
<input type="checkbox"/> Check Level on Dipstick
Gallons XD3-30

<input type="checkbox"/> .... Hydraulic Control System
<input type="checkbox"/> Check Level on Sight Glass
Gallons XD3-10

<input type="checkbox"/> .... Radiator Fluid
<input type="checkbox"/> Check Level
Gallons Antifreeze

<input type="checkbox"/> .... Transmission
<input type="checkbox"/> Check Level on Dipstick
Gallons 10 weight



### Checks

Record any Problems

- Segment Bolts ..... ☐
- Roller Leaks ..... ☐
- Idler Leaks ..... ☐
- Track Condition ..... ☐
- Track Adjustment ..... ☐
- Blade Condition ..... ☐
- Cutting Edges ..... ☐
- Final Drive Leaks ..... ☐
- Ladders ..... ☐
- Fire Extinguisher ..... ☐
- Lights ..... ☐
- Instrument Panel ..... ☐
- Seat Belt ..... ☐
- Air Cleaner Gauge ..... ☐
- Back Up Alarm ..... ☐

### Clean

- Operators Cab ..... ☐
- Track Frame & Rollers ..... ☐

Equipment  
Number

Hour Meter Reading	Start ..... Finish
--------------------------	--------------------------

Day/Month/Year

Day

Night

Operator

Payroll

Problems or Comments

Supervisor

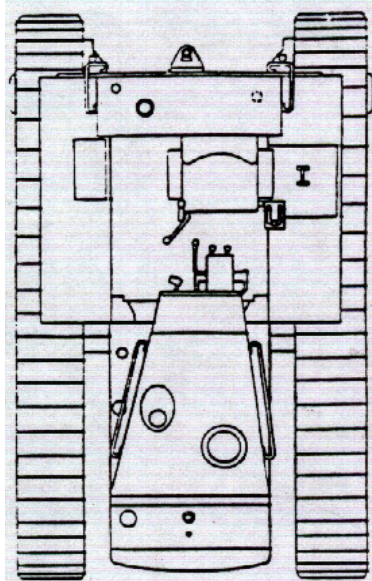


# Miramar Hope Bay Ltd.

## Track Equipment Inspection Report

### Walkaround

- ☐ .... Damage
- ☐ .... Fluid Leaks
- ☐ .... Frayed Wires
- ☐ .... Worn Hoses
- ☐ .... Broken Glass
- ☐ .... Missing Bolts or Covers



### Checks

Record any Problems

- Segment Bolts ..... ☐
- Roller Leaks ..... ☐
- Idler Leaks ..... ☐
- Track Condition ..... ☐
- Track Adjustment ..... ☐
- Blade Condition ..... ☐
- Cutting Edges ..... ☐
- Final Drive Leaks ..... ☐
- Ladders ..... ☐
- Fire Extinguisher ..... ☐
- Lights ..... ☐
- Instrument Panel ..... ☐
- Seat Belt ..... ☐
- Air Cleaner Gauge ..... ☐
- Back Up Alarm ..... ☐
- Clean**
- Operators Cab ..... ☐
- Track Frame & Rollers ..... ☐

<input type="checkbox"/> .... Engine Oil						
<table style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Fluid Changed</td> <td>YES/NO</td> </tr> <tr> <td><input type="checkbox"/> Filter Changed</td> <td>YES/NO</td> </tr> <tr> <td>Gallons</td> <td>XD3-30</td> </tr> </table>	<input type="checkbox"/> Fluid Changed	YES/NO	<input type="checkbox"/> Filter Changed	YES/NO	Gallons	XD3-30
<input type="checkbox"/> Fluid Changed	YES/NO					
<input type="checkbox"/> Filter Changed	YES/NO					
Gallons	XD3-30					

<input type="checkbox"/> .... Hydraulic Control System						
<table style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Fluid Changed</td> <td>YES/NO</td> </tr> <tr> <td><input type="checkbox"/> Filter Changed</td> <td>YES/NO</td> </tr> <tr> <td>Gallons</td> <td>XD3-10</td> </tr> </table>	<input type="checkbox"/> Fluid Changed	YES/NO	<input type="checkbox"/> Filter Changed	YES/NO	Gallons	XD3-10
<input type="checkbox"/> Fluid Changed	YES/NO					
<input type="checkbox"/> Filter Changed	YES/NO					
Gallons	XD3-10					

<input type="checkbox"/> .... Radiator Fluid						
<table style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Fluid Changed</td> <td>YES/NO</td> </tr> <tr> <td><input type="checkbox"/> Filter Changed</td> <td>YES/NO</td> </tr> <tr> <td>Gallons</td> <td>Antifreeze</td> </tr> </table>	<input type="checkbox"/> Fluid Changed	YES/NO	<input type="checkbox"/> Filter Changed	YES/NO	Gallons	Antifreeze
<input type="checkbox"/> Fluid Changed	YES/NO					
<input type="checkbox"/> Filter Changed	YES/NO					
Gallons	Antifreeze					

<input type="checkbox"/> .... Transmission						
<table style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Fluid Changed</td> <td>YES/NO</td> </tr> <tr> <td><input type="checkbox"/> Filter Changed</td> <td>YES/NO</td> </tr> <tr> <td>Gallons</td> <td>10 weight</td> </tr> </table>	<input type="checkbox"/> Fluid Changed	YES/NO	<input type="checkbox"/> Filter Changed	YES/NO	Gallons	10 weight
<input type="checkbox"/> Fluid Changed	YES/NO					
<input type="checkbox"/> Filter Changed	YES/NO					
Gallons	10 weight					

Equipment  
Number

Hour  
Meter  
Reading

Day/Month/Year	YES/ NO Safe for Operation	Mechanic	Payroll
Fuel Filter Changed      YES/NO Air Filters Changed      YES/NO			Comments of Back of Form



## Hydrocarbon Fuel & Gas Dispensing Procedure

# Standard Operating Procedure

## Hydrocarbon Fuel & Gas Dispensing Procedure

MHBLMAIN-FGDP-SOP-2004



Document # MHBLMAIN-FGDP-SMOP-2004  
Revised Version August 2006

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	1 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

### Approved By:

Position	Name	Signature	Date
Vice President - Exploration	John Wakeford		
General Manager, Northern Operations	Scott Stringer		
Manager - Exploration	Darren Lindsay		
Quality Assurance			

### Document Control Record

The re-issues of this document, listed below, have been reviewed and approved by Quality Assurance and Management and are authorised for use within the Miramar Hope Bay Ltd organisation. The footer “**Control Document**” is in red.

DOCUMENT CONTROL REVISION HISTORY					
Rev No	Page No	Details of Issue	Authorisation		
			Name	Initial	Date
0	All	Original Document	Scott Stringer		Aug 2004
1	All	Original Document	Matthew Kawei	hmk	Aug 2004
		Original Document	Mike Cripps		Aug 2004
2	6-7	Patch Lake Special Amendment - Inserted by Dave Power, MHBL Safety	Scott Stringer		Aug 2006
3	Title page, headers,	Updated the whole document to reflect changes on reporting structure	Matthew Kawei	hmk	Aug 2006

### Distribution List

Date	Copy #	Name	Department/Location	Type
Original copy	0	Scott Stringer	Miramar Hope Bay Limited	Electronic, pfd & doc
		Site Supervisor	Boston Camp	
		Site Supervisor	Windy Lake Camp	
		Site Supervisor	Patch Lake (Major)	
		Site Supervisor	Doris North	
		Dave Power	Senior Safety Coord, Con Mine	electronic
		Server - Library	Vancouver	electronic

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	2 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

## Table of Contents

1	INTRODUCTION.....	3
1.1	<i>General</i> .....	3
1.2	<i>The dangers</i> .....	3
1.3	<i>Glossary</i> .....	3
2	RESPONSIBILITY .....	4
2.1	<i>Site Supervisor</i> .....	4
2.2	<i>Patch Lake Fuel Farm - Special Amendment</i> .....	5
2.3	<i>Petroleum Product Dispenser/Operator</i> .....	6
2.4	<i>Second Petroleum Product Dispenser/ Attendant</i> .....	7
3	DISPENSING PROCEDURE .....	7
3.1	<i>Dispensing of fuel from the fuel farm</i> .....	8
3.2	<i>Fuelling of the Tidy Tanks</i> .....	8
3.3	<i>Fuelling of 205 Litre drums for Tents and Core Shacks</i> .....	9
3.4	<i>Fuelling of the Float Planes</i> .....	9
3.5	<i>Fuelling the helicopters</i> .....	10
4	TRAINING .....	10
5	FUELLING FACTS .....	11
6	EMERGENCY PREPAREDNESS .....	12
6.1	<i>First Responders</i> .....	12
6.2	<i>On Scene Spill 24-hours Notification Process</i> .....	13
6.3	<i>Line of Communication Responsibility and Accountability:</i> .....	13
7	APPENDIX – FUEL HANDLING TRAINING .....	15
7.1	<i>MHBL Fuel Handling Training Record Sheet</i> .....	15
7.2	<i>MHBL Fuel Storage Facilities Checklist</i> .....	1

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	3 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

## 1 INTRODUCTION

### 1.1 General

This document describes the petroleum products handling procedures to be used by Miramar Hope Bay Limited personnel. These procedures have been developed from legislative requirements, guidelines and updated work procedures intended to promote good practices and continual improvement in fuel handling at all our properties along the Hope Bay belt. This document will be review regularly with the intent to continually improve safety and environmental performances.

### 1.2 The dangers

Petroleum products are flammable and combustible liquids which can give off flammable vapour, even at very low temperatures. This means there is always a risk of fire or explosion if a source of ignition is present. It floats on the surface of water and may travel long distances, eventually causing danger away from the place where it escaped. Vapour does not disperse easily and may also travel long distances. It tends to sink to the lowest possible level and may collect in tanks, cavities, drains, pits, or other enclosed areas, where there is little air movement. Flammable atmospheres may be present in empty storage tanks and containers. There is also a danger if products are spilled on clothing, rags and receiving environment.

### 1.3 Glossary

**AST** - means above ground storage tank (capacity greater than 230 litres (L)) which at least 90% above surface grade.

**Berm** - means an impermeable system for containing leaks and spills. In tank farms containing a single tank, it must be of sufficient size to contain the volume of the tank plus 10%. For a multi-tank farm facility the berm must contain 110% of the largest tank or 100% of the largest tank plus 10% of the aggregate volume of all the tanks within the berm, which is greater. The berm can be constructed of steel, concrete, or soil in combination with a geotextile liner that is compatible with and impermeable to the stored liquid.

**Drum** - means a barrel having capacity of less than 230 L (50 imperial gallons) but greater than 23 litres (5 imperial gallons).

**Flammable liquids, combustible liquids** - means liquids with a flash point below 37.8 °C are referred to as flammable liquids, whereas liquids with a flash point at or above 37.8 °C are referred to as combustible liquids.

**Flash point** - means the lowest temperature at which a liquid or solid (e.g. petroleum product) gives off vapour of sufficient concentration to form an ignitable mixture in air.

**Fix location** - means any location that is used to store a fuel tank (or container), regardless of the length of time it is being stored.

**Fuel cache** - means a temporary storage (e.g. seasonal) of drums at a remote location.

**Fuel facility** - means any location (may include a remote fuel cache) at which flammable liquids or combustible liquids are dispensed from a tank vehicle or fixed storage tank into a fuel tank of a motor vehicle, equipment or watercraft.

**Overfill protection** - Includes: prevention of tanks from being overfilled by providing continuous supervision of the filling operation by personnel qualified to supervise such an operation; or an overfill protection device conforming to ULC/ORD-C58.15, "Overfill protection Devices for Flammable Liquid Storage Tanks."

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	4 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

Examples include float valve shut off devices, audible or visible overfill alarm systems, automatic sensing and shut-off devices and vent restriction devices.

**Risk assessment** – means the rating of relative risks which includes: environmental, operational and prevention/preparedness factors that is expected to be made and documented whenever fuel is stored at a new location.

**Secondary containment** - means structures used for spill control such as:

- A double walled container (or tank within a tank design);
- A steel or concrete container (tank within a box design) capable of containing 110% of the volume being stored (should be manufactured to a ULC specification);
- An earth or clay dyke which is lined with an impermeable geomembrane material and is capable of containing 110% of the volume stored; or
- A site which is graded or sloped to divert a spill into a collection system where it will not impact public health, safety or the environment. The containment should be lined with a geomembrane to prevent contaminating the subsurface soil layer.

**Spill control** - means site selection and storm water management practices and techniques to prevent spills from entering natural waterways. It may include techniques and structures for diverting or containing spills and preventing them from entering storm water drains and sanitation sewers, and may include grading the site, and using double walled tanks and tank-in-box systems.

**Storage tanks** - means a vessel for flammable or combustible liquids having a capacity greater than 230 L designed to be installed in a fixed location.

**Tank farm** - means any facility where bulk petroleum products/hydrocarbons fuels are stored in storage tank (s).

**Tank vehicle** - means any vehicle, other than railroad tank cars and boats, with a cargo tank having a capacity greater than 454 L, mounted or built as an integral part of the vehicle and used for the transportation of flammable liquids or combustible liquids and including tank trucks, trailers and semi trailers.

**Truck-box fuel tank (includes slip tank or Tidy tank)** - means a portable container used for transportation of fuels on a truck. The capacity may vary depending on the type of tank.

## 2 RESPONSIBILITY

### 2.1 Site Supervisor

The Site Supervisor is accountable to the General Manager - Northern Operations, responsible for the Miramar Hope Bay Limited project. In his/her responsibility relating to fuel management, the site supervisor shall ensure that:-

- As per the legislative requirement, the Site Supervisor has a responsibility towards the operator and the second attendant, both to take all reasonable steps to ensure their safety and to equip them to do their jobs without danger to themselves, others or the receiving environment.
- An assessment of the risks arising from the petroleum products transportation, storage, and dispensing operation at site in areas of responsibility shall be done and to take steps to eliminate or control those risks.

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	5 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

- c. All maintenance employees responsible for fuel handing are trained and signed off by the Site supervisor. This training shall be done according to the Miramar Hope Bay Limited Fuel Handling Training protocol.
- d. All training records shall be filed and readily available.
- e. Dispensing of any petroleum products from the fuel farm shall not take place until: -
  - o Site Supervisor unlocks the valve;
  - o Supervise dispensing and refuelling; and
  - o Site Supervisor locks the valve after dispensing and refuelling.
- f. Good housekeeping practices are maintained at all times;
- g. Keep a record of fuel dips for all storage tanks in his/her area of responsibility. The following conditions apply depending on the frequency of usage.
  - o If used monthly – Dips taken weekly;
  - o If used weekly – Dips taken daily; and
  - o If used daily – Dips taken immediately after each dispensing trip.
- h. Fuel storage tanks not actively being drawn from must be inspected and dipped weekly. Findings must be recorded on the Fuel Storage Facility Checklist form.
- i. Monthly inspections of all fuel storage facilities must be conducted and recorded on the Fuel Storage Facility Checklist form.
- j. Daily inspections of fuel storage facilities must be recorded in the Site Supervisors Daily Fuel Storage Facility Inspection Logbook.

## ***2.2 Patch Lake Fuel Farm - Special Amendment***

- a. Weekly fuel storage inspections shall be carried out of all fuel storage tanks at Patch Lake Fuel Farm. This is **CRITICAL** for the tanks located outside of the containment area. A visual inspection must be conducted to determine the integrity of the internal secondary containment of each tank.
- b. All hazards, damage and potential conditions to a tank, transfer fuel line or pumps that would undermine the integrity of that structure which would cause a concern for a spill or gradual leak shall be identified and corrected and/or reported immediately for further follow up action.
- c. The use of the Fuel Storage Facility Checklist form will be used for the weekly inspections and submitted as part of the month end reports. All reports shall be documented, electronically filed and readily made available for auditing.
- d. Weekly **VISUAL** inspection for signs of leakage will be conducted by the Site Supervisor of the area inside of the large Enviro-tanks. This inspection **MUST** be completed from the inspection hatch **OUTSIDE** of the tank. **DO NOT ENTER THE TANK!** Special consideration must be given to Confined Space Entry Procedures and specialized equipment to enter the tank for further inspection. This **MUST** be approved by the Manager, Northern Operations.
- e. If required a dip shall be completed from outside of the inspection hatch to identify source of water/fuel and any changes in level, which might be an indicator of a breach inside the tank.
- f. For all MHL sites, preventive maintenance (PM) on all storage tanks and dispensing systems are done monthly. Any form of maintenance or changes to the dispensing system



Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	6 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

shall be documented and reported in the monthly report. All WHIMS signs are clearly displayed on each storage facility.

- g. All Spill kits are stocked with appropriate materials and available at each fuel storage area. The following should be taken into consideration.
  - A sufficient backup supply should be available on site if or when required at short notice.
  - Monthly stock take of the spill kits - location of kits and quantity of materials in each kit.
- h. All empty fuel storage containers should be collected, counted and sent off site for recycling.
- i. Provide monthly fuel status report to Human Resource Superintendent.

### ***2.3 Petroleum Product Dispenser/Operator***

The dispenser/operator is accountable to the Site Supervisor. In his/her responsibility relating to fuel management, the dispenser/operator (you) shall ensure that:-

- You have a duty to look after your own safety and that of others.
- It is your legal responsibility to inform your employer if you identify any potentially dangerous situations which are not being controlled at the work area. The essential steps to the inspection are:
  - STEP 1 - Look for the hazards;
  - STEP 2 - Decide who or what might be harmed and how;
  - STEP 3 - Evaluate the risks arising from the hazards and decide whether existing controls are adequate or more should be done;
  - STEP 4 - Record the significant findings of the assessment on your 5-point safety card;
  - STEP 5 - If the existing controls are inadequate, inform site supervisor immediately on Radio Channel # 2 (Windy Camp), Channel # 4 (Boston Camp) and Channel #1 (Patch Lake and other areas along the Belt).
- Trained in Fuel handling and dispensing procedures.
- A fire extinguisher and a spill kit are available.
- Be seen by the second attendant at all times and that your view is not obstructed.
- Proper procedures are followed throughout the dispensing/filling operation, e.g. dispenser nozzles are correctly inserted, delivery hoses are not stretched or kinked and tripper latches are not wedged open with any other objects.
- Vehicle engines are switched off when at the dispensers.
- No smoking in the vicinity of the dispenser nozzle.
- To fill containers with petroleum products, use only those which are approved.
- Earth wire is grounded.

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	7 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

- ALWAYS check carefully that there is no danger before you start dispenser nozzle and during its operation.
- Use your fingers to squeeze the trigger and stay with the dispenser nozzle until the task is completed.

#### ***2.4 Second Petroleum Product Dispenser/Attendant***

The second attendant is accountable to the Site Supervisor. In his/her responsibility relating to fuel management, the dispenser/operator (you) shall ensure that:-

- You have a duty to look after your own safety and that of others.
- It is your legal responsibility to inform your employer if you identify any potentially dangerous situations which are not being controlled at the work area. The essential steps to the inspection are:
  - STEP 1 - Look for the hazards;
  - STEP 2 - Decide who or what might be harmed and how;
  - STEP 3 - Evaluate the risks arising from the hazards and decide whether existing controls are adequate or more should be done;
  - STEP 4 - Record the significant findings of the assessment on your 5-point safety card;
  - STEP 5 - If the existing controls are inadequate, inform site supervisor immediately on Radio Channel # 2 (Windy Camp), Channel # 4 (Boston Camp) and Channel #1 (Patch Lake and other areas along the Belt).
- Trained in Fuel handling and dispensing procedures.
- A fire extinguisher and a spill kit are available.
- Be seen by the dispenser/operator at all times and that your view is not obstructed.
- No smoking when carrying out this task.
- Earth wire is grounded.
- Stay with the open valve until instructed to shut the valve off to closed position.

### **3 DISPENSING PROCEDURE**

Every trained and competent personnel dispensing flammable liquids and combustible liquids shall:

- a. Take precautions to prevent overflow or spillage of the liquid being dispensed;
- b. Not knowingly overfill the fuel system;
- c. In the event of spillage, immediately apply a non-combustible absorbent material to soak up the spillage;
- d. Not dispense gasoline or diesel within 7.5 meters of any ignition source;
- e. Not use any OBJECT or DEVICE that is not an integral part of the hose nozzle valve assembly to maintain flow of fuel; and

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	8 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

- f. Report any spillage or near miss immediately to your supervisor.

### ***3.1 Dispensing of fuel from the fuel farm***

Dispensing of any petroleum products from any Fuel Farm along the Belt ***shall not*** be carried out without the ***supervision*** of the ***Site Supervisor*** and a ***second attendant***.

- a. The second attendant dips and records the volume of the storage tank before dispensing takes place.
- b. The dispenser/operator uncoils the hose and stretches the hose towards the refilling tanks.
- c. Dispenser/operator secures the dispenser nozzle into an empty 205 drum and opens the lid of the tidy tank or an approved container used for transporting fuel. (*Note: if container is attached to a vehicle, ensure that the engine is switched off and the container is securely fastened before any dispensing taking place*).
- d. The dispenser/operator inserts the dispensing nozzle into opening and asked the Site Supervisor to unlock the dispensing valve.
- e. The second attendant then push the lever to open position and keeps it open until asked to turn it to off position.
- f. The dispenser/operator squeezes the trigger with his/her fingers and allows the fuel to drain in to the tank. Checks the tank level regularly.
- g. When fuel approaches the 85% level, he/she informs the second attendant to push the lever to close position. This will allow for all the fuel still in the hose to be drained off into the refuelling tank.
- h. The second attendant gets the final dip reading.
- i. Dispenser/operator lets go the trigger, wraps the nozzle with absorbent pad and secures the nozzle above ground level. Once the nozzle is temporally secured, he/she closes the tidy tank lid.
- j. The hose is then recoiled, with dispenser nozzle secured above ground level and ready for next day.
- k. Site supervisor locks the dispensing valve.

### ***3.2 Fuelling of the Tidy Tanks***

The two fuel handlers assigned for the task at the morning meeting shall ensure that:-

- a. The dispenser/operator uncoils the hose and stretches the hose towards the refilling tanks.
- b. Dispenser/operator secures the dispenser nozzle into an empty 205 drum and opens the lid of the tidy tank.
- c. Inserts the dispensing nozzle into opening and asked the second attendant to open the dispensing valve.
- d. The second attendant opens the valves and keeps it open until asked to turn it to off.
- e. The dispenser/operator squeezes the trigger with his/her fingers and allows the fuel to drain in to the tank. Checks the tank level regularly.
- f. When fuel approaches the 85% level, he/she informs the second attendant to close the valve. This will allow for all the fuel still in the hose to be drained off into the refuelling tank.

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	9 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

- g. The dip reading is taken.
- h. Dispenser/operator lets go the trigger, wraps the nozzle with absorbent pad and secures the nozzle above ground level. Once the nozzle is temporally secured, he/she closes the tidy tank lid.
- i. The hose is then recoiled, with dispenser nozzle secured and ready for next refilling task.

### ***3.3 Fuelling of 205 Litre drums for Tents and Core Shacks***

The two fuel handlers assigned for the task at the morning meeting shall ensure that:-

- a. The dispenser/operator uncoils the hose and stretches the hose towards the refilling drum.
- b. Dispenser/operator secures the dispenser nozzle into an empty 205 drum and opens the lid of the tidy tank.
- c. Inserts the dispensing nozzle into opening and asked the second attendant to open the dispensing valve. *(Note that this storage container (205 L) is laid horizontally and therefore extra care has to be taken during refuelling process).*
- d. The second attendant opens the valves and keeps it open until asked to turn it to off.
- e. The dispenser/operator squeezes the trigger with his/her fingers and allows the fuel to drain in to the drum. Stop occasionally and visually check for the fuel level.
- f. When fuel approaches the 85% level, he/she informs the second attendant to close the valve. This will allow for all the fuel still in the hose to be drained off into the refuelling tank.
- g. Dispenser/operator lets go the trigger, wraps the nozzle with absorbent pad and secures the nozzle above ground level. Once the nozzle is temporally secured, he/she closes the drum lid to allow exchange of air. This aids in release of fuel to the stove burner located inside the tent.
- h. The hose is then recoiled, with dispenser nozzle secured and ready for next refilling task.
- i. If the drip tray has water or the absorbent pad is soaked with fuel, remove the contaminated water and pad and disposed off as per waste management procedures.

### ***3.4 Fuelling of the Float Planes***

The refuelling of the chartered float planes is the responsibility chartered company and its pilots. However, since the refuelling activity will be done on our property, the following measures shall be in place in to ensure prevention of any spill during this process.

The Site Supervisor shall ensure that:-

- a. The required numbers of 205 L Jet B drums requested by the pilots are delivered to the beach. No drums should be rolled onto the jetty without the permission of the Site Supervisor.
- b. Emergency response equipment (a Spill kit & a Fire extinguisher) shall be made available. Particular importance should be given to bringing in a packet of white booms.
- c. Fuelling of the float plane should be done only after all other activities (loading and unloading) are completed.
- d. When all clear is given by the pilot to refuel the plane, a drum is rolled on to the jetty and made to stand upright into a secondary containment area. If no such facility is available,

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	10 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

sufficient absorbents pads should be place under the drum to cover at least an area greater the drum base.

- e. Place the electric hand pump into a secondary containment tray before operation.
- f. Ensures all hoses are connected properly before proceeding with dispensing of the fuel.
- g. A nozzle disperser attendant (pilot-1) stays with the nozzle until the task is completed.
- h. The second attendant (pilot-2) operates the pump.
- i. Once filled, use absorbent pads to remove any fuel on the nozzle and the siphon dip before storing away the equipment.
- j. Ensure drum lid is securely fastened before removing from jetty. Pump, empty drum and used absorbent mats are removed from the jetty and the waterfront.

### ***3.5 Fuelling the helicopters***

The refuelling of the helicopters is the responsibility chartered company and its pilot and the engineer. However, since the refuelling activity will be done on our property, the following measures shall be in place in to ensure prevention of any spill during this process.

The Site Supervisor shall ensure that:-

- a. The required numbers of 205 L Jet B drums requested by the pilots are delivered to the helipad. No drums should be rolled onto the helipad without the knowledge of the Site Supervisor.
- b. Emergency response equipment (a Spill kit & a Fire extinguisher) shall be made available at location.
- c. Fuelling of the helicopter should only take place when all clear is given by the pilot. A drum is rolled onto the pad and made to stand upright. Due to the nature of the operation, no loose or light material should be allowed near the helicopter.
- d. Ensures all hoses are connected properly before proceeding with dispensing of the fuel.
- e. A nozzle disperser attendant (pilot-1) stays with the nozzle until the task is completed.
- f. The second attendant (engineer) operates the pump.
- g. Once filled, use absorbent pads to remove any fuel on the nozzle and the siphon dip before storing away the equipment. **ONLY DO THIS WHEN THE ENGINE IS SWITCHED OFF.**
- h. Ensure drum lid is securely fastened before removing from the pad.

## **4 TRAINING**

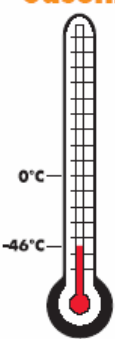
The Site Supervisor is responsible for providing fuel handling and dispensing training. All employees working at Miramar Hope Bay Limited project sites responsible for fuel handling shall receive training on proper procedures. After the training is conducted, the employee must demonstrate they can perform this work safely and competently, eliminating the risk of spills before being permitted to perform this work anywhere within the belt. The supervisor in charge of the employee is responsible to ensure this training is completed. A list of the tasks is provided in Appendix A.

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	11 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

## 5 FUELLING FACTS

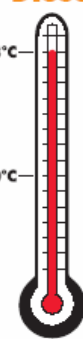
Gasoline and diesel fuel can be extremely dangerous unless properly and safely handled. These are some of the characteristics and hazards of fuel that every employee should know:

**Gasoline**




-46°C

**Diesel**



+37.8°C

**Warning**



**Will it Burn?**  
 Petroleum liquids, whether they are gasoline or diesel, do NOT burn. ONLY THE VAPOURS BURN.

What is important for you to know is what products give off flammable vapours, and when.

Different petroleum liquids give off flammable vapours at different temperatures (this is called flash point). The thermometers above show when gasoline (-46°C) and diesel (+37.8°C) give off flammable vapours.

**THESE PRODUCTS ARE HAZARDOUS ABOVE THEIR FLASHPOINTS**

**Note:** A fine spray of these liquids will be as hazardous as the vapours.



### Vapour Flow

Heavier than air – hugs ground – displaces air.  
 May cause asphyxiation.  
 May explode if exposed to a source of ignition.

**Note:** A fine spray or mist of a flammable liquid is as hazardous as a flammable vapour.



### Product Flow

Flows on the ground surface and floats on water.  
 Spills can travel through the ground, contaminate drinking water and seep into buildings.

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	12 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				



### **First Aid**

Wash contaminated skin with soap and warm water.  
Do not use hot water.  
Flush eyes with water.  
If an individual is overcome by vapours remove them to fresh air.  
Do not induce vomiting.  
Obtain medical attention.



### **Toxicity**

Vapours are moderately irritating to the respiratory passages. The liquid when accidentally aspirated into the lungs can cause severe inflammation of the lungs. Excessive exposure to benzene may cause leukemia.  
Flammable liquid.  
May cause cancer.  
Vapours are moderately irritating to the eyes.  
Prolonged immersion in liquid may lead to chemical burns.

## **6 EMERGENCY PREPAREDNESS**

Spills of chemicals, fuels and other substances may occur as isolated events or they may occur with other emergencies such as fire, explosion, natural causes or accident. The accuracy and urgency in disseminating information to your immediate supervisor and Site Supervisor is crucial to the success of the prevention or recovery process in any accident/incident.

### **6.1 First Responders**

In the event of any leak, spill or system failure, steps taken by employees at the spill site are as follows:

- Be alert, ensure your safety and the safety of others first.
- Assess the hazard to persons in the vicinity of the spill, leak or failure system. If the risk of gas fumes exists or if fire or explosion hazards are perceived, leave the area immediately and warn co-workers to leave also.
- Assess nature and status of the spill, leak or system failure and measures to be taken to bring the situation under control.
- Remove any source of ignition.
- When safe to do so, stop the flow of the spilled material.
- Cleanup spill using absorbent material located on location.
- Notify your Supervisor immediately.
- If First Aid is warranted, notify on-site Medic immediately. The Medic then activates the MediVac Emergency procedure protocol.
- Wait for further instructions from your supervisor.

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	13 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

- j. Record all information on the status of the situation. Take photographs of the site (if possible) before the clean up and subsequent to clean up.

### ***6.2 On Scene Spill 24-hours Notification Process***

The key personnel involved during a spill occurrence and the reporting responsibilities are illustrated in the following chart below. The responsibilities of each of these positions are discussed in Section 5 of the Spill Contingency Plan document.

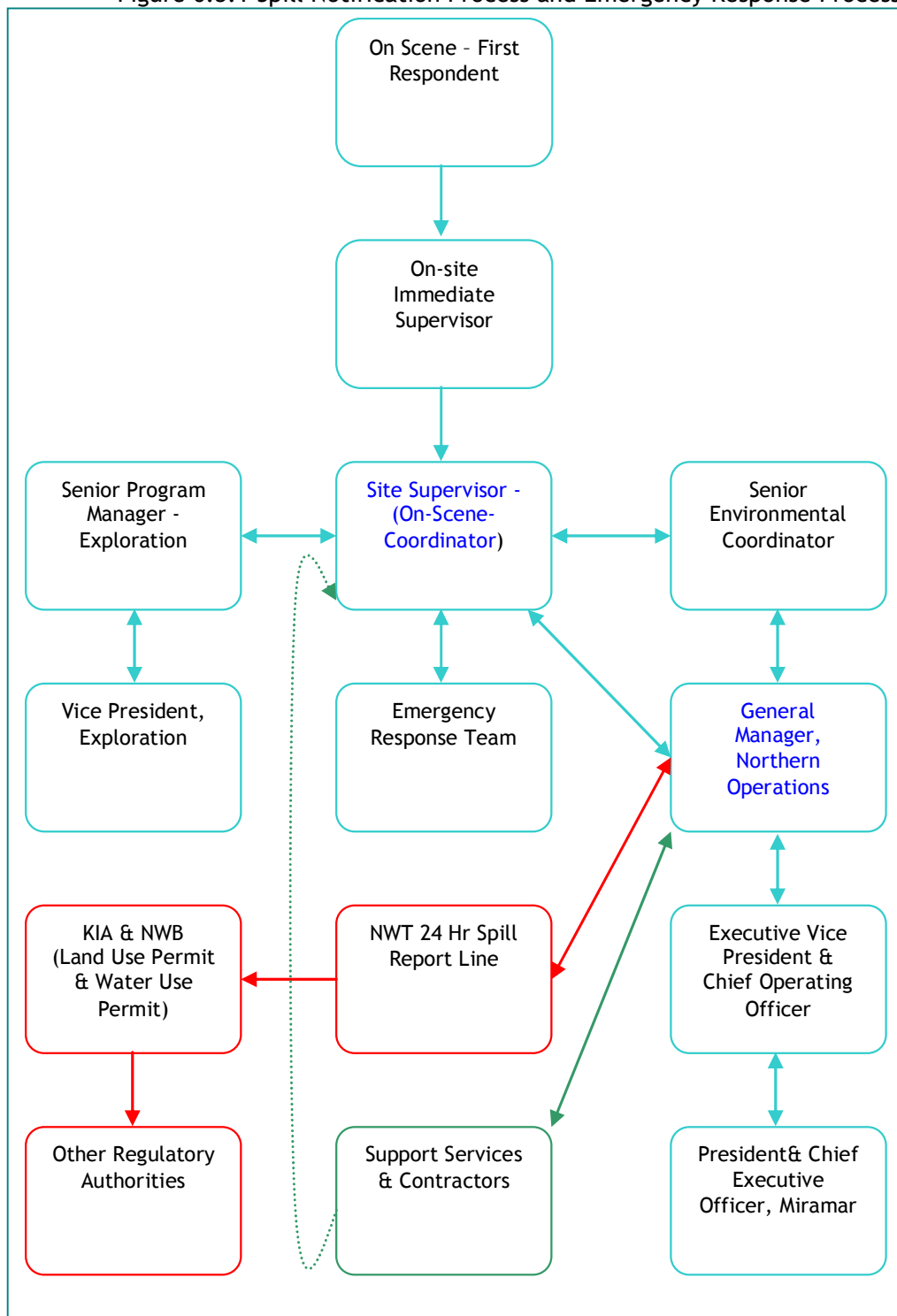
### ***6.3 Line of Communication Responsibility and Accountability:***

The effectiveness in the implementation of the management Plan during an unexpected environmental incident depends on key MHBL site management knowing of their respective roles and the effectiveness in dissemination of information. The communication chart illustrated in Figure 6.3.1 outlines the channel of communication for both within (aqua colour) MHBL and externally (regulatory - red & contractors - sea green colours). Positions highlighted in blue are responsible for dissemination of information, provide onsite directives and the general management of the clean up operations of an unexpected environmental incident.



Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	14 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

Figure 6.3.1 Spill Notification Process and Emergency Response Process



Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	15 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

## 7 APPENDIX – FUEL HANDLING TRAINING

### 7.1 MHBL Fuel Handling Training Record Sheet

Name		Department	
Date of Training		Location of Training	

*All employees responsible for fuelling equipment, transferring fuel, and filling tanks of any size must demonstrate that they can perform this work safely, eliminating the risk of spills. The employee must demonstrate that he/she can competently perform each task listed below before being permitted to perform this work anywhere within the belt. The supervisor in charge of the employee is responsible to ensure this training is completed.*

#### INSTRUCTIONS - DESCRIPTION OF TASK

- ◇ The employee understands the impact of spills to the environment and company, including smallest of leaks, drips, and residuals petroleum products.
- ◇ ALL SPILLS MUST BE REPORTED IMMEDIATELY TO THE SUPERVISOR. If can be done safely without harm to the worker, all leaks must be stopped immediately to lessen the impact to the environment.
- ◇ Check pumps, hoses, valves and fittings for sign of leaks.
- ◇ Check fill hatches, inspection covers and other tanks openings for leaks.
- ◇ Check tanks to ensure they are free from rust and in good repair.
- ◇ Identify maximum levels for filling tanks to compensate for fuel expansion. DO NOT FILL GREATER THAN 85%.
- ◇ Ensure that the filling process is always monitored constantly to prevent overfilling and spilling. In all cases, when filling larger tanks, 2 people will be required to perform the job. The dispenser valve has to be opened by the Site Supervisor and locked after use immediately.
- ◇ Any tank accidentally overfilled must be reported to the supervisor immediately.
- ◇ Ensure valves, hoses, and pumps are protected from damaged.
- ◇ Eliminate any chance of accidental siphoning (i.e. keep fuel nozzles stored about the tank connection, turn pumps off when not in use).
- ◇ Ensure filling hoses and nozzles are kept within the containment areas where possible. Do not have them hanging outside the containment area where a spill could occur.
- ◇ Inspect tidy tanks and 45 gallon fuel drums are properly secured to platforms and stands.
- ◇ Inspect all platforms and stands to ensure that they are in good condition.
- ◇ Follow fire safety procedures (no smoking, no open flame within 7.5 meters). Fire extinguishing equipment must be in place at every supply or filling area.
- ◇ Ensure proper absorbent material is placed under valves, tanks, nozzles, and other potential leak areas.
- ◇ Absorbent material is changed often as it reaches its maximum limit for absorbing petroleum products. Oil soaked pads must be properly disposed of. Check with supervisor for proper method.

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	16 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

- ◇ Containment areas are inspected frequently for damages, erosion of fill material, snow falls and leaks.
- ◇ Containment areas including drip trays must be kept clean of debris and water at all times.
- ◇ The supervisor must authorize the pumping of water from any containment area or drip tray. Any contaminated water may have to be properly treated before releasing to the environment.
- ◇ Spill containment material must be inspected regularly to ensure there is sufficient material to deal with emergencies. Spill kits must be properly marked and kept in designated areas.
- ◇ Any fuel being transported must have lids, caps and valves closed tightly and where necessary locked.
- ◇ Site supervisor is responsible for removing locks removed from valves, covers and other tank openings for the purpose of fuelling, filling or maintenance must be re-secured when job is completed.
- ◇ Waste oil stored in drums must be inspected regularly and kept upright to prevent accidental spillage. Bungs must be tightly secured.
- ◇ 45-gallon drums of petroleum product must be stored in a safe area where they will not leak or drain into any water body or come in contact with mobile equipment accidentally.
- ◇ Fuel drums must be stored so that proper inspection for leaks can be made of all sides of the drum.
- ◇ Contents of the product line, tanks, pumps and valves must be clearly identified.
- ◇ Safe access to fuel storage and valves must be clearly identified.
- ◇ Emergency procedures.
- ◇ Emergency equipment location at sites.
- ◇ If in doubt, STOP, check with the supervisor in charge.

Name:		Signature:	
Designation:		Date:	

TRAINER: *This employee has received training as listed above and has demonstrated his/her ability to perform all tasks in a safe and efficient manner.*

Name:		Signature:	
Designation:		Date:	

SUPERVISOR: *I am confident that all training was completed as prescribed above and this employee has demonstrated his competency to the trainer in the handling, and storage of fuel on site.*

Name:		Signature:	
Designation:		Date:	

EMPLOYEE: *I have received training in the handling and storage of fuel on site, and responsible for following all instructions that I have been given*

Document No:	MHBLMAIN-FGDP-SMOP-2004	Revision:	R.03	Date:	August 17 2006
Authorised By:	Scott Stringer	Author:	Matthew H Kawei	Page:	1 of 18
Title:	Miramar Hope Bay Limited - Fuel and Gas Dispensing Procedure				

## 7.2 MHBL Fuel Storage Facilities Checklist

### Fuel Storage Facilities Checklist

#### WEEKLY /MONTHLY INSPECTION PROGRAM - Hope Bay

This checklist will be completed once every calendar month. All spills and potential spills must be responded to IMMEDIATELY.

Daily inspections will be completed for fuel spills and potential fuel spill conditions. Daily inspections will be recorded in the Daily Fuel Storage Facility Inspection Logbook.  
This document will be forwarded to the Safety and Environmental Departments for review and filing. All inspections are subject to audit.

SELECT ONE: ☐ Weekly Inspection ☐ Monthly Inspection

TANK LOCATION: \_\_\_\_\_ TANK # \_\_\_\_\_

		YES	NO
1. FIRE PREVENTION	1.1 Fire extinguishers are located nearby.		
	1.2 Fire extinguishers are sufficient to comply with regulations.		
	1.3 General area is free from waste material and weeds.		
	1.4 No ignition sources are within 3 meters of tank (s).		
2. ON/ABOVE GROUND EQUIPMENT	2.1 Tank fill points are accessible and clearly identified.		
	2.2 Handrails are safe and in good repair.		
	2.3 Ladders are safe and in good repair.		
	2.4 Tank is free from rust and in good repair.		
	2.5 No visual evidence of product leaking from the INSIDE OR OUTSIDE tank. DO NOT ENTER TANK UNLESS APPROVAL HAS BEEN GRANTED!		
	2.6 Catch containment (s) clean of water, snow, ice and debris.		
	2.7 Catch containment (s) are in good repair.		
	2.8 Tank (s) not filled more than 85% total capacity.		
	2.9 Spill kits are in place and in good condition.		
	3.0 No evidence of leaks from fittings, lines and pump		
3. WATER DRIPPING	3.1 Storage system has been checked for water in the last month.		
	3.2 Excess water has been drained in the past month.		
4. STOCK ROTATION AND STORAGE	4.1 Fuel has been dipped to ascertain unexpected loss		
	4.2 Fuel has been drawn from each tank this month.		
	4.3 Drums of product are stored safely.		
5. TANKER ACCESS	5.1 Safe access to the fuel storage area.		
6. SECURITY	6.1 Access to pump is locked		
7. SIGNAGE & PROCEDURES	7.1 Contents of the product lines, tanks, pumps and valves are clearly identified.		
	7.2 All employees <sup>o</sup> are familiar with spill response procedures.		

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Name: \_\_\_\_\_ Signature: \_\_\_\_\_

**MIRAMAR**  
HOPE BAY LTD.



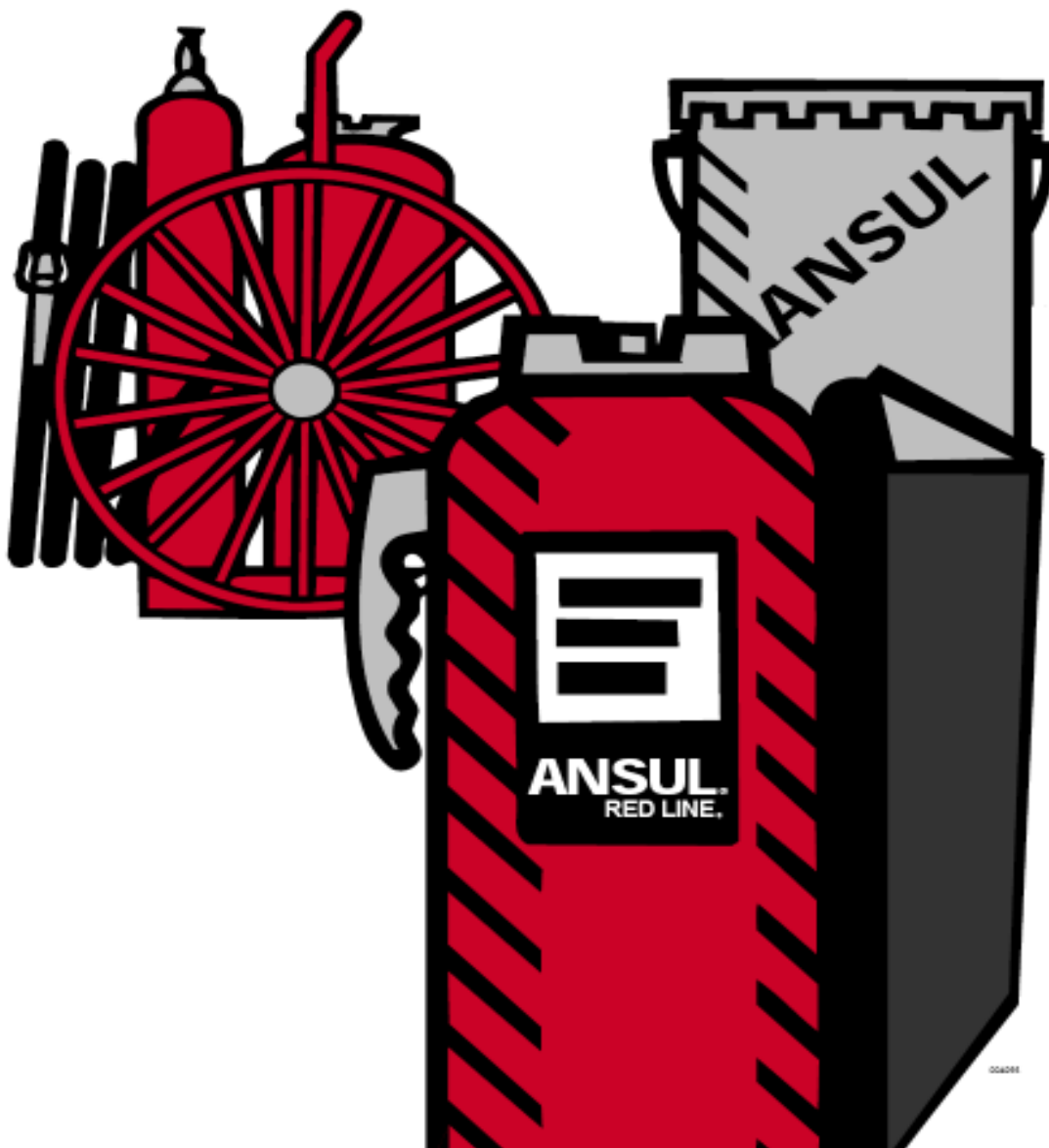
## Supervisors Monthly Fire Extinguisher Inspection Reference



## Supervisors Monthly Fire Extinguisher Inspection-Reference

**ANSUL.**

**RED LINE.® Fire Protection Equipment**



## Supervisors Monthly Fire Extinguisher Inspection-Reference Cartridge Operated Ansul Extinguisher

1. Make certain the extinguisher is in its designated place, is clearly visible and is accessible for immediate use. Any obstructions that obscure it, or would otherwise impair its being readily accessible should be removed.
2. Check the inspection seal. The absence of a seal or broken seal may indicate either unreported use or tampering. In either case, a complete maintenance check is required.



3. Ansul indicator fill cap models, feature a red stem indicator which pops up in the center of the fill cap and remains up after the pressure has been relieved. Check the red indicator stem. If up, a complete maintenance check is in order.



4. Remove the extinguisher from its mounting bracket and heft (lift up and down slightly) to determine if it is filled.
5. Examine the extinguisher shell, cartridge guard, cartridge receiver and all other external parts for evidence of physical damage, corrosion or other impairments. Cartridge guard is removed by pulling it away from the extinguisher.



6. Check the nameplate for readability- especially the operating instructions. If they are not legible, an instructed (but not necessarily trained) person may not understand the method of operation in the excitement created by a fire.



7. Examine the hose for cuts, severe weathering, abrasion or deformed exterior. Depending upon the severity of the disorder, the hose could rupture upon pressurization of the extinguisher.
8. Check the hose couplings for tightness, corrosion or cracks. A loose connection of coupling to shell outlet or nozzle could contribute to a significant change in discharge characteristics. A corroded or cracked coupling could separate under pressure.



9. Check the nozzle tip for obstructions and handle for obvious damage or obstructions.



10. Secure the nozzle back into its holder and ensure inspection seals are still intact. Replace seal if required.
11. Personnel making inspections are required to keep records by way of marking a tag attached to the extinguisher. Proper documentation on extinguisher location and maintenance must be kept up to date.

**Where an inspection reveals that tampering has occurred or that the extinguisher is damaged, impaired, leaking or obvious corrosion, complete maintenance procedures or replacement of the extinguisher is required.**





## **Practical Risk Assessment**

Group Risk Assessment

Prepared by: David Power  
Sr. Safety Coordinator  
Jan. 5, 2007

Document Ref: PRA07.01



## **Group Risk Assessment**

### **Contents**

Index.....	Page 2
Introduction.....	Page 3
Definitions.....	Page 4
Risk Controls.....	Page 5
Procedure (Preliminary Work-up ).....	Page 6
Risk Criteria Chart.....	Page 6
Risk Level Table.....	Page 7
Record Information.....	Page 8
Group Risk Assessment Form.....	Page 9
Procedure (Steps for Conducting a Group Risk Assessment).....	Page 10



## Introduction

Risk assessment is a process for identifying, quantifying and controlling hazards and risks. It is a system to examine possible loss exposures resulting from hazards, changing conditions, and system failures. **It is a proactive process and an integral part of business.**

Group Risk Assessment (GRA) can be used by persons with all backgrounds and skill levels. It is a practical process for everyday use and can be learned relatively quickly. It can significantly reduce the subjective judgment that is commonly used to treat workplace risks.

The most appropriate time to begin risk assessment is during the conceptual design of a new facility or during the initial planning stages of a proposed change. However, ongoing risk assessment is a vital priority during the life cycle of any system. It develops an awareness of job hazards, equipment failure modes and things that could go wrong even in a stable operating environment.



## DEFINITIONS

**Risk** – a measure of the probability of a hazards-related incident occurring and the severity of harm or damage that could result.

**Hazard** – A condition, device or substance that can directly cause injury to people or damage to property.

**Risk Assessment** – Any process use to identify, quantify or rank risks.

**Impact** – A measure of the magnitude of a loss. Equivalent terms include severity, consequence and seriousness.

**Probability** – The likelihood that a specific event or outcome will have an identified effect, often expressed as “high”, “moderate”, or “low”, or as a percentage.

**Frequency** – A measure of the rate of occurrence of an event expressed as the number of occurrences of the event in a given time period or potential number of trials.

**Residual Risk** – The level of risk remaining after all risk control measures have been implemented.

**Acceptable Risk** – The level of risk deemed acceptable to a group of people. Usually based on industry practices, previous loss experience and other existing risks.



## RISK CONTROLS

It is critical once you have identified the risks to establish controls. In summary the four types of risk controls are:

- **Terminate** – An informed decision to discontinue an activity or to not initiate it.
- **Treat** – Use the various loss control tools and techniques to minimize the chances of the loss occurring and /or the magnitude of the consequences if it does occur.
- **Tolerate** – If a risk cannot be eliminated and reduction measures have been optimally applied, then the organization must decide how much of the residual threat it will retain and how to do it.
- **Transfer** – The financial responsibility or burden for a loss can be shared with responsible third parties through leases, partnerships, contracts, hold-harmless agreements and insurance.

### Typical Applications for Risk Assessment

1. Pre-work, job or task risk assessment as a vital part of daily activities.
2. During reviews for all capital and expense projects to ensure that all significant design considerations have been satisfied.
3. Hazard identification and analysis to accompany the development and implementation of safe operating procedures.
4. Risk and hazard review of existing training and work practices for critical tasks to ascertain their adequacy.
5. Pre-startup safety reviews to ensure that facilities and conditions are suitable for operation.
6. Risk assessment of an operation to ensure that current or proposed conditions do not jeopardize safety, reliability, industrial hygiene, fire protection and environmental considerations.
7. Risk assessment of all planned changes to facilities, procedures, systems, organization, etc.



## Procedure – (Preliminary Work-up)

1. Identify a facilitator (leader). A facilitator must be unbiased; be familiar with the process or problem being considered.
2. Assemble a group of two-six participants. Larger numbers can be problematic and lead to difficulty in reaching consensus. People with diverse perspectives should be included in the group. Those immediately affected by the change are excellent candidates to include. In order for there to be meaningful participation, members of the group should be familiar with the process or problem being considered.
3. Establish *Low, Medium & High* parameters for probability and impact /severity. These parameters define the extent to which the assessment group should initially be concerned with any single issue, and the likely ultimate success of any proposed control measure. (see figure 1)

### Risk Criteria (sample)

(Figure 1)

RATING	IMPACT	PROBABILITY
<b>High</b>	S - Disabling injury, loss of body part or fatality. P - Loss of function of facility for extended period, with business consequences, major quality deviation. E - Reportable violation, toxic release. D - High repair cost (typically >\$100k.)	4. Repetitive event 5. At least once per year 6. Several times in the life cycle of a project 7. Has happened frequently in similar circumstances 8. Greater than 50% chance of occurring.
<b>Medium</b>	S - Medical aid injury. P - Short duration loss of function, serious quality deviation, medium business impact. E - Non-reportable spill, non-toxic release. D - Moderate repair cost (typically >\$10k.)	<ul style="list-style-type: none"> <li>• Infrequent event</li> <li>• May only happen occasionally (less than once per year)</li> <li>• Has been observed in similar circumstances</li> <li>• 10 to 50% chance of occurring.</li> </ul>
<b>Low</b>	S - First aid injury P - Brief interruption or minor quality deviation E - Minor leak, non-toxic fugitive emission. D - Low repair cost (typically <\$10k.)	<ul style="list-style-type: none"> <li>• Unlikely event</li> <li>• Never happened to date</li> <li>• May happen less than once in 10 years</li> <li>• Has never been observed but is still felt to be a possibility</li> <li>• Less than 10% chance of occurring</li> </ul>
S – Personnel Safety      P-Business /Production      E-Environmental      D-Damage		



The table above is a sample only. It will be the responsibility of the group to establish their own parameters for setting impacts / probability parameters.

4. Identify the Risk Level - Together, **probability** and **impact** criteria is used to determine the **risk level** associated with each identified problem. Using a three-by-three matrix (*Figure 2*) is an easy means to incorporate the two basic risk components into levels that correspond to the terms *Low*, *Medium* and *High*.

H
M
L

**High Risks** – Unacceptable risk level. Actions are required to eliminate or reduce this risk immediately.

**Medium Risks** – Risk controls are required.

**Low risks** – Acceptable Risk (controls may still be justified)

**RISK LEVEL TABLE**

(*Figure 2*)

		Probability		
		L	M	H
Severity (Impact)	H	M	H	H
	M	M	M	H
	L	L	L	M



5. Obtain records and information for the system being evaluated. Some examples of these records would include:
  - (i) Designs & Drawings
  - (ii) Investigation Records
  - (iii) 5-Point Safety Cards
  - (iv) Joint OH&SC findings
  - (v) Inspection records
  - (vi) Maintenance records
  - (vii) Manufacture recommendations
  - (viii) PPE analysis
6. Conduct the Risk Assessment – Use progressively systematic methods if necessary.
7. Record data and follow-up – It is critical for the success of the risk assessment to ensure accurate and complete records are maintained (due-diligence). The product of a risk assessment must be a clear set of written conclusions and recommendations.

Documentation should indicate the names of participants, the dates performed, conclusions and follow-up actions. It should also include the worksheets used to capture the data. The main component document utilized in a Group Risk Assessment is the worksheet shown in Figure 3 on the next page.



## GROUP RISK ASSESSMENT

SYSTEM: \_\_\_\_\_

SCOPE: \_\_\_\_\_

DATE: \_\_\_\_\_

FACILITATED BY: \_\_\_\_\_

GROUP MEMBERS: \_\_\_\_\_

ITEM	CONCERN	IMPACT EXPLANATION	IMPACT RATING H/M/L	PROBABILITY EXPLANATION	PROB. RATING H/M/L	RISK LEVEL H/M/L	RISK CONTROLS BY WHOM? WHEN?	RESID. RISK H/M/L



## Procedure – (Steps for Conducting a Group Risk Assessment)

1. Define System/Scope: The system and scope should be defined, describing what is included in the risk assessment. This helps prevent you from straying off-course. Sometimes it is beneficial to identify what will and will not be included in the assessment. If necessary, conduct additional assessments.
2. Use Item Classifications: This may be a component in a system, a position in circuit, a geographical location, a step in a procedure, a measure of time or simply a number used to denote order.
3. List Concerns: This may be a hazard, a deviation or a quality concern associated with a particular item. A brief interpretation of what could happen should be included.
4. Explain Impacts: This is the explanation of what specific losses could occur. Several impacts can result from one concern such as injury, damage, production loss or environmental release.
5. Record Impact Rating: The impact rating indicates the relative severity or consequence of the loss. A *high*, *medium* or *low* rating should be assigned.
6. Explain Probability: This is an explanation of how the probability was established or why it was assumed as indicated. It should be based on the established probability ratings.
7. Record Probability Rating: The probability rating indicates the likelihood of the loss occurring and is given a rating of *high*, *medium* or *low* according to some established basis. Refer to risk criteria table for help in assigning ratings.
8. Record Risk Level: The impact and probability ratings are applied to the risk table to determine the equivalent level of risk for each concern. Risks classified as *High* are generally considered unacceptable and must be corrected immediately before proceeding. Risks classified as *Medium* require appropriate controls to ensure a loss does not occur. Risks that are *Low* are considered to be acceptable, but may deserve some control measures.
9. Establish Risk Controls: These are plans or strategies to reduce risk to an acceptable level. Where medium or high risks are identified, controls need to be put in place that minimize or eliminate the concern. Preventive actions are usually more cost effective than control actions.



It is important that all actions be assigned to specific individuals with expected completion dates (*i.e., who will do what, when?*)

10. Record the Residual Risk: Residual risk is the risk that would likely remain if all control measures were implemented. This is determined from the risk matrix by substituting reduced ratings for impact and probability.

References:

- *Practical Loss Control Leadership, Third Edition*
- *Occupational Safety Management and Engineering*
- *National Safety Council, Accident Prevention Manual, Engineering & Technology*
- *National Safety Council, Accident Prevention Manual, Administration & Programs*



# **Fire Risk Assessment**

## **FRA**

Prepared by: David Power  
Sr. Safety Coordinator  
December 13, 2006



## **Fire Risk Assessment**

### **Definitions**

<b>Hazard:</b>	A hazard is something that has the potential to cause harm.
<b>Risk:</b>	A risk is the chance, high or low, of that harm occurring.
<b>Fire Risk Assessment:</b>	A fire risk assessment will help you determine the chances of a fire occurring and the dangers from fire that your workplace poses for the people who use it.

For fire risk assessments there are generally five steps that you need to take:

- Step 1** Identify potential fire hazards in the workplace.
- Step 2** Identify which employees might be in danger, in the event of a fire, in the workplace or while trying to escape from it, and note their location.
- Step 3** Evaluate the risks arising from the hazards and decide whether your existing fire precautions are adequate or whether more should be done to get rid of the hazard or to control the risks (i.e., by improving the fire precautions).
- Step 4** Record your findings and details of the action you took as a result. A thorough follow up is essential for the Fire Assessment to be effective
- Step 5** Keep the assessment under review and revise it when necessary. Advise all employees on site about your findings.

Proper planning of your assessment, and any changes necessary because of it, includes consulting the workforce. This can help ensure that any changes are introduced more easily and accepted more readily. However, remember that risk assessment is essentially a matter of applying informed common sense. You need to identify what could reasonably be expected to cause danger. Ignore the trivial and concentrate on significant hazards.



It is important that you carry out your fire risk assessment in a practical and systematic way. It must take the whole of the workplace into account, including outdoor locations and any buildings and areas which are rarely used. It is often helpful to divide the area into a series of selected boundaries.

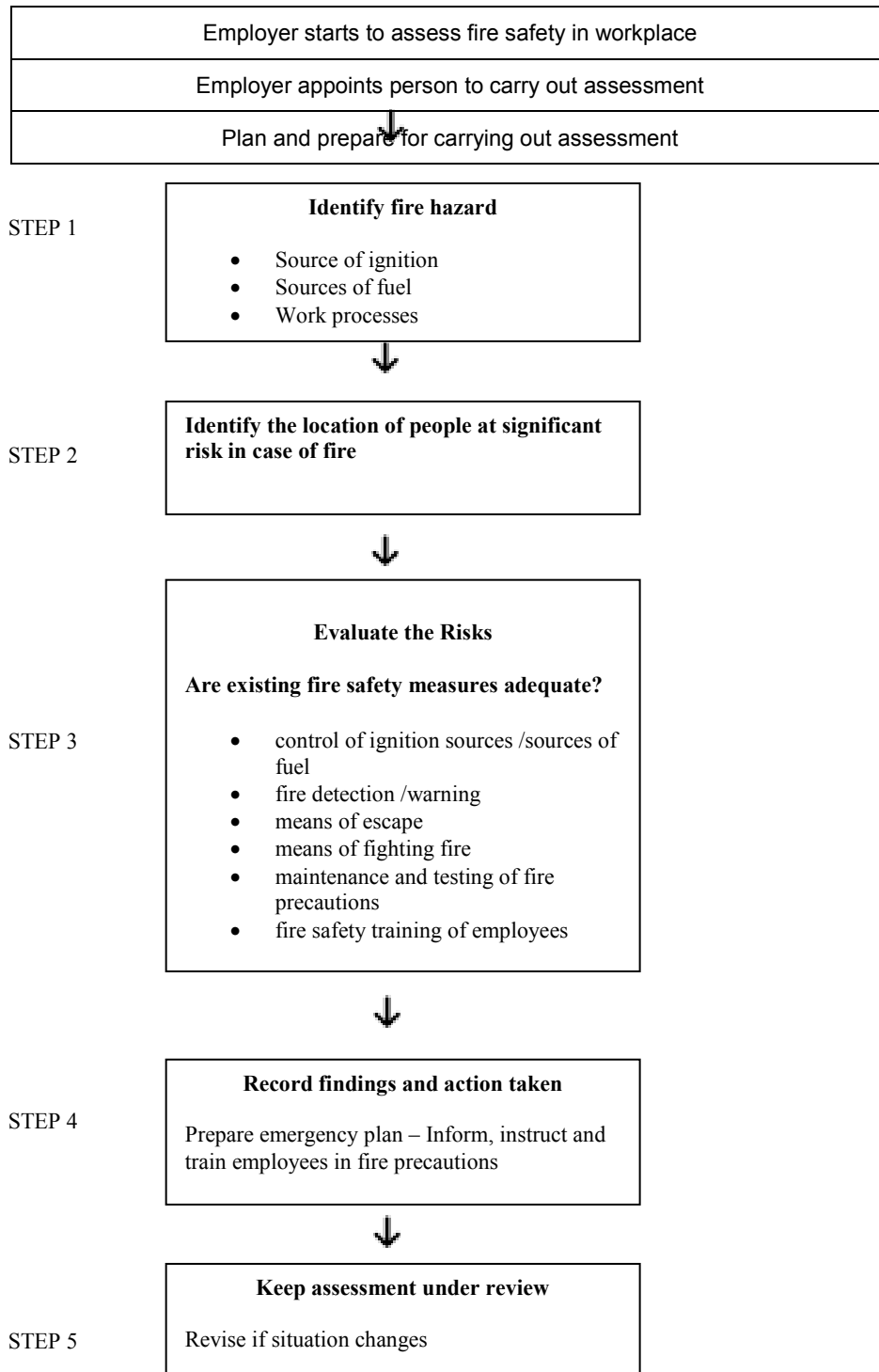
For the Windy Camp, some suggestions would be:

- Sleeping Tents
- Main Camp Complex & New Dry Facility
- Core Buildings
- Camp Maintenance Areas
- Fuel Storage & Containment
- General Site
- Drill Rigs

For the Boston Camp, some suggestions would be:

- Sleeping Tents
- Main Camp Complex
- Core Buildings & External Offices
- Camp Maintenance Areas
- Fuel Storage & Containment
- General Site
- Drill Rigs

***Refer to the 5 steps on the following page***





# **PERFORMANCE OBSERVATION**

## **Job Task Observation**

Prepared by: David Power  
Sr. Safety Coordinator  
December 20, 2006

Document Ref: JTO07.01





# **Job Task Observation**

## **Contents**

Index.....	Page 2
Introduction.....	Page 3
PROCEDURE.....	Page 4
(1)    Deciding Which Task to Observe.....	Page 4
(2)    Deciding Whom to Observe.....	Page 4
(3)    Scheduling Complete Task Observation.....	Page 4
Critical Task Observation Control Record (Figure 1).....	Page 5
(4)    Observing.....	Page 6
(5)    Discussing.....	Page 6
(6)    Recording.....	Page 6
Complete Task Observation Record (Figure 2).....	Page 7
Complete Task Observation Record – sample (Figure 3).....	Page 8
(7)    Follow-up.....	Page 9



### **Introduction**

The most effective way in accurately determining how well a worker does his/her job is to observe them performing the work. It is of the utmost importance for supervisors to identify and evaluate changes in the way workers do critical jobs and tasks at the workplace. As put by one experienced supervisor, "You haven't completed your job of teaching someone how to do a job until you know that person knows the proper way you think you taught him."

*Practical Loss Control Leadership*

Task observations are a basic and vital leadership activity for observing and evaluating the degree to which things are up to desired standards. They provide essential feedback information regarding job placement, orientation, training, on-the-job instruction and leadership communication and contacts.

Some of the benefits of performance observation are:

- 1.) identifies conditions and practices that can contribute to accidents and other potential loss
- 2.) identify specific needs for coaching and training
- 3.) learn more about your team's work habits
- 4.) check the adequacy of procedures and work instructions
- 5.) follow up on the effectiveness and accuracy of on the job training
- 6.) determine where adjustments to training is required
- 7.) provide encouragement and positive on-the-spot constructive correction
- 8.) identify and reinforce specific desired behavior

Performance observation is a valuable tool to help the front line supervisor meeting his /her greatest responsibility – getting optimum performance from every person in your work group.



## PROCEDURE:

1. **Deciding Which Task to Observe** – To make best use of the time you invest in your observation activities, concentrate on the critical tasks. A critical task inventory list is a valuable tool in identifying ahead of time, which jobs /tasks and training fall under the definition of ‘critical’ for your department. In using the inventory, always consider a new job as critical, until proven otherwise.

When establishing your list identify the consequences of the ‘*error factor*’ in each job /task within your department or area of responsibility. How will it affect the safety of your workers, potential damage to equipment, wastage, and/or loss of production?

2. **Deciding Whom to Observe** – In the long run, every person within your team should receive task observation. This does not necessarily mean the same number of observations and the same amount of time and attention to each person. However, it does mean that everyone is included. Keeping your workers well informed of the purpose of the program will help to prevent any misunderstanding of its intentions. When making your decision as to whom to observe, here are a few that you should be focusing on:

- (i) Employees new to the work – new hires generally require more attention, training, observation and coaching than experienced employees.
- (ii) Substandard Performers – The time required for observation is more than justified when you consider the time wasted due to defects, delays, damage and rework caused by poor performance.
- (iii) Workers with ability problems – There are many physical, mental, or emotional problems, known or suspected, that cause questions about someone’s ability to do a task. Task observation is one of the few tools that can give you some direction in such difficult situations.
- (iv) Outstanding Performers – The best workers may be using techniques and methods that could help other do their work more efficiently. A second reason for giving observation priority to outstanding performers is that, too long ignored, they may drift into substandard practices and habits. It also offers an excellent opportunity for commendation.

3. **Scheduling Complete Task Observation** – Scheduling is another very important part of preparing for observations. Property done, observations require a significant time commitment. They are too important to be put off until “one of these days”. Task observations should be part of your planned scheduled activities. In this scheduling, keep in mind that you want to observe certain people doing certain (critical) tasks and to include every employee in observation program. The guide on the following page serves as an excellent record.

**Sample**

<div>Department</div> <div>Supervisor</div> <div>INDIVIDUALS</div>	CRITICAL TASKS												
	Core Cutting	Grinder	Ice Auger	Incinerator	Burning wood	Material Handling	Fire Extinguisher	Helicopter safety	Chain Saw	Power Tools	Propane Safety	Generator Maint.	Add additional columns as needed

(Figure 1)

For each person listed in the numbered rows, put an "X" above the dotted line to show which critical tasks that person performs. Below the dotted lines, enter the date of the last complete observation conducted for that person and that task.



#### 4. **Observing**

- (i) **Stay out of the way.** Do not interfere with the task activities or with equipment actions or material flow. However, stay close enough to clearly see important details of the work. If an action is observed that might affect the workers safety, immediately intervene and make the proper correction. Do your best to strike a balance between the worker's need for plenty of room to do the task properly and your need to see everything the task involves.
- (ii) **Minimize distractions.** Stay out of the worker's direct line of vision. Otherwise, you may distract his or her attention from the task at hand. Do not interrupt with questions, suggestions or admonitions unless you see a serious incident or loss in the making. Try to let the person perform the whole operation without interruption. Hold questions and feedback until later for coaching.
- (iii) **Focus your attention.** You have put a lot into the planning. Get the most out of it you can. Give it your undivided attention. Be alert to subtle behaviors and the little things that might make a big difference. Whenever some aspect of performance does not fit what the procedure calls for, note it for follow up. Ask yourself whether it is as good as, poorer than or better than the generally accepted standard. However, don't allow your note taking to distract your observation. Use point form or key words rather than full sentences. Write things out as soon as possible after the observation.
- (iv) **Avoid "satisfaction of search."** This refers to the tendency to see only what one is looking for and not look any further. As a result an equally or more serious hazard may be overlooked. Do not get so caught up in recording the observation that you let workers continue to perform in a substandard way while you observe and make notes.

#### 5. **Discussing** – Whenever possible provide feedback to the worker immediately following the observation. In this feedback, attempt to complete at least these four things:

- (i) Thank the person for helping with the observation program. Explain the importance of their help for better efficiency, productivity and safety.
- (ii) Ask the worker questions and review any points necessary to make sure you understand all vital aspects of what you observed.
- (iii) Any behavior requiring corrections give on-the-spot feedback and instruction.
- (iv) For excellent behavior, give on-the-spot recognition and reinforcement.

#### 6. **Recording** - To ensure a complete observation, good performance discussions and desired documentation, some basic written information is required. The following form can help in preparing a good performance discussion; in conducting systematic follow-up; and in keeping a record of who was observed.



## COMPLETE TASK OBSERVATION RECORD

1. Name	2. Employee No.	3. Department	
4. Occupation	5. Job Observed	6. Date	7. Type of Observation (x) <input type="checkbox"/> Initial <input type="checkbox"/> Follow-up
8. Time with company	9. Time on present job		10. Notification (x) <input type="checkbox"/> Told in advance <input type="checkbox"/> Not told in advance
11. Reason for Observation (x) <input type="checkbox"/> Task/Procedure <input type="checkbox"/> Performance <input type="checkbox"/> New Employee <input type="checkbox"/> Training follow-up <input type="checkbox"/> Experienced worker <input type="checkbox"/> Accident repeater <input type="checkbox"/> other			

### TASK OBSERVATION

12. Could any of the practices or conditions observed result in a loss (injury, property damage, production loss) <input type="checkbox"/> Yes <input type="checkbox"/> No	13. Were the methods and practices observed the most efficient and productive? <input type="checkbox"/> Yes <input type="checkbox"/> No		
14. Did the practices observed comply with all of the applicable standards that exist for this task? <input type="checkbox"/> Yes <input type="checkbox"/> No	15. Could any of the practices observed have a detrimental effect upon the quality of the product? <input type="checkbox"/> Yes <input type="checkbox"/> No		
16. Describe clearly below any practices or conditions related to items above that deserve commendation or correction. <div style="border: 1px solid black; height: 100px; margin-top: 5px;"></div>			
17. Has the employee been properly complimented/and or re-instructed based on these observations? <input type="checkbox"/> Yes <input type="checkbox"/> No	18. Should a follow-up observation of this worker or task be made in the near future? <input type="checkbox"/> Yes <input type="checkbox"/> No		
19. Describe any standard procedure, method or equipment you observed that should be considered for change in the interest of safety, quality or productivity. <div style="border: 1px solid black; height: 100px; margin-top: 5px;"></div>			
20. Supervisor or Observer	21. Check No.	22. Department	
23. Follow-up action <div style="border: 1px solid black; height: 100px; margin-top: 5px;"></div>			

(Figure 2)



## COMPLETE TASK OBSERVATION RECORD

### *Sample*

1. Name <b>James Report Smith</b>	2. Employee No. <b>0645</b>	3. Department <b>Operations</b>	
4. Occupation <b>Labourer</b>	5. Job Observed <b>Use of Grinder</b>	6. Date <b>01/05/07</b>	7. Type of Observation (x) <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Follow-up
8. Time with company <b>2 weeks</b>	9. Time on present job <b>2 days</b>	10. Notification (x) <input checked="" type="checkbox"/> Told in advance <input type="checkbox"/> Not told in advance	
11. Reason for Observation (x) <input type="checkbox"/> Task/Procedure <input type="checkbox"/> Performance <input checked="" type="checkbox"/> New Employee <input type="checkbox"/> Training follow-up <input type="checkbox"/> Experienced worker <input type="checkbox"/> Accident repeater <input type="checkbox"/> other			

### TASK OBSERVATION

12. Could any of the practices or conditions observed result in a loss (injury, property damage, production loss) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Were the methods and practices observed the most efficient and productive? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
14. Did the practices observed comply with all of the applicable standards that exist for this task? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Could any of the practices observed have a detrimental effect upon the quality of the product? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
16. Describe clearly below any practices or conditions related to items above that deserve commendation or correction.		
1. Worker had performed a proper inspection of the grinder prior to operation. (Condition & proper type of stone for grinder, proper gap for tool rest, condition of electrical cord and other items noted on the checklist.)		
2. Worker did not use proper PPE. He did not put a face shield on until I stopped the work and instructed him.		
3. The worker was fully aware not to grind on the side of the stone as previously instructed.		
4. The worker demonstrated following all other safe steps in the grinding process. 5. Did an excellent job of clean up after the job was done.		
17. Has the employee been properly complimented/and or re-instructed based on these observations? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	18. Should a follow-up observation of this worker or task be made in the near future? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
19. Describe any standard procedure, method or equipment you observed that should be considered for change in the interest of safety, quality or productivity.		
20. Supervisor or Observer <b>Tom Ore</b>	21. Check No.	22. Department <b>Operations</b>
23. Follow-up action		
A follow-up observation was made on 1/12/07. Worker completed all steps of the grinding process properly and used proper PPE.		
I thanked him for his good work and encouraged him to continue it.		

(Figure 3)



Recording.....continue

Looking at the form above, items 1 through 11 provide essential information for record and reference purposes. Items 8 and 9 may also give a clue to why certain actions are observed. Items 12 through 15 reflect the basic purposes of the observation. They lie at the heart of the observation, the analysis, the performance discussion and the follow-up.

Items 16 through 18 have special significance and tie in with concepts of job pride development. It is important to remember that the task observation is not a blame fixing, fault-finding expedition. **Its purpose is to find out how well the worker performs the task.**

Hardly anyone likes paper work; however, documentation is becoming increasingly important in today's world. It provides a permanent record of the supervisor's accomplishments in the workplace and ensures proper correction before potential losses occur.

7. **Follow-up** – proper follow up is a critical component of the task observation process. Your preparing, observing, discussing and recording can be done all for nothing if you do not fully follow-up. Your follow up activity not only should ensure that things get done in a timely manner, but also should include scheduling and doing a follow up observation to verify the effectiveness of the change.

#### References:

*Practical Loss Control Leadership, Third Edition*

*National Safety Council  
Accident Prevention Manual  
Administration & Programs*





# **Job Safety Analysis**

## **JSA**

Prepared by: David Power  
Sr. Safety Coordinator  
December 19, 2006



## **Job Safety Analysis (JSA)**

### **Definition:**

A Job Safety Analysis (JSA) is a method that can be used to identify, analyze and record **1)** the steps involved in performing a specific job, **2)** the existing or potential safety and health hazards associated with each step, and **3)** the recommended action(s)/procedure(s) that will eliminate or reduce these hazards and the risk of a workplace injury or illness.

### **Hazard Types:**

The following are some hazards, but not all, that should be considered when completing a JSA:

- ◆ Impact with a falling or flying object.
- ◆ Penetration of sharp objects.
- ◆ Caught in or between a stationary/moving object.
- ◆ Falls from an elevated work platform, ladders or stairs.
- ◆ Excessive lifting, twisting, pushing, pulling, reaching, or bending.
- ◆ Exposure to vibrating power tools, excessive noise, cold or heat, or harmful levels of gases, vapors, liquids, fumes, or dusts.
- ◆ Repetitive motion.
- ◆ Electrical hazards.
- ◆ Light (optical) radiation (i.e. welding operations, etc.).
- ◆ Water (potential for drowning, hypothermia).

### **Conducting the analysis:**

1. Select jobs with the highest risk for a workplace injury or illness.
2. Select an experienced employee who is willing to be observed. Involve the employee and his/her immediate supervisor in the process.
3. Identify and record each step necessary to accomplish the task. Use an action verb (i.e. pick up, turn on) to describe each step.
4. Identify all actual or potential safety and health hazards associated with each task.
5. Determine and record the recommended action(s) or procedure(s) for performing each step that will eliminate or reduce the hazard (i.e. engineering changes, job rotation, PPE, etc.).



<b><i>JOB SAFETY ANALYSIS</i></b>	<b>JOB TITLE:</b> <b>JSA No.</b> _____		<b>DATE:</b>	<b>NEW o</b>
	Page        of			<b>REVISED o</b>
	<b>TITLE OF PERSON WHO DOES JOB:</b>	<b>SUPERVISOR:</b>	<b>ANALYSIS PERFORMED BY:</b>	
<b>ORGANIZATION:</b>	<b>LOCATION:</b>	<b>DEPARTMENT:</b>	<b>REVIEWED BY:</b>	
<b>SEQUENCE OF BASIC JOB STEPS</b>	<b>POTENTIAL HAZARDS</b>	<b>RECOMMENDED ACTION OR PROCEDURE</b>		



## Company Safety Procedures



## COMPANY SAFETY PROCEDURES

### Miramar Hope Bay Ltd.

#### Legend

#### Reference

03-001.2	Personal Protective Equipment (PPE)
03-002.2	High-Visibility Safety Apparel
03-003.2	Standard Procedure for Lockout
03-004.2	Safety Rules for Working Around or on Heavy Equipment
03-006.2	Unsafe (Red Tag) Procedure
04-007.2	Fall Hazard Protection Procedure
04-008.2	Hot Work Permit System
04-009.2	Supervisor Safety Meetings
04-010.2	Supervisor Safety Inspections
04-011.2	Confined Space Entry Procedure
04-012.2	Core Splitting/Cutting Safety Procedures
04-013.2	Operating Procedures for Salt Crushing - Boston
04-014.2	Potable Water System Maintenance Guidelines - Boston
05-015.2	Storage and Handling of Explosives
05-016.2	Drill Rig Communication
05-17.2(a)	Fire Evacuation Procedures - Windy Camp
05-17.2(b)	Fire Evacuation Procedures – Boston Camp
05-18.2	Bear Protection Procedure
05-19.2	Fire Arms Safety
06-20.2	Surface Blasting Procedure
06-21	Guidelines For Travel Outside of Camp Areas
06-22	Helicopter Safety Rules & Procedures
06-23	Incident Announcement



---

## Company Safety Procedure

Ref # 03-001.2

---

Date: December 12, 2006

Section Hope Bay Ltd.

Subject: **Personal Protective Equipment (PPE)**

### **Purpose**

The Company provides all employees with required PPE to suit the task and known hazards.

### **General Rules**

#### **Design**

All personal protective equipment shall be of safe design and construction for the work to be performed.

#### **Hazard assessment and equipment selection**

Hazard analysis procedures shall be used to assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the following actions will be taken:

- Select, and have each affected employee use, the proper PPE
- Communicate selection decisions to each affected employee
- Select PPE that properly fits each affected employee

#### **Defective and damaged equipment**

Defective or damaged personal protective equipment shall not be used, and must be reported to supervision.

#### **Training**

All employees who are required to use PPE shall be trained to know at least the following:

- When PPE is necessary;
- What PPE is necessary;
- How to properly don, remove, adjust and wear PPE;
- The limitations of the PPE;
- The proper care, maintenance, useful life and disposal of the PPE.



## **Personal Protective Equipment Selection**

### **Controlling hazards**

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound manufacturing practices.

### **Fitting the device**

Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

### **Cold Weather Protection**

It is of the utmost importance that when selecting any type of PPE for winter use, that it will protect the user from extreme freezing conditions found in the Arctic. Equipment must meet or exceed -60°C temperature ratings. This includes, but not limited to the following: helmets, coveralls, winter parkas, hand protection, and footwear.

### **Aircraft Travel**

Appropriate clothes (parka, snow pants, winter boots, hat) must be worn for winter aircraft travel in case of an emergency. Winter dress for this situation must meet or exceed -60°C protection. This requirement will be in force from the beginning of October to the end of May. No person will be permitted to board an aircraft unless they are properly dressed for the conditions.

### **Devices with adjustable features**

Adjustments should be made on an individual basis for a comfortable fit that will maintain the protective device in the proper position. Particular care should be taken in fitting devices for eye protection against dust and chemical splash to ensure that the device are sealed to the face. In addition, proper fitting of helmets is important to ensure that it will not fall off during work operations. In some cases a chin strap may be necessary to keep the helmet on an employees head.

### **Company Policy Governing the wearing of Protective Equipment**

#### **EYE AND FACE PROTECTION**

All employees, visitors and contractors, except those **in the main camp complex; in sleeping accommodations** or those working **in office areas**, must wear suitable eye protection at all times while on the job.

Any employee found on the job without wearing suitable eye protection will be required to obtain such protection immediately before being allowed to continue on the job.

Each affected employee shall use appropriate eye or face protection (safety glasses, goggles, face shield, etc.) when exposed to eye or face hazard from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical vapours, and any other eye or face hazard.

All safety glasses must have approved CSA safety lenses and fitted with side protection.

Detachable side protectors are acceptable and available from supervision.



### **Safety Helmets (including hard hats & helmets for all terrain vehicles)**

Hardhat protection is designed to provide protection from impact and penetration hazards caused by falling objects or striking against an object.

#### **General requirements**

All employees, visitors and contractors must wear a hard hat on the property at all times. Areas where protection is not required are **offices, the main camp complex and in sleeping accommodations.**

#### **Protective Helmets – All terrain vehicles (ATV's)**

All employees, visitors and contractors must wear an approved DOT (Department of Transportation) helmet while operating any ATV including snowmobiles.

### **FOOT PROTECTION**

Protective footwear is designed to provide protection from injuries caused by falling or rolling objects and accidental kicking of objects.

#### **General Requirements**

All employees, visitors and contractors shall wear protective footwear at all times. Areas where protection is not required are **offices, the main camp complex and in sleeping accommodations.**

All protective footwear must meet CSA standards and be rated for Grade I Certification to withstand a maximum impact of 125 Joules (93 foot-pounds). Leather boots must extend a minimum of 2 ½" above the top of the ankle.

### **HAND PROTECTION**

#### **General Requirements**

Hand protection is required when employee's hands are exposed to hazards, such as, those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns, and harmful temperature extremes.

#### **Selection guidelines for hand protection**

Selection of hand PPE shall be based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure.

There is no glove that provides protection against all potential hand hazards, and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how





long it can be worn, and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated; e.g., chemical hazards, cut hazards, temperature extremes, flame hazard, etc.

## **HEARING PROTECTION**

The wearing of hearing protection is an important part of any hearing conservation program.

### **General Requirements**

All employees, visitors and contractors shall wear protective hearing protection when working in environments where the noise level exceeds 80 dB.

The following types of hearing protection are available for use by all employees.

EAR – Plugs	Noise reduction rating	-29 dB
PELTOR Muff H7A	Noise reduction rating	-27 dB
PELTOR Muff H7B	Noise reduction rating	-26 dB

It is important hearing protection is worn properly and good hygiene is followed to prevent ear infection.

### **Ear Muff:**

Adjust the height of the cups so they fully enclosed the ears and the cushions exert equal pressure around the ears. It is important that the cushions seal tightly against the head. For best protection, pull your hair out from underneath the cushions as much as practical.

### **Ear Plugs:**

For maximum effectiveness, EAR plugs must be properly inserted and worn. Hands and plugs should be clean prior to use.

1. Slowly roll and compress the plug into a very thin crease-free cylinder.
2. While compressed, insert the plug well into the ear canal. Fitting the plug is easier if the outer ear is pulled outwards and upwards during insertion.
3. With fingertip, hold the plug in place until it begins to expand and block the noise.

These plugs should be discarded when they become dirty. Do not re-use dirty hearing protection.



## FALL RESTRAINT & FALL ARREST

Where there is a risk of falling more than 3 meters, engineering controls will be implemented to eliminate this risk. When this is not practical, proper fall arrest equipment shall be used.

### Definition

1. A **'fall restraint hazard environment'** is defined as an area where a worker approaches close enough to a fall hazard (i.e. where a worker must work within or pass within 2 meters of an open hole) but a lanyard or line prevents them from reaching the point where a fall could occur.
2. A **'fall arrest hazard environment'** an area where the worker can reach the fall hazard point, but if a fall occurs minimizes the effect of the fall on the worker.

### General Requirements

1. Where a worker is exposed to a 'fall restraint hazard environment' the worker will:
  - a. Use a **safety lanyard and belt** that meets or exceeds CSA Standard Z259.1-1976, Fall Arresting Safety Belts and Lanyards for the Construction and Mining Industries.
  - b. Be **properly secured** to an anchorage that is capable of supporting **four times the intended load**, with a minimum strength requirement of 364kg (800lbs).
2. Where a worker is exposed to a 'fall arrest hazard environment' the worker shall:
  - a. Wear a full body harness and fall arrest shock absorbing safety line that meets or exceeds CSA Z259.2-M1979,
  - b. Be properly secured to an anchorage capable of supporting twenty five times the intended load, with a minimum strength requirement of 2272kg (5000lbs) either by proven engineering or practical experience.
3. All equipment (lanyards, belts, body harness, and or fall arrest lines) to be used shall be inspected as per the manufacture's recommendations and instructions prior to each use (if these are not available a complete inspection shall be carried out for wear, nicks, damage, etc).
4. Lanyard or shock absorbing fall arrest lines shall be properly secured to the worker and the anchorage and a final inspection carried out immediately prior to the worker entering the hazard environment.

## RESPIRATORY PROTECTION

In certain circumstances where engineering controls and operational activities preclude compliance within exposure limit, personal respirators are provided for protection from the exposure. Respirators provide protection from exposure to air contaminants when selected, used and maintained properly.



## **General Requirements**

All employees, and contractors shall use the proper respiratory protection when working in atmospheres, which dictates their use. Some examples: cutting core, spraying with aerosol paints and working in close proximity of the incinerator.

## **Selection/Use**

Respirator selection is based on the nature of the hazard (chemical and physical properties of the contaminant); conditions of exposure (open or confined spaces and % of oxygen present); concentration of the contaminant; work activity; the individual's physical limitation and the characteristics and limitations of the respirator.

If the use of a cartridge style (half-mask or full face) respirator is required, the employee shall be fit tested prior use. This will ensure protection will be provided as intended.

When selecting a disposable type respirator, ensure it is approved for the intended application. Most disposable respirators provide protection from nuisance dust and mist only.

Where protection is required from a gas or toxic vapour, self-contained breathing apparatus with an air-supply is required. Employees who require such specialized equipment must receive training in its use and care, and must be authorized to don such apparatus under supervised conditions. During any emergency activities, use of air-supplied apparatus must follow a buddy system.

## **Medical Fitness**

Employees required to wear respirators must be medically fit and may be required to undergo a medical evaluation to ensure they are physically capable of wearing a respirator while performing their job.

## **Inspection/Maintenance/Care**

Respirators are to be inspected before and after use to insure their integrity and that they are in good working condition. Inspections are to be performed in accordance with Manufacturer's recommendation and will include: a check of the tightness of connections, and the condition of the facepiece, headbands, valves, canisters/cartridges, the pliability of rubber, and signs of deterioration.

When replacing worn or deteriorated parts, only those made specifically for the respirator are to be used.

Respirators will be cleaned and disinfected in accordance with the Manufacturer's recommendations after each use.

To ensure the integrity of the respirator and protect the respirator from damage and deterioration, respirators are to be stored in a clean and safe environment.



## **SPECIALIZED EQUIPMENT**

**Any personal protective equipment not described in this procedure will be deemed as specialized equipment.**

On occasion and depending on the type of job being performed, specialized equipment may be required. Employees required to use such equipment shall receive the proper training on its use, its limitations, proper care and maintenance.

The supervisor in charge of the employee will be responsible to ensure this training is completed prior to assigning the employee to work with it.



---

## Company Safety Procedure

Ref # 03-002.2

---

Date: December 12, 2006

Section: Hope Bay Ltd.

Subject: High-Visibility Safety Apparel

Purpose: The following procedure has been created in order to define employee responsibility with respect to wearing of high visibility safety apparel.

Section 9.51 of the Mine Regulations state:

*When working underground or in active mining area on the surface, every person shall wear reflective tape on the back and sides of protective headgear and clothing.*

### **COMPANY STANDARD:**

To conform to the NWT Mine Regulations and Canadian Standards Association (CSA) all employees must be in compliance to the following:

#### **Hard hats**

- All employees, visitors and contractors must have reflective tape attached to their hard hat at the sides and back.

#### **Clothing**

- All employees and contractors are required to wear 50mm (2") combined day time/night time reflective material attached in the form of an "X" on the back, around the waist, two stripes down the front, around the arms and legs. (see diagram 1)

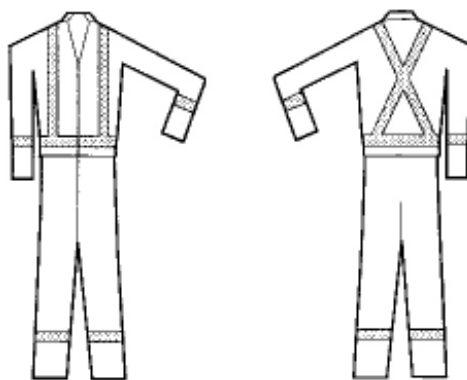


diagram 1

**EXEMPTION TO THE RULE:**

- Areas where reflective material is not required are offices, main camp complex and sleeping accommodations.
- Employees wearing bib style coveralls are required to wear 50mm (2") day time/night time reflective material in the form of an "X" on the back, around the waist, two stripes down the front, and around the legs (see diagram 2)

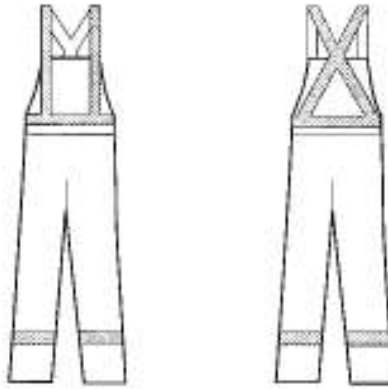


diagram 2

- All office workers, visitors and senior management visiting areas must wear as a minimum, 50mm (2") combined day time/night time reflective material in the form of an "X" on the back, two stripes at the front and around the waist. (see diagram 3)

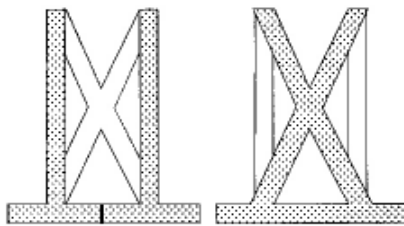


diagram 3



---

## Company Safety Procedure

Ref # 03-003.2

---

Date: December 12, 2006

Section: Hope Bay Ltd.

Subject: **Standard Procedures for Lockout**

Purpose: Every practical effort must be taken to protect personnel working on electrical lines and equipment. The source of **POWER** or **ENERGY** to the electrical lines and equipment must be interrupted and secured with a padlock or protective device before the work begins. This procedure outlines the standard method for locking out equipment and includes the use of the **DO NOT OPERATE CARD**.

Procedure:

### **STEP #1...Inspection of the area**

- Identify the piece of equipment to be locked out.
- The worker performing the lockout must ensure the equipment being shut down will not cause a hazard to anyone working in the area (i.e., ventilation hazards, flooding hazards, etc.)

### **STEP #2...Notification of Personnel**

- Notify the supervisor in charge of the area of the lockout that is to take place whether it is maintenance, an installation, testing or servicing of equipment.
- Notify the employees working in the area of the lockout prior to stoppage of equipment.

### **STEP #3...Interrupt Power**

- Turn the local control switch to the off position. **LOCAL CONTROL SWITCHES MUST NEVER BE USED FOR LOCKOUT LOCATION.**
- Ensure the **MAIN POWER SOURCE** is interrupted to prevent unexpected or inadvertent energizing and/or start up of the equipment.

**STEP #4...Secure the Main Source of Power**

- Attach your personal lockout padlock to the **MAIN POWER SOURCE** to secure it in the **OPEN/OFF** position so it cannot be closed.
- All personnel working on the equipment must install their own lock on the **MAIN POWER SOURCE** switch. The use of a safety lockout hasp may be required when more than once lock is attached to the power source switch.

**STEP #5...Install the Do Not Operate Card**

- Indicate the date, time, your name and reason for the lock out on the Do Not Operate Card and attach it to the padlock or the controls to inform anyone concerned.

**STEP #6...Control or Eliminate Residual or Secondary Energies**

- Before any work is done on the equipment, the person performing the work will be responsible for controlling or eliminating any secondary or residual energies affecting the equipment he/she has locked out. The following are some examples:
  - Block or release springs
  - Block elevated parts
  - Discharge capacitors
  - Relieve system pressures
  - Drain Fluids
  - Vent gases
  - Stop rotating flywheels
  - Allow systems to cool

**STEP #7...Confirm Zero Energy**

- Activate the equipment controls and test the lines to certify that **ZERO ENERGY** has been attained.
- When required, test circuits dead by having a Journeyman Electrician test with a voltage meter.

**STEP #8... Install The Grounds**

- Where necessary install grounds to protect against **STRAY CURRENT**, such as, lightning strikes or contact with other live lines.

**STEP #9...Removing Locks and Tags**

- (a) The **EMPLOYEE** who installs the lock and Do Not Operate Tag is the only **EMPLOYEE** permitted to **REMOVE** them.





- (b) Put the equipment back into a safe state. All guards and safety devices have been replaced; all workers are accounted for and the area is safe for operation.
- (c) When the work is completed ensure the lock or protective device, and Do Not Operate card is removed.
- (d) Test and inspect equipment for proper operation.
- (e) Equipment required to be locked out for extended periods of time, and while no work is being performed to the equipment, the supervisor in charge will ensure a shop lock replaces all personal locks. The supervisor will be responsible to maintain control over the key, or...
- (f) A Journeyman Electrician completely disconnects all electrical leads at the **MAIN SOURCE OF POWER** and at the equipment. All disconnected lines must be taped at their ends and a Do Not Operate Tag is attached to the equipment identifying its present status.

#### **STEP#10..Unathourized Removal**

- **UNAUTHORIZED REMOVAL** of lockout padlocks or Do Not Operate Tag is a **VERY SERIOUS SAFETY VIOLATION** and **ANY EMPLOYEE** performing an **UNAUTHORIZED REMOVAL** will be subject to corrective action up to and including dismissal. Only the supervisor may authorized the removal of a lock, only after every effort has been made to contact the installer of the lock and after ensuring the equipment is **SAFE** to operate.



---

## Company Safety Procedure

Ref # 03-004.2

---

Date: December 12, 2006

Section: Hope Bay Ltd.

Subject: Safety Rules for Working Around or on Heavy Mobile Equipment

Purpose: Working around heavy mobile equipment can be extremely dangerous. Too many workers are injured or killed each year when they are run over or struck by these pieces of machinery. It is important to know the safety precautions to be taken when working in the vicinity of heavy equipment, such as, front end loaders, tractors, trucks and excavators. This procedure outlines the rules governing safe work practices when working around heavy mobile equipment and rules governing the safe operation of heavy equipment by operators.

Procedure:

### Safety Rules for Working Around Heavy Mobile Equipment

- Keep clear of moving equipment. A minimum of 30 feet or greater is required.
- Never assume the operator knows where you are or what you are doing.
- If you must walk around a piece of heavy equipment, alert the operator by radio or hand signal so that he can stop the machine before you go by.
- If you are required to work in an area of heavy working equipment, ensure you are in contact with the operator at all times by radio or hand signals. **DO NOT LOSE SIGHT OF THE OPERATOR! IF YOU CAN'T SEE HIS FACE, HE CAN'T SEE YOU!**
- Always be aware of where you are and where moving equipment is at **ALL TIMES**.
- Watch out and stay clear of pinch points, earth moving equipment and cranes.
- Always stay out from under loads on cranes or hoists – even if it means taking the long way around.
- Never walk, stand or work behind a piece of equipment that is backing up.
- If a safe work zone has been established for the operating equipment, **STAY CLEAR!**
- Never walk beside moving equipment or ride on the running board or drawbar.

### Safety Rules for Heavy Mobile Equipment Operators

- Establish a “Safe Work Zone” when operating in areas where visibility is limited. Use barricades, pylons or other physical barriers to prevent unauthorized persons from entering the work area.
- When people are required to work in the area of working equipment, the operator must always have them in sight. Should the operator lose visual contact with the employee, he must stop movement immediately.



- Back up cautiously. Accidents occur more frequently when backing up. Just because you have a back up alarm on your machine, it is not safe to travel in reverse without concern for any distance. You must be still aware of your surroundings, use properly adjusted mirrors, and where possible look over your shoulder to ensure its clear. If someone ventures into the danger zone around where you are working, stop your equipment and ensure the area is clear before proceeding.
- Permit no riders. No one other than the operator should ride the equipment unless it is fitted with proper passenger seating and authorization has been granted. Riding in buckets or on equipment without proper passenger seating is **STRICTLY PROHIBITED**.
- Use extreme caution in pivot areas. Articulating equipment has very dangerous pinch points at the pivot. Operators must always check both side of the machine before moving to make sure no one is in the danger area. When performing maintenance in the area of pinch points, install proper safety bars. This will help protect you by preventing the machine from turning. Such action could crush you!
- Wear your seatbelt at all times. **IT'S THE LAW AND IT MAY SAVE YOUR LIFE.**

---

#### **Backup horns and rotating beacons**

---

- All wheeled heavy mobile equipment operating on surface must be equipped with a working back up alarm. Equipment not fitted with a working back up alarm will not be permitted to operate on the property.
- All front end loaders, forklifts and graders must be equipped with a flashing or rotating amber light, fixed to the top of the equipment where it is unobstructed from view. Equipment not fitted with a working rotating light will not be permitted to operate on the property.



---

## Company Safety Procedure

Ref # 03-006.2

---

Date: December 13, 2006

Section: Hope Bay Ltd.

Subject: Unsafe (Red Tag) Procedure

Purpose: To eliminate the use of and ensure warning of defective or unsafe equipment

Procedure:

### Pre-Operational Inspection

**10.04 (3a)** of the NWT/ Nunavut Mine Health & Safety Act and Regulations states:

A safety inspection & testing is to be conducted before the equipment or system is first used by any person on a shift to confirm the proper operation of the service brakes, emergency brakes, park brakes, retardation system, steering systems, fire extinguishers, tire pressure, lights, accumulator pressures, all fluid levels & all other safety devices.

### Tagging of Unsafe Equipment

**10.05 (a)** of the NWT /Nunavut Mine Health & Safety Act and Regulations Requires

That the equipment is to be locked or tagged out after a person has discovered a defect, fault, malfunction, or any other condition that could affect the safe operation of any equipment.

### Company Procedure

- No employee is permitted to operate tagged out equipment except for repairs, under the direction of a supervisor. The unsafe equipment tag (Red Tag) may **only** be removed by the department performing the repairs and only after the completion of repairs and sign-off of the tag.
- When an employee notices a safety defect which could make a piece of equipment unsafe to operate, he/she will fill out an unsafe tag (red tag) and place this tag on the steering or starting mechanism, or in an area which is visible to anyone approaching the equipment.
- The operator will then take the detached end of the tag to his/her supervisor. The supervisor will be responsible to ensure the necessary repairs are carried out to the equipment prior to the equipment going back into service.

Any one person who operates such a tagged piece of equipment, except for the provision of 10.05 (b) or for the purpose of maintenance and/or repair will be subject to corrective action up to including dismissal.



---

## Company Safety Procedure

Ref # 04-007.2

---

**Date:** December 13, 2006

**Section:** Hope Bay Ltd.

**Subject:** Fall Hazard Protection Procedure

**Purpose:** The following procedure has been created in order to define where the use of 'fall arresting' or 'fall (travel) restraint' equipment is required and to delineate responsibility and outline duties for all personnel involved in its use and supervision.

**Objective:** The objective of this procedure is to ensure the safety of all employees and contractors while working in or around 'fall hazard' zones throughout all areas of operations both surface and underground. Ideally, the choice of a protection system will be one that removes the risk of falling entirely.

**Training:** All personnel will receive training in the procedure by means of 'Safety Huddles' or 'Employee Orientations' and special meetings prior to performing any work within a 'fall hazard zone'.

**Definition(s):**

1. A '**fall restraint hazard zone**' is defined as an area where a worker approaches close enough to a 'fall hazard' (i.e. where a worker must work within or pass within 2 metres of an open hole) but a lanyard or line prevents them from traveling to, or reaching the point where a fall could occur (no less than one metre of the hole or opening):
2. A '**fall arrest hazard zone**' an area where the worker can reach the fall point, but if a fall occurs minimizes the effect of the fall on the worker (Note: a fall arrest system must be rigged to limit the fall of a worker to a maximum of 1.0 metres {3 feet}):
  - a. Where a worker is on a ladder up to a height of 2.4 metres (8 feet) above the next permanent safe level, where because of the nature of the work, that person is able to use only one hand to hold onto the ladder or while working on a ladder above a height of 2.4 metres,
  - b. An area where a person is exposed to the hazard of falling more than 3 metres (10 feet),



- c. Where the worker is over a pit, shaft or operating machinery or moving parts that could cause injury,
- d. Where a fall could result in drowning,
- e. Where a worker is on an unguarded structure or on a vehicle, at a height of more the 2.4 meters (8 feet) above the nearest permanent safe level,

**Procedure:**

1. Where a worker is exposed to a 'fall restraint hazard zone' the worker will wear a fall 'travel' restraint system combined of the following (as a minimum):
  - a. Use a **safety lanyard and belt** that meets or exceeds *CSA Standard Z259.1-1976, Fall Arresting Safety Belts and Lanyards for the Construction and Mining Industries*,
  - b. Be **properly secured** to an anchorage that is capable of supporting **four times the intended load**, with a minimum strength requirement of 364kg (800 lbs or 3.57 KN).
  - c. Be **properly secured** to an anchorage sited so the worker cannot pass into the 'fall arrest hazard environment' (the length of the lifeline is such that the worker can only proceed to within approximately 1 metre (3 feet) of an opening or edge).
2. Where a worker is exposed to a 'fall arrest hazard zone' the worker shall:
  - a. Wear a **full body harness and fall arrest shock absorbing safety line** that meets or exceeds *CSA Z259.2-M1979*,
  - b. Be **properly secured** to an anchorage capable of supporting **twenty five times the intended load**, with a minimum strength requirement of 2272kg (5000 lbs or 22.28 KN) either by proven engineering or practical experience.
  - c. Note: Unlike fall (travel) restraint, a fall arrest system does not prevent a fall; it reduces the chance of injury when a fall takes place.
3. All equipment (lanyards, belts, body harness' and or fall arrest lines) to be used **shall be inspected** as per the manufacturer's recommendations and instructions prior to each use (if these are not available a complete detailed inspection shall be carried out of components for wear, nicks, damage etc) and if not satisfactory the item shall be taken out of service and destroyed or rendered permanently unusable.



4. Lanyard or Shock absorbing fall arrest lines shall be ***properly secured*** to the worker and the anchorage and a final inspection of all connections and fittings shall be carried out immediately prior to the worker entering the hazard environment.
5. Note: inspections required by 'para 4' upon entering a 'fall arrest hazard zone' the inspection shall be carried out by a second competent person.
6. Note; the following are the CSA / ANSI standards that apply to fall protection as applicable to this procedure:
  - a. CSA-Z259.1-1976, Fall-Arresting Safety Belts and Lanyards for the Construction and Mining Industries,
  - b. CSA-Z259.2-M1979, Fall Arresting Devices, Personnel Lowering Devices, and Life Lines,
  - c. CSA-Z259.3-M1978, Lineman's Body Belt and Lineman's Safety Strap,
  - d. CSA-Z259.10-M90, Full Body Harnesses,
  - e. CSA-Z259.11-M92, Shock Absorbers for Personal Fall Arrest Systems,
  - f. ANSI-A14.3, Safety Requirements for Fixed Ladders,
  - g. ANSI-A10.11, Safety Nets Used During Construction, Repair, and Demolition Operations.
7. Note; several sources were used to amalgamate the information outlined in this procedure, for more information in regards to fall arrest the following resources are available:
  - a. Northwest Territories Mine Health and Safety Act,
  - b. Manitoba Labour Fall Protection Guidelines,
  - c. Vancouver General Hospital, 'Active Fall Restraint Procedure',
  - d. Canada Labour Code, Fall Protection Systems,
  - e. Petzl, Hierarchy of risk,
  - f. NIOSH, Falls from elevation,
  - g. Mines and Aggregates Safety and Health Association,
  - h. OFSWA Fall Protection Resource Guide.

***Miramar Hope Bay***



---

## Company Safety Procedure

Ref # 04-008.2

---

Date: December 13, 2006

Section: Hope Bay Ltd.

Subject: **HOT WORK PERMIT SYSTEM**

### **Purpose:**

The following procedure has been assembled in order to define responsibilities and duties of all concerned with the hot work permit system.

### **Objective:**

To develop and implement standards that will assist in the control of hazards created by welding, cutting, brazing, thawing pipes, and any other work, which involves open flame or produces heat and/or sparks.

### **Scope:**

All personnel, area supervisors and contractors involved in hot work must comply with the Company Procedure involving hot work.

### **Section II**

### **Responsibilities:**

#### **a) SENIOR MANAGEMENT AT HOPE BAY**

Will ensure that the standard for the Hot Work Permit will be complied with in all areas of operation.

Will ensure that all supervision is in compliance with the standards for hot work.

#### **b) FRONT LINE SUPERVISION**

The front line supervisor will have the responsibility of overseeing the Hot Work job.

Will ensure that the worker (s) is in compliance with the standards of the Hot Work Permit System.

#### **c) WORKER**

Will, once informed be responsible to comply with the Hot Work Permit System as it applies to the workplace in which they are working.





### **SECTION III**

#### **HOT WORK PERMIT STANDARDS**

The hot work permit standards will apply to all areas of operation.

#### **PERMIT SYSTEM PROCEDURE**

The Area Supervisor will be responsible for issuing all hot work permits for their areas of responsibility.

The supervisor reviews with the worker a checklist of precautions listed on the back of the permit.

The supervisor then identifies on the permit:

- the location of the job;
- the nature of the work;
- the identity of the person performing the work;
- the date and Permit number;
- the time the job is started

All permits are not to exceed 24 hours.

The supervisor then signs the permit.

The worker affixes the permit to a visible place in the work area. The workers responsibility begins here. He or she is responsible for conducting work within the authorized parameters and times frames. Work continues only as long as conditions remain safe and no new hazards have been introduced.

A fire watch person will be provided by the supervisor as conditions require.

The fire watch person, if required, will maintain a constant vigil during the operation (including lunch and coffee breaks) to watch for stray sparks, ignition or other fire hazards.

When the work is completed, and if the situation requires a fire watch, the person performing the hot work or the fire watch will remain at the work site for another (30) minutes carefully inspecting the work area and adjacent areas for any smoldering fires. This inspection extends to floors above and below the work area and to adjacent rooms.

The person performing the hot work or fire watch then removes the bottom portion of the permit and returns it to the Supervisor. The top section of the permit is left at the site advising all to watch for fire in the area.

The supervisor will ensure that the area is checked two to four hours later. The responsible individual retrieves the top portion of the permit and returns it to the supervisor.



---

## Company Safety Procedure

Ref # 04-009.2

---

**Date:** December 13, 2006

**Section:** Hope Bay Ltd.

**Subject:** Supervisor Safety Meetings

**Purpose:** The purpose of this procedure is to ensure that all workers are formally presented with a minimum of two safety meetings per calendar month or as often as required.

### **Responsibility:**

The front line supervision will be responsible to present the safety meeting (s) each month with all of their workers.

The site superintendent or Project's Manager or his designate will attend the supervisors meeting at his judgment. He will be responsible to review and sign each safety meeting report.

### **Procedure:**

The topics for safety meetings should be carefully selected, well in advance of the meeting. Careful selection will ensure this important time is given to critical topics rather than spur-of-the moment ideas. Selection in advance also allows more time for preparation.

**Audio and Visual Aids.** Properly used visual and audio aids help both the supervision and the workers. A good visual aid "is worth a thousand words" because it instantly and vividly portrays things that are nearly impossible to convey verbally; it saves time, creates interest, and brings variety; it adds impact and remains in the memory long after the words have been forgotten.

**Location of the meeting.** Most times safety meetings will be presented in a meeting room, lunchroom or training area. However, supervisors are not limited to these areas only. It maybe helpful to hold a meeting at a work station, or in an area where demonstration and/or inspection of equipment can be made. Using a little variety in this way will help catch the attention of the worker.

**Record of the Meeting.** The supervisor presenting the meeting will make a record of his meeting by filling out the SAFETY HUDDLE REPORT form.



---

## Company Safety Procedure

Ref # 04-010.2

---

**Date:** December 13, 2006

**Section:** Hope Bay Ltd.

**Subject:** Supervisor Safety Inspections

**Purpose:** The purpose of this procedure is to ensure that all work areas are properly inspected for hazards and substandard conditions by the supervisor in charge on a daily and monthly basis.

**Inspections:** There are two types of safety inspections required to be conducted by all front line supervisors.

1. Informal or casual inspections
2. Planned inspections

### **INFORMAL OR CASUAL INSPECTIONS**

This inspection will be conducted on a daily basis of each active work site as you make the rounds on your beat. All unsafe conditions and unsafe acts observed must be corrected in a timely manner. Notes of hazards observed and the corrections made will be noted in the shift log book. This type of inspection will continue throughout the shift as you go about your daily routine.

### **PLANNED INSPECTIONS**

Each front line supervisor will do a planned safety inspection once a month of their area of responsibility. Whatever amount of time is required to inspect your area of responsibility will be designated for solely conducting the inspections, writing a report and ensuring the necessary corrections are completed.

All planned inspections will be recorded on the accompanying document.



---

## Company Safety Procedure

Ref # 04-11.2

---

**Date:** December 13, 2006

**Section:** Hope Bay Ltd.

**Subject:** **Confined Space Entry Procedure**

**Purpose:** The following procedure has been created in order to define what constitutes a Confined Space and to delineate responsibility and outline duties for all personnel involved in entry.

**Objective:** The objective of this procedure is to *ensure the safety of all employees and contractors while working in Confined Spaces* in all areas of the Hope Bay belt.

**Training:** All personnel will receive training in the procedure by means of Safety Huddles or Employee Orientations and special meetings prior to performing any work within a Confined Space.

**Definition:** A Confined Space may be any enclosed or partially enclosed space, where access to or exit from can be restricted for many reasons.

1. A '**Confined Space**' is defined as:
  - a. Large enough and so configured that an employee can bodily enter and perform work;
  - b. Has limited or restricted means of entry or exit (i.e. tanks, agitators, thickeners, storage bins, vaults, hoppers, silos, etc.);
  - c. Is not designed for continuous employee occupancy.
2. A '**Permit Required Confined Space**' is defined as a Confined Space that has one or more of the following:
  - a. It's location meets the definition of a Confined Space;
  - b. Contains, or has a known potential to contain, a hazardous, an oxygen deficient (less than 19.5% O<sub>2</sub>), an oxygen enriched (greater than 23% O<sub>2</sub>) atmosphere and / or an accumulation of flammable vapours (in excess of 10% of LEL {lower explosive limit});
  - c. Contains material with the potential for engulfment;
  - d. Contains, or has the potential to contain a known toxic substance;
  - e. Contains or has the potential to contain a unknown toxic substance;



- f. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or a floor which slopes or tapers to a smaller cross-section;
- g. Has limited openings for personnel to enter and exit;
- h. Contains any other recognized serious safety or health hazard.

**Procedure:**

1. The supervisor or site superintendent responsible for the Confined Space will issue the required permit to the supervisor who is responsible for the entry. **PRIOR** to preparing for the entry the following **MUST** be confirmed / conducted:
  - a. Ensure the Confined Space locations are clearly identified;
  - b. Clearly describe the work to be done in the Confined Space;
  - c. Indicate the known possible hazards associated with the work to be done in the Confined Space;
  - d. Review with the Supervisor the specific precautions to be taken for the type of Confined Space to be entered;
2. **Before any work commences** within a Confined Space, a 'Confined Spaces Entry Permit' must be completed. This permit is to be reviewed by the supervisor with the workers involved with or around the entry and:
  - a. Review the entry procedure with all the personnel involved in the entry, all members involved are required to sign off on the permit;
  - b. Examine the Confined Space to ensure you have correctly identified the class that it is and all the hazards that are involved;
  - c. Drain, empty or purge the space/vessel where applicable. Follow correct "lock out" procedures, blanking, disconnecting or sealing pipes on any and all sources of substances that could enter or block entrances of or to the space. These could include, but are not restricted to, the following: water, steam, slurry, gravel, solutions, oil, gas, etc;
  - d. Disconnect, lock out and tag out all equipment or sources of power, which, if started or energized, may create a hazard;
  - e. Close off and secure all pipelines, chutes, dump points and any other openings where materials or slurries may enter or block access to the area;



- f. Establish an access and exit for all parts of the confined space to be entered, ensuring that the openings are large enough to permit entry by workers wearing safety and / or rescue equipment;
- g. Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of operations:
  - i. When testing for atmospheric hazards, test first for oxygen content, then for combustible gases and vapors and then for toxic gases and vapours;
  - ii. Refer (as required) to the American Conference of Governmental Industrial Hygienist, (ACGIH), and C.C.O.H.S. Workplace Hazardous Materials Information System, Material Safety Data Sheets (WHMIS-MSDS) for information on TLV's (Threshold limit values) and explosive and flammable information (i.e. LEL, or UEL {upper explosive limit});
  - iii. Test the air in each compartment of the confined space to ensure air quality is within safe working limits as specified for the identified hazard(s). The person doing the testing must wear approved respiratory protection (i.e. respirator, SCBA, etc) and a safety line if he / she has to enter the space to conduct tests;
  - iv. If tests exceed safe working limits, allow the auxiliary ventilation to purge the area for another 30 minutes, and then repeat the tests;
  - v. Keep a record of all air testing on the Confined Spaces Entry permit that is posted at the site;
  - vi. If safe working limits are exceeded after the second purging, the persons entering the confined space to work must wear and use a supplied air respirator along with a safety line and a harness;
  - vii. Respirator protection must be available at the work site for the designated rescuers who **must be trained** in its use **prior to** persons **entering** the space. The Safety Department will conduct this training on request.
- h. Open all ports and openings that will permit fresh air to enter without any possibility of other materials entering the area, Confined Spaces must be ventilated, purged or flushed as necessary to eliminate or control atmospheric hazards:
  - i. There must be no explosive atmosphere within the space whenever any employee is inside the space, the concentration of flammable substances shall be maintained below 20% LEL;
  - ii. The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space;



- iii. The air supply for the forced air ventilation shall be from a clean source and may not increase the hazard in the space;
- iv. The atmosphere within the space shall be periodically tested as frequently as the nature of the hazard dictates but no less than once every 60 minutes, to ensure continuous forced air ventilation is preventing the accumulation of hazardous atmosphere. These tests **SHALL** be conducted prior to re-entry into the space, i.e. coffee break, lunch breaks, shift changes, etc.
- i. Provide auxiliary lighting, if required (properly grounded);
- j. Ensure the proper personal protective equipment is available and used by the personnel entering the area including, but not restricted to, safety harness / belt attached to a lifeline. Where there is a presence of a toxic atmosphere harmful to life and or less than 19.5% oxygen, a full self contained breathing apparatus (SCBA) shall be worn;
- k. Place a guard (who is briefed and responsible to ensure there are no unintended entries) at all entrances that cannot be secured;
- l. Examine and check all compartments of the area prior to permitting any personnel to enter;
- m. Complete the entire Confined Spaces Entry Permit (supervision and workers are required to sign off) and post it in a conspicuous location at the entrance;
- n. Where applicable, thoroughly clean out the area with water. Scale and / or secure any loose material, which may fall on the personnel inside the confined space;
- o. Where the workers require a special means of entry and exit (i.e. vertical), emergency extraction equipment must be available and set up ready to use, i.e. safety harness, manual tripod hoist and breathing apparatus for rescuers as required;
- p. Where verbal communication is inadequate, radio communication must be provided to personnel involved in the entry;
- q. The person entering the Confined Space shall be attended by a designated person who:
  - i. Has been suitably trained and equipped so that he / she can initiate and, if required, carry out a rescue. The equipment shall consist of P.P.E., safety-harness, safety-line and suitable respirator or self contained breathing apparatus (depending on the hazard{s}) to be worn when entering the space.
  - ii. The attendant will have available at all times a radio to alert others in order to obtain help quickly. He / she shall be stationed at the entrance to the space;



- iii. He / she will visually check on those persons in the confined space at frequent intervals. The attendant will perform no other duties while spotting for another worker;
  - iv. *Note: As per MH&S Act 8.30 if the atmosphere tests conducted show the presence of harmful or explosive substances and it is not practicable to provide a safe, respirable atmosphere, two designated persons who meet these requirements will act as attendants.*
  - r. Supervisors and employees alike must be aware and be prepared to address or develop specific procedures for each Confined Space entry location. If required contact the Safety Department for assistance. The specifics of the work being performed can require that additional precautions, procedures or changes be required as work progresses.
- 3. Performing hot work such as oxygen acetylene cutting and burning or welding in confined spaces may produce dangerous or even lethal amounts of toxic fumes. Breathing apparatus could be required to be worn at all times while performing hot work and the space must be ventilated or purged and the atmosphere tested, for 30 minutes before work can resume without a breathing apparatus.
  - 4. Ensure all persons performing hot work or assisting in the space, are aware of the specific toxic gas hazards created in the confined space by the hot work.
  - 5. When hot work is to be carried out in addition to the above precautions the area must be wet down prior to the hot work being performed and a pressurized fire hose along with a fire extinguisher must be at the work site. Whenever the hot work is finished or the area is left unattended, it must be wet down and inspected for traces of fire in accordance with the “hot work permit”.





CONFINED SPACE ENTRY PERMIT									
<b>GENERAL INFORMATION</b>									
Space to be entered:					Purpose of Entry:				
Location/Building:					Authorized duration of Permit:				
<b>PERMIT SPACE HAZARDS</b> (Indicate specific hazards with initials) <input type="checkbox"/> Oxygen deficiency (less than 19.5%) <input type="checkbox"/> Oxygen enrichment (greater than 23.5%) <input type="checkbox"/> Flammable gases or vapors (greater than 10% of LFL) <input type="checkbox"/> Airborne combustible dust (meets or exceeds LFL) <input type="checkbox"/> Toxic gases or vapors (greater than PEL) <input type="checkbox"/> Mechanical hazards <input type="checkbox"/> Electrical shock <input type="checkbox"/> Materials harmful to skin <input type="checkbox"/> Engulfment <input type="checkbox"/> Other					<b>EQUIPMENT REQUIRED FOR ENTRY AND WORK</b> Specify as required: Personal Protective Equipment: _____ Respiratory Protection: _____ Atmospheric Testing/Monitoring: _____ Rescue Equipment: _____ Other: _____				
<b>PREPARATION FOR ENTRY</b> (Check after steps have been taken) <input type="checkbox"/> Notification of affected departments of service interruption. <input type="checkbox"/> Isolation Methods: <input type="checkbox"/> Lockout/Tagout <input type="checkbox"/> Blank/Blind <input type="checkbox"/> Purge/Clean <input type="checkbox"/> Inert <input type="checkbox"/> Ventilate <input type="checkbox"/> Atmospheric Test <input type="checkbox"/> Barriers <input type="checkbox"/> Other <input type="checkbox"/> Personnel Awareness: <input type="checkbox"/> Pre-entry briefing on specific hazards and control methods <input type="checkbox"/> Notify contractors of permit and hazard conditions <input type="checkbox"/> Other <input type="checkbox"/> Additional Permits required and/or attached: <input type="checkbox"/> Hotwork <input type="checkbox"/> Line Breaking <input type="checkbox"/> Other					<b>COMMUNICATION PROCEDURES</b> To be used by attendants and entrants:     <b>AUTHORIZED ENTRANTS</b> (List by name or attach roster)    <b>AUTHORIZED ATTENDANTS</b> (List by name)				
<b>TESTING RECORD</b>									
	Acceptable Conditions	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM	Result AM/PM
Date									
Oxygen-min	> 19.5%								
Oxygen-max	< 23.5%								
Flammability	< 10% LEL/LFL								
H <sub>2</sub> S	< 10 ppm								
Toxic (Specify)									
Cl <sub>2</sub>	< 0.5 ppm								
CO	< 35 ppm								
SO <sub>2</sub>	< 2 ppm								
Heat	°F / °C								
Other									
Tester Initials									
<b>EMPLOYEE:</b> I, _____ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed. <b>SIGNATURE:</b> _____ <b>DATE:</b> _____									
<b>EMPLOYEE:</b> I, _____ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed. <b>SIGNATURE:</b> _____ <b>DATE:</b> _____									
<b>EMPLOYEE:</b> I, _____ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed. <b>SIGNATURE:</b> _____ <b>DATE:</b> _____									
<b>SUPERVISOR:</b> I, _____ understand the nature and extent of the work and precautions to be followed and I will ensure that the proper procedures are followed. <b>SIGNATURE:</b> _____ <b>DATE:</b> _____									



---

## Company Safety Procedure

Ref # 04-012.2

---

Date: December 13, 2006

Section: Hope Bay Ltd.

Subject: Core Splitting /Cutting Safety Procedures

Purpose: To ensure the safety of all personnel involved with core cutting /splitting operations.

### **Protective Clothing:**

As a minimum, the following protective clothing must be worn at all times while cutting /splitting core.

- Hearing Protection
- Safety Glasses
- Cartridge Respirator
- Rubber Gloves

### **Inspection of Equipment:**

Prior to starting the saw, the operator must perform the following checks of the equipment:

- Equipment must be shut down and locked out prior to commencing inspection.
- Check saw Blade for cracks, nicks, and broken teeth. Cutting blades must be changed if there is any sign of defects. During normal operations, blades are usually changed once per week.
- Check to ensure the cutting blade is tightly secured to the saw.
- Check condition of saw and motor for any sign of damage.
- Check plexi-glass to ensure it's secured to the protective box.
- Plexi-glass must be clean prior to starting the saw. It maybe required during the cutting operation to stop and clean the plexi-glass as often as required. You must be capable of seeing where your hands are positioned in relation to the location of the saw blades at all times. Remember to lock out the equipment before placing your hands inside the saw box.
- Inspection door must be closed at all times during operation of the saw.
- Equipment shall not be operated if there are any defects.
- Equipment must be shut down and locked out during any repairs, service, inspection or installation.



### Operating Procedures:

- Turn saw on.
- Place core on the core cutting slide.
- Push the bottom tray forward with enough pressure to cut the core in a continuous motion. ALWAYS BE ALERT TO WHERE YOUR HANDS ARE POSITIONED AND BE PREPARED FOR THE UNEXPECTED.



- Hands are kept free of the blade.
- For cutting core horizontal to the direction the tray is being pushed, the operator may be required to hold the core to prevent it from moving. In this case the operator must be extra careful to ensure his hands do not come in contact with the saw blade.
- Ensure you have good forward visibility and can see your hands at all times.

**NEVER USE DEFECTIVE EQUIPMENT AND LOCKOUT WHEN REQUIRED.**



---

## Company Safety Procedure

Ref # 04-013.2

---

Date: December 13, 2006

Section: Hope Bay (Boston)

Subject: Operating Procedure for Salt Crushing

Purpose: To ensure the safety of all personnel involved with crushing salt

Protective Gear: Hard hat, Rubber boots, Rubber gloves, respirator, slicker suit, and goggles

Procedure:

- Prior to starting, ensure the crusher is properly locked out.
- Walk around the outside of the structure and visually inspect the crusher.
- Climb the ladder to the structure
- Make sure the power is off and the emergency stop button is pushed in.
- Walk around the Crusher and visually check for loose bolts.
- Check belt for cracks and tightness.
- Ensure the area is clear of personnel.
- Remove the lockout device.
- Turn breaker to the "on" position...Stand on the hinge side of the starter.
- Release the emergency button by turning it clockwise.
- Call out "CLEAR".
- Press the start button, holding it until the pressure gauge reaches 15 lbs.
- Crusher is now running.
- Put on a safety belt. This will prevent you from accidentally stepping off the edge.
- Open a bag of hard salt. Make sure that the person that is bagging is ready to receive the salt.
- Carefully load the salt into the crusher until the bag is empty.
- Do not start another bag until the person bagging is ready to receive the next bag.

### SHUT DOWN OF CRUSHER

- Make sure that all the salt is crushed and the hopper is empty.
- Push the emergency stop.
- Shut off disconnect on starter.
- Put on the lockout device.



### SALT BAGGING PROCEDURE

- Perform a walk-around visual inspection of the crusher.
- Make sure all your material is handy:
  - Bags
  - Tyrap
  - Markers
  - Empty Pallet
  - Shrink Wrap
- Place bag under chute
- Let the operator know you are ready.
- When salt is in the bag put tyrap around the neck of the bag.
- Mark on bag if calcium or sodium.
- Put bag on pallet.
- 30 bags per pallet.
- Shrink wrap the pallet.
- Mark on pallet 30 bags.



---

## Company Safety Procedure

Ref # 04-014.2

---

Date: December 13, 2006  
Section: Hope Bay Ltd. (Boston)  
Subject: Potable water system maintenance guideline

### **Camp Start-up**

On start up of the camp the potable water in the holding tank should be treated with 0.4 ppm of regular unscented bleach. Once the tank is full the water should be run through all taps inside and outside until the bleach can be smelt. This should be an easy process as there should have been no water in the system.

#### **(0.4 ppm =6 oz bleach/ 500 gallons of water)**

The bleach should be allowed to remain in the lines for a min of 24 hours. This will ensure that any bacteria that may have developed over the course of the shutdown will be killed off.

This water is safe to use for showering but precautions should be taken for drinking, brushing teeth, cleaning dishes and cooking until a water sample has been taken and a good result has returned from the Stanton Lab.

All filters must be changed out.

New UV lights must be put into the system.

### **Monthly Maintenance**

In accordance with our water license, a water sample must be taken from the kitchen tap once a month and sent to Stanton Lab for analysis. The process must be strictly adhered too in order to ensure a good sample.

All filters must be changed out. (Boston Camp uses 0.35 micron filters – see file)

UV light must be inspected to ensure they are functioning and that they are not covered by water stains, dirt or any other material that would render them useless. If the light is impeded in any way, the bulbs must be changed out.

### **Camp Shut-down**

When shutting down the camp – the water tank must be completely drained of all water and sand/sediment. In order to achieve this, a sump pump will be required to drain the last 6-12 inches of water as this water is below the drainage spout.



The removal of all sediment/sand at the bottom of the tank is extremely important as this will be a safe haven for bacteria to grow.

Ensure that there are enough filters and UV lights available for start-up of the camp.

#### **Filter Information**

The Boston camp system uses Harmsco 801-0.35 Specialty Cartridges.

We purchase them from: Terasen in Edmonton, Ab Ph: 780-465-0251

The cost is approx. \$11.45 ea. We order them by a case of 24.

#### **UV light information**

These lights are not always readily available. Pre-Planning is required when placing an order for these.

We use a GE Germicidal lamp, Description No: G30T8, Product Code: 11080.

#### **NOTES:**

***Windy Camp does not have the same system. There parts will not fit the system at Boston Camp.***

***All information in regards to these parts are in the water system file folder at Boston.***

***Lab sample procedures and requisitions are in the water sample folder at Boston.***



---

## Company Safety Procedure

Ref # 05-015.2

---

Date: December 13, 2006

Section: Hope Bay Ltd.

Subject: **Storage and Handling of Explosives**

Purpose: To ensure compliance with the storage and handling of explosives

Definitions:

“blasting agent” includes any ammonia nitrate-fuel oil mixture, emulsion, slurry or water gel or other relatively insensitive, ammonium nitrate explosive;

“detonator” means a blasting cap or other like device used to detonate explosives;

“explosive” means any chemical compound or mechanical mixture which by fire, friction, impact, percussion, or detonation may cause a sudden release of gases of such pressure as to be capable of producing destructive effects in adjacent objects, or of destroying life and limb;

“Magazine” means a building, place or structure on the surface or underground in respect of which a permit to store explosives or detonators has been issued;

### Procedure:

#### **Explosive Magazines**

1. All explosive magazines must meet the requirements of regulations and standards made under the Canadian Explosives Act.
2. Before putting an explosives magazine into service, a permit must be issued from the chief mines inspector.
3. A copy of the explosives magazine permit must be posted inside the magazine.
4. An explosive magazine will cease to be used if the conditions under which the explosive magazine permit was issued no longer exist.
5. The storage site for an explosive magazine must be in accordance with the Quantity-Distance Table for Blasting Explosives.





6. There shall be “NO SMOKING OR OPEN FLAME” signs posted at all approaches to a magazine.
7. No person shall be permitted to smoke, take an open flame or produce sparks within 20 m of any place where explosives are stored or handled.
8. Explosives shall be kept in a magazine with “DANGER EXPLOSIVES” signs conspicuously posted at all approaches to the magazine and on each side of the magazine.
9. All explosive magazines shall be kept locked at all times except when an authorized person is present.
10. All explosive magazines shall be kept clean, dry and free from grit at all times and any spillage shall be cleaned up immediately. Where necessary, the shelves and floors shall be treated with a suitable neutralizing agent to remove all traces of explosive substances.
11. A weekly inspection will be conducted of each explosive magazine by an authorized person and the results of the inspection shall be recorded in a log book.
12. A record shall be kept of all explosives issued and received and the inventory of the magazine in a log book, and all entries shall be signed by an authorized person.
13. Explosives stored in a magazine shall be arranged in a tidy and organized manner.
14. The explosive magazine shall not contain any exposed iron or steel except in fixtures.
15. Any electrical installation within or around an explosive magazine shall be in strict accordance with the Mine Health and Safety Regulations.
16. Any heating installation within or around an explosive magazine shall be in strict accordance with the Mine Health and Safety Regulations.
17. All metal parts of a magazine or area where explosives are prepared such as framing, cladding, piping, cable armour and any electrical components shall be permanently bonded to ground in accordance with the requirements of Mine Health and Safety Regulations.
18. The ground surrounding a magazine must be kept free of all brush, timber or other combustible material for a distance of not less than 20 m from the magazine.
19. All magazines shall be so located or protected as to prevent damage by accidental impact from vehicles or falling objects.



### **Careless Acts & Prohibitions**

1. No person shall commit a careless act with explosives or detonators.
2. A person who discovers that a careless act has been committed involving explosives or detonators shall report the incident without delay to his or her supervisor, who shall report the matter without delay to the General Manager, Northern Operations.
3. The manager shall immediately upon notification make a verbal report of a careless act involving explosives or detonators to the Chief Inspector of Mines, and shall provide a written report within 24 hours of the incident.
4. No person shall possess any explosives or detonators except as required in the performance of his or her duties at the time.
5. No person shall remove, or be permitted to remove, explosives or detonators from a worksite without a specific written authorization given by the General Manager, Northern Operations in respect to each occurrence.
6. No explosive or detonator shall be abandoned, but it shall be moved to a suitable storage place or disposed of in accordance with the manufacturer's recommendations or in a recognized and safe manner.
7. Cases or bags of explosives or individual cartridges shall not be dropped, thrown or dragged across another surface.
8. A detonator or an explosive shall not be carried in the pocket of a worker's clothing.

### **Handling of Explosives**

1. The handling and movement of explosives and detonators shall be done under the supervision of a qualified supervisor.
2. Only implements made of non-sparking material shall be used to open boxes containing nitro-glycerine explosives.
3. An explosive shall not be placed near an open flame, naked light, open fire, open heating unit or any other substance or thing likely to cause an explosion or a fire.
4. All employees handling explosives will be required to use personal protective equipment to protect them from accidental contact with blasting agents. This includes, but not limited to eye protection, rubber gloves, long sleeve coveralls and steel toe boots.



5. Any person who discovers explosives he or she believes to be defective shall report them without delay to the supervisor in charge. The supervisor without delay shall report the defective explosives to the General Manager, Northern Operations who will be required to make a report to Mines Inspection Branch as per the Mine Health and Safety Regulations.
6. A deteriorated explosive as evidenced by damage to the cartridge or by exudation therefrom, or by a soft, mushy cartridge which has an oily or greasy appearance shall not be used in any blasting operation.
7. Safety fuse, otherwise known as tape fuse, shall be permitted on any of Miramar sites.
8. The thawing of frozen explosives shall be done in accordance with the manufacturer's recommendations, but in no case shall such thawing be done near an open fire or a steam boiler or by direct contact with steam or hot water.

#### **Electrical Storms**

1. During an electrical storm or if an electrical storm appears imminent, all work around explosives will cease and all employee's will be evacuated to a safe distance.

#### **Transportation of Explosives and Detonators**

The transportation of explosives and detonators shall be performed in strict accordance with the Mine Health and Safety Regulations. (Refer to section 14.29)

#### **Caveat**

These procedures have been written only for the purpose of storage, movement and handling of explosives and detonators. These procedures do not cover preparing of explosives, drilling, loading and priming, firing, boot legs, mis-fire or missed-holes. For more information, please refer to the Mine Health and Safety Act and Regulations.



---

## Company Safety Procedure

Ref # 05-016.2

---

Date: December 13, 2006

Section: Hope Bay Ltd.

Subject: Drill Rig Communication

Purpose: Due to the inherent dangers of working at a drill rig, special consideration must be given for communication between the drill rig and the main camp.

Procedure:

### DRILL SITES

1. Each drill will have as their primary source of communication a base station radio (25 watt) installed in each drill rig, capable of making contact with the main camp, in the event of an emergency. The radio must be tuned to the same frequency as the medic at camp.
2. At the start of each shift the driller in charge of the drill rig will test his radio to ensure that it is fully operational. Any problems with the radio must be reported to the Drill Supervisor as soon as possible to have the appropriate repairs completed or a replacement radio made available.
3. All antennas installed for each drill must be set high enough to account for distances between the drill rig and camp and any terrain interferes. Also, to ensure maximum efficiency each antenna must be installed vertically and 1.5 to 2 feet away from the drill rig structure.
4. Each drill rig will have a secondary form of communication in the event of a failure of the primary radio system. This secondary form of communication must be in place before any drilling commences.
5. If two drill rigs are working within close proximity to one another and within range of a hand-held radio or Walkie-Talkie (some of these have a range of +5km), this will be accepted as a form of secondary communication. Should one of the drill rigs primary radio communications fail, they will be able to contact the other drill for assistance.
6. If a drill rig is working alone, out of range of a Walkie-Talkie or hand held radio, then another form of secondary communication must be implemented. This can be accomplished with the use of a second base station radio (25 watt) or satellite phone.
7. If a radio is being used as a secondary form of communication, it must be tuned to the same frequency as the medic at camp.
8. All secondary forms of communications must be inspected and tested each shift by the driller in charge of the drill rig to ensure proper operation of the equipment. Any problems with the radio or satellite phone must be reported to the Drill Supervisor as soon as possible to have the appropriate repairs or replacements made.
9. Each satellite phone will be accompanied by an accurate and up to date list of phone number for the camp.



### Caveat

All other persons travelling to remote locations away from the camp will follow the procedures set out in the Orientation Program and Employee Hand Book, including mandatory itineraries, radio and satellite communications. **Please refer to pages 16 & 17 of the Employee Hand Book.**



---

## Company Safety Procedure

Ref # 05-17.2 (a)

---

Revision Date: December 13, 2006

Section: Hope Bay – **WINDY CAMP**

Subject: **FIRE EVACUATION PROCEDURES**

Purpose: The following procedure has been assembled in order to define responsibilities of all personnel at the Windy Camp in the event of a fire.

### IN THE EVENT OF A FIRE

- If the fire is small, extinguish using fire extinguisher, and turn off any source of fuel such as propane or stove oil. **DO NOT PUT YOURSELF AT RISK and ALWAYS KEEP AN EXIT AT YOUR BACK FOR SAFE RETREAT.**
- If the fire is NOT controllable with a fire extinguisher and the camp is threatened, initiate the following:
  - **REMAIN CALM - Alert the camp by initiating the camp fire sirens & air horns.** The push button for the sirens is located in the main camp complex by the front and back exits.
  - Everyone in their tents will ensure all warm clothing (winter boots, parka's, gloves, etc) is taken with them during the cold months.
  - Alert fellow workers in the area to evacuate.
  - Everyone shall immediately go to the Emergency Shelter located south of the main camp.
  - Do not pass through smoke.
  - Feel all doors before you open them – if they are hot to the touch, use another route.
  - Close (but do not lock) all doors behind you as you leave the area.
  - The Site Supervisor will provide all supervision on site with an up to date list of personnel at the camp.
  - Each supervisor will be responsible for accounting for all of their staff and reporting back to the Site Supervisor.
  - A final count of all personnel will be made by the Site Supervisor to account for all on site.
  - Sufficient quantity of emergency equipment will be kept and maintained at this facility in good condition. This includes, but not limited to the following: sleeping bags, blankets, food, water, first aid supplies, emergency communication, and flashlights.



## LOCATION OF FIRE FIGHTING EQUIPMENT

- Fire extinguishers are located in each structure or tent, usually near the door. In addition, extra extinguishers are located in particularly hazardous areas such as the kitchen section of the dinning area. All equipment is clearly marked with signs indicating its location.
- Fire extinguishers will be inspected monthly.

## FIRE EXTINGUISHER OPERATION

### **Know where they are!**

Operating instructions for cartridge operated Dry Chemical Extinguishers.

1. Remove Ring Pin.
2. Remove hose from clamp.
3. Push down lever (this pressurizes the extinguisher and you should hear a “hissing” sound).
4. Squeeze nozzle (open nozzle fully – do not throttle the nozzle).
5. Direct stream at base of flames, sweeping stream rapidly side to side. (Advance slowly while sweeping flames and overlap the fire area. Keep wind and drafts at your back.) Never turn your back on the fire.

Operating instructions for Carbon Dioxide (Co2) Fire Extinguishers.  
Predominantly used on electrical fires.

1. Remove Ring Pin.
2. Remove hose from clamp
3. Squeeze trigger.
4. Direct stream at base of flames sweeping rapidly side to side. (This extinguisher is a gas type and is not very effective where wind or drafts are present.) Do not spray yourself or others as this will cause severe freezing.

## SMOKING

- The Company NO SMOKING POLICY will be adhered to at all times.
- Smoking is not permitted near the fuel storage areas, or near any propane installations. If you smoke, please ensure butts are disposed off in their proper containers.
- Smoking is not permitted within 100 feet of any aircraft.



---

## Company Safety Procedure

Ref #05.17.2(b)

---

Revision Date: December 13, 2006

Section: Hope Bay Ltd. – **BOSTON CAMP**

Subject: **FIRE EVACUATION PROCEDURES**

Purpose: The following procedure has been assembled in order to define responsibilities of all personnel at the Windy Camp in the event of a fire.

### IN THE EVENT OF A FIRE

- If the fire is small, extinguish using fire extinguisher, and turn off any source of fuel such as propane or stove oil. **DO NOT PUT YOURSELF AT RISK and ALWAYS KEEP AN EXIT AT YOUR BACK FOR SAFE RETREAT.**
- If the fire is NOT controllable with a fire extinguisher and the camp is threatened, initiate the following:
  - **REMAIN CALM - Alert the camp by initiating the camp fire alarm & air horns.** There fire pull stations located in the main camp hallways.
  - Everyone in their room will ensure all warm clothing (winter boots, parka's, gloves, etc) is taken with them during the cold months.
  - Alert fellow workers in the area to evacuate.
  - Everyone shall immediately go to the Emergency Shelter located in the large erection tent.
  - Do not pass through smoke.
  - Feel all doors before you open them – if they are hot to the touch, use another route.
  - Close (but do not lock) all doors behind you as you leave the area.
  - The Site Supervisor will provide all supervision on site with an up to date list of personnel at the camp.
  - Each supervisor will be responsible for accounting for all of their staff and reporting back to the Site Supervisor.
  - A final count of all personnel will be made by the Site Supervisor to account for all on site.
  - Sufficient quantity of emergency equipment will be kept and maintained at this facility in good condition. This includes, but not limited to the following: sleeping bags, blankets, food, water, first aid supplies, emergency communication, and flashlights.





## LOCATION OF FIRE FIGHTING EQUIPMENT

- Fire extinguishers are located in each structure or tent, usually near the door. In addition, extra extinguishers are located in particularly hazardous areas such as the kitchen section of the dining area. All equipment is clearly marked with signs indicating its location.
- Fire extinguishers will be inspected monthly.

## FIRE EXTINGUISHER OPERATION

### **Know where they are!**

Operating instructions for cartridge operated Dry Chemical Extinguishers.

1. Remove Ring Pin.
2. Remove hose from clamp.
3. Push down lever (this pressurizes the extinguisher and you should hear a “hissing” sound).
4. Squeeze nozzle (open nozzle fully – do not throttle the nozzle).
5. Direct stream at base of flames, sweeping stream rapidly side to side. (Advance slowly while sweeping flames and overlap the fire area. Keep wind and drafts at your back.) Never turn your back on the fire.

Operating instructions for Carbon Dioxide (Co2) Fire Extinguishers.

Predominantly used on electrical fires.

1. Remove Ring Pin.
2. Remove hose from clamp
3. Squeeze trigger.
4. Direct stream at base of flames sweeping rapidly side to side. (This extinguisher is a gas type and is not very effective where wind or drafts are present.) Do not spray yourself or others as this will cause severe freezing.

## SMOKING

- The Company NO SMOKING POLICY will be adhered to at all times.
- Smoking is not permitted near the fuel storage areas, or near any propane installations. If you smoke, please ensure butts are disposed off in their proper containers.
- Smoking is not permitted within 100 feet of any aircraft.



---

## Company Safety Procedure

Ref # 05-18.2

---

Date: December 13, 2006

Section: Hope Bay Ltd.

Subject: **Bear Protection**

Purpose: Due to the inherent dangers of working in bear country, the following information is to assist employees in knowing what to do in the event of a bear encounter. All employees and contractors working in the belt must review this important information in order to safe-guard themselves against a bear attack.

---

### Grizzly Bear Physical Characteristics:

**Color:** Black, brown, cinnamon or blonde. Their fur is often white-tipped or frosted on the body with darker legs, which gives them a “grizzled look”; hence the name Grizzly Bear.

**Size:** The adult male grizzly can reach up to 550 kg or 1400 lbs, females can reach up to 450 kg or 1100 lbs. The males are almost twice as large as the females. Most males weigh 250 – 300 kg and the females are about half that size.

**Stature:** Grizzly bears are the larger of the two species. Kodiak Bears are a sub-species of the Grizzly Bear and are larger than Grizzly Bears.

**Facial Features:** Grizzly bears have a dish-face with proportionally smaller ears. Grizzly bears have a blind spot and must turn their head to view you because their face is flatter.

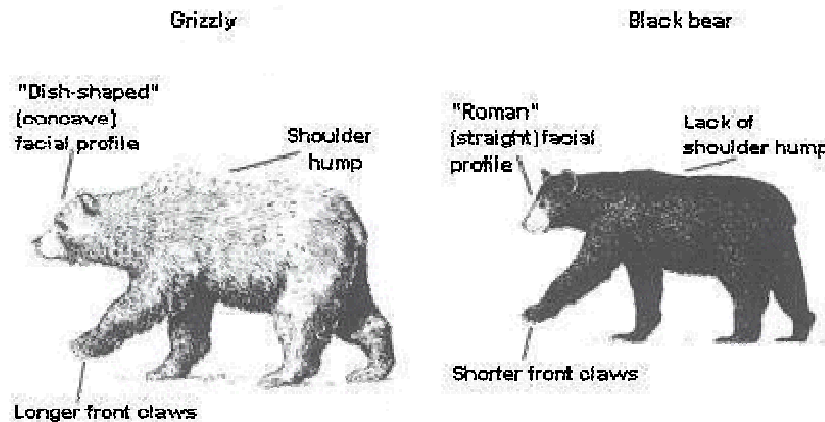
**Senses:** Excellent sense of smell. Grizzlies use their sense of smell to locate food. A grizzly’s eyesight and hearing are equivalent to humans; they rely on their sense of smell more than their other senses.

**Body Features:** Grizzly bears have very long claws which are useful for digging. Their claws are about as long as human fingers. Grizzly bears have a pronounced shoulder hump. This prominent hump over the shoulders is formed by the muscles of its massive forelegs and aids in digging for food. (Polar bears also have this shoulder hump.)

**Speed and Agility:** Grizzly bears can run up to 40 km/h and are agile runners both up and down hills. (40 km/h is as fast as an Olympic runner. If you cannot outrun an Olympic runner, you will not be able to outrun a grizzly or a black bear.) Grizzly bears are excellent swimmers. You cannot out-swim a bear!



## How to distinguish between a Grizzly and a Black Bear



### Bear Signs:

When you are in the field you need to be aware of your surroundings at all times and be able to recognize bear signs. If there is evidence of a bear in the area, you may need to change your course of direction or leave the area all together.

Some bear signs are:

- **Fresh tracks:** It is often better to see the bear's tracks than to see the actual bear. If you can tell the direction that the bear is traveling in, it is prudent to change your course of direction. Bears will travel down the same pathways as people or other large animals use. If you have a clear track you can determine which type of bear has passed through the area. If you see more than one track, you can tell that it is possibly a female with cubs. **Avoid females with cubs!**
- **Scat:** Bear scat will look different depending upon the bear's diet. Close examination of bear scat can sometimes give you an indication of what the bears have been eating at that time of year. If the scat contains remnants of human garbage, there is a human food conditioned bear in the area. These bears can/will associate people with food and can be the most dangerous type of bear to encounter.
- **Animal carcasses:** IF YOU COME ACROSS A CARCASS, LEAVE THE AREA IMMEDIATELY. Grizzly bears will often cover their kills for a few days and let it rot, then come back and eat it. THE BEAR WILL STAY CLOSE BY. Grizzly bears will defend their kill and this is a situation that will prompt a defensive attack by a bear.
- **Evidence of Digging:** Holes dug into the ground are often made by grizzly bears digging for roots or ground squirrels. Grizzlies will dig for food in the early spring when they first leave their dens.
- **Daybeds:** Bears will be most active in the early morning and in the evening. During the heat of the day, bears will rest in daybeds. These can be shallow depressions of piled up leaves in the forest, trampled vegetation, a shallow scrape or a hole. Daybeds are usually located in cool places. Bears will make daybeds along streams and rivers. Daybeds are often associated with feeding places and therefore should be avoided.

### Bear Behaviours:

Understanding a bear's behaviour is important for your safety in the field. When you understand a bear's general behaviour pattern, you can reduce bear/human incidences in the field.

- Bears are always actively seeking food from the time they den-out to the time they den-in.
- Bears are large and powerful animals and should be avoided when you are in the field.
- Bears are solitary animals except when they come together to mate or a female with cubs. Stay away from mating bears, the male will be very aggressive.



- Female bears, especially grizzlies, will attack to protect their cubs. Never get between a female bear and her cubs. If you see cubs, the mother will be nearby – leave the area quietly from the same direction you were traveling from.
- Whenever bears encounter humans they will react and exhibit similar behavioural patterns as they would if they had encountered another bear. (This will become more evident to you when you watch the video “Staying Safe in Bear Country: A behavioral-based Approach to Reducing Risk” by Magic Lantern Communications Ltd. This video is available from the site supervisors.
- Bears are creatures of opportunity; if you provide them with a food source, they will take it.
- Bears are curious creatures, especially young bears. All bear/human encounters should be negative for the bear, never provide a bear with food. Negative encounters will teach a young bear to recognize the human scent and to avoid humans. (This is a good thing for the bear!)
- Some bears will be more aggressive than others.
- Bears can get stressed. A stressed bear will show signs of stress and you should recognize these signs and back away from the area slowly. Most bears will give you an opportunity to back away.
- Bears will usually avoid humans.

Bears have a dominance hierarchy and people DO NOT fit into the bear’s scheme or order of hierarchy. A bear’s age, gender, reproductive status and their individual temperament will influence a bear’s position in the dominance hierarchy. Dominance is maintained by ritualized threat encounters which may occur when; one bear comes too close to another, when two bears are competing for a choice fishing spot or when two strange bears meet for the first time. The bears do not attack one another, but use dominance signals such as: posture and orientation such as turning sideways to display their size to the other bear, movements, false charges, head-tilt positions and facial expressions. Many times, the new bear will back away and will not challenge the dominant bear. Bears are extremely tolerant of one another and will offer this same tolerance to humans. Humans must learn to recognize and read the signals that the bears are displaying.

The following is the dominance hierarchy of bears:

- Dominant male – usually an older, larger male
- Female with cubs
- Female without cubs

Sub-adults. Adolescent bears, (2 to 3 year old bears), are involved in most human/bear encounters. The young bears will have more encounters with humans because they are:

1. curious
2. they are sometimes not able to forage for sufficient food, so they become very opportunistic and seek human food.

Make sure that these bears have a negative encounter when they interact with humans so they will learn to avoid humans. (Negative encounter = NO FOOD = no reason to continue to seek out humans.)

## **Bear’s Reaction to Human Encounters:**

It is impossible to predict exactly how a bear will react to you in an encounter because each bear will react differently depending upon their previous encounters with humans. The bear will however, display the same signs as it would if it had encountered another bear. The possible behaviors are:

- The bear will flee.
- Charge or bluff charge. (Bluff charge – bear will veer off before connecting with you)



- Remain stationary and try to pick up your scent by sniffing the air. (Bears rely most on their sense of smell.) The bear is trying to identify what you are. The bear may swing its head from side to side to catch your scent or stand on its hind legs. (Bears stand on their hind legs when they are collecting information – a bear on its hind legs is not in a charging position.) The bear may then run away and/or exhibiting the following signs:
  - Growling, huffing, hissing or panting.
  - The bear will look directly at you; possibly with its head lowered with ears laid back on the head. (This is a bear's attack position!)
  - The bear may turn sideways to display its size.
  - May walk around with stiffened front legs.
  - The bear may bluff charge and may veer off before making contact or stop within 4 –5 feet.
  - The bear may slap one or both feet on the ground or swat nearby vegetation in a show of dominance.
  - The bear may rapidly opening and close its mouth; this is referred to as jaw popping.

**The purposes of the above displays are to establish the bear's dominance without fighting.**

## **Defensive Interactions:**

A defensive bear will exhibit the above signs of stress. They feel threatened by you and may be defending either a food source or young cubs, or are trying to establish dominance in their territory. Bears have a personal space around them and when you crowd their personal space they will defend themselves. It may be possible that you have surprised a bear and came too close to the bear without the bear knowing you were there. This could happen in areas where there are loud natural noises that would mask any noises you made while traveling. Wind direction may have taken your scent away from the bear. A defensive bear will show signs of stress such as huffing, growling, head swinging, lowered stance, ears flattened against the head and possibly charge you. The charge may or may not make contact with you, this will depend how aggressively the bear is trying to defend the food area, cubs, or personal space.

## **Non-Defensive Interactions:**

Bear attacks on people have occurred, but such attacks are rare. There are a number of non-defensive motives that will appear similar.

- A young curious bear will sometimes approach people without fear. This could be a young bear or a bear that has never encountered a human before and does not know what you are.
- A human habituated bear; a bear that is used to humans and their movements and has lost their natural wariness of people.
- A food conditioned bear; a bear that associates human with food and is approaching your camp to obtain food.
- A bear that is testing its dominance in its territory. The bear is approaching you to show you that it is the dominant bear in the area.
- A predatory bear. This is a bear that is actively stalking. Such a bear does not bother with threat displays. The bear will show no signs of stress. The bear may make a direct approach such as a fast walk or run, or may follow you, or may circle carefully and make cautious approaches. The bear exhibits no sign of fear, but rather intense interest in you. **Any bear that is following you is a dangerous bear.**

**It is important that you know the difference between a bear's predatory behaviors or defensive behaviors because your response to the situation will be different.**



## The Factors that will influence a Bear's Reaction:

Every bear will react differently to chance encounters with humans, depending upon the factors described below and each bear's past experience with humans. Their reaction is difficult to predict because of the variability of factors with each encounter.

- Female bears with cubs: Female bears will aggressively defend her cubs. Female bears with cubs are more likely to attack than to flee. Grizzlies will attack to defend their young, black bears will likely not attack if the cubs can climb a tree and reach safety. The female Black Bear will then position herself at the bottom of the tree to defend her young. A female black bear may/will become dangerous if she is separated from her young.
- Defending a Food Cache: The bear's main objective is to eat from the time it leaves its den to the time it returns to a winter den. Hunting bears will cache food after eating part of it by covering the food with dirt, branches or leaves. They will often establish a daybed nearby and return later for another meal. Bears will aggressively defend their food cache.
- Individual Space:
  - All bears have a minimum distance surrounding them within which any intrusion is considered a threat.
  - If you have come close to a bear any sudden movements may startle the bear to attack. Running will trigger an attack response – remember that prey runs away! In this situation you must either back away slowly or stand your ground. By doing this, the bear is more likely to leave.
  - Grizzlies will avoid humans if they can detect them in time. **A cornered or surprised grizzly will be dangerous.** If there is no cover to retreat to, a grizzly's usual response to danger is to attack or to stand its ground. Do not corner a grizzly bear; leave it room to retreat/escape.
  - Black bears will usually flee from humans if given the chance. Black bears use their forest habitat for protection, with trees for cover or climbing. However, black bears are curious and very adaptable and will quickly become accustomed to humans and human activity. Even though black bears are smaller and seem less of a threat treat all black bears with caution.
  - Old bears or wounded bears or bears with teeth malformations can be dangerous because they are very hungry or starving.
  - Younger bears, 2 – 3 years old, are also dangerous because they are often driven from the best feeding areas by the older, dominant bears and therefore must travel longer distances searching for food. They are easily attracted to human food sources and may become aggressive to obtain it.
  - Bears that have been feeding in dumps or have regularly obtained food from human have become "human food habituated." These bears are accustomed to humans and link people as sources for obtaining food. Such bears can be very dangerous as they will enter your camp in a search for food.

## How to React to Bear Encounters:

### General Recommendations:

- Consider your surroundings and assess the situation before you act.
- **REMAIN CALM.** Do not turn your back to a bear.
- **DO NOT RUN** – You will trigger the bear's natural response to chase you. Bears are extremely fast and you cannot outrun a bear. They can run 40 km/hr and you can't! You cannot out swim a bear either.

### Bear Encounters in the Field:

- Your response will depend upon the type of encounter.
- There are several different encounters listed.

Bears are more predictable than once believed and you can determine your best course of action in a confrontation by understanding the bear's characteristics and motivation. There are two pieces of information you should be aware of in any bear encounter:

- What type of bear are you dealing with
- Reason for the encounter.



**Chance Encounter away from Camp:** If you come across a bear while you are in the field, and: The bear is unaware of you and feeding: If you can do so quietly and undetected:

- **Call (quietly) on your radio and report the bear encounter.** Leave the area quietly in the same direction that you came from
- Move while the bear's head is down. Stop moving when the bear lifts its head to check its surroundings
- Stay downwind so the bear will not pick up your scent
- When you have moved a safe distance away, you can watch and wait until the bear leaves or make a wide detour around the bear.
- If the bear is unaware of you and approaching: Allow the bear the right of way.
- If there is any doubt in your mind to your safety, return to camp.

**If you cannot leave undetected:**

- Let the bear know that you are present by smell first; therefore move upwind so they can pick up your scent.
- If it is possible, try to keep the bear in your sight. Watch to see if the bear leaves when it smells that a person is nearby.
- Attempt to move out of the way without being noticed by the bear. If you cannot do this, talk loudly to let the bear know where you are.
- **Call on your radio and report the bear encounter.**

**If the bear is aware of you but in the distance:**

- **REMAIN CALM**
- **Call on your radio and report the bear encounter.**
- Continue walking slowly in the same general direction, but head away from the bear.
- **DO NOT RUN.** The bear can quickly out-run you if it is so inclined.
- If the bear begins to follow you, drop your pack or some article, (not food) to distract the bear. This may distract the bear long enough for you to escape. If you drop food for the bear – you will help the bear associate food with humans and teach it that aggressive behavior will be rewarded with food.

**The bear is aware of you and close:**

- A bear will feel threatened in a close confrontation. The bear's natural tendency will be to reduce or to remove the threat. Assist the bear by acting as non-threatening as possible.
- Do not make direct eye-contact with the bear.
- Do not make any sudden moves.
- **Do not run!**
- The bear needs to identify you as a person, so talk in low tones and slowly wave your arms your head.
- Attempt to give the bear an opportunity to leave. Be sure the bear has an open escape route. Do not corner a wild animal.
- Try to back away slowly.
- Attempt to deter the bear if you are in a safe position.
- **Call on your radio and report the bear encounter.**

**The bear is close and threatening:**

- Prepare your bear deterrent, such as, a bear banger or bear spray and be prepared to use it depending on how close the bear is. Try to scare the bear off.
- **Call on your radio and report the bear encounter and request immediate assistance.**
- If you do not have a deterrent, or if using the deterrent is not successful, act as non-threatening as possible.
- Talk to the bear in a calm authoritative tone of voice.



- Do not startle or provoke the bear by making sudden moves.
- Never imitate the bear's aggressive sounds, signals or posture. The bear is attempting to establish dominance and imitating its moves is a challenge to its dominance.
- Back slowly away from the bear and drop a pack or some other article in order to distract the bear momentarily.
- Remember that the bear may be defending cubs that you have not yet seen or they have a food cache nearby. Attempt to look as non-threatening as possible.

**The bear is very close and approaching:** A distance of less than 50 meters in an open area and closer in a forested area.

- If the bear continues to approach use your deterrent.
- If the bear does not respond to the deterrent you must now **STAND YOUR GROUND!**

## The Bear Charges!

A bear will charge you at high speed down on all four legs and often crouched low to the ground. Bears do not charge when standing up on its hind legs. Many charges are bluffs and the bear will often stop or veer off just at the last minute. It is difficult to know if the bear is bluff charging or not until it gets very close. When faced with a charging bear you have two options:

- First, use your bear deterrent/or shoot to kill if you have a gun
- Play dead if you are unarmed and have no other choice

Some people believe that when you stand your ground against a predatory black bear attack, the bear will feel threatened and leave. This has been effective in some cases. **HOWEVER**, it is not effective against a grizzly bear predatory attack and it is very difficult to know when it will be effective against black bears. **IF** you decide to shoot an approaching bear, the first shot is the most important. If you must kill a bear, try to kill the bear cleanly and aim for:

- Low neck if the bear is facing you broadside.
- Below the centre of the neck between the shoulders if the bear is facing you
- The front shoulder area. This will knock the bear down.
- Do not shoot for the head as headshots often do not kill a bear.
- Keep shooting until the bear goes down.

**NEVER LEAVE A WOUNDED BEAR!** You must finish the job and report the kill to the nearest Fish and Wildlife office. If you cannot track the bear, contact the local F&W office or Police detachment immediately. A wounded bear is dangerous for everyone in the area.

## Playing Dead:

If you play dead it is possible that you can prevent serious injuries if a chance encounter with a bear results in an attack. Playing dead may reduce the threat that you represent to the bear.

If you decide to play dead, it is important to protect your vital areas. Lie flat on your stomach and lace your fingers behind your neck (to protect it), Spread your legs apart to provide stability if the bear tries to turn you over. Stay in this position. If the bear manages to roll you over, immediately roll back onto your stomach to protect your face, neck and vital areas. Do not resist or struggle as this will intensify or prolong the attack. Once the attack is over, **DO NOT MOVE** until the bear has left the area. Look around and be very sure that the bear is gone before moving. (If the bear is a female with cubs, she will leave and move her cubs to safety.) If the bear covers you with leaves and vegetation, it probably thinks you are dead. Grizzly's will often cover their prey with vegetation and leave the carcass to ripen for a few days.





It is important to note that if the bear attack is prolonged or if the bear begins to eat you, the attack has changed from what you may have first believed to be a defensive attack, to a predatory attack. Fight back in a predatory attack. Concentrate your efforts on the face, eyes and nose of the bear.

## There are Two Types of Bear Attacks:

### Provoked Attacks:

- You have done something that has provoked the bear into show signs of aggression towards you. It is often not clear to the person what they have done to provoke the bear until after the attack.
- It is important that you act passively, humble your posture and do not look directly at the bear. Always keep the bear in sight.
- Lie down on the ground in the prone position, i.e. play dead - signs of submission to the bear and shows the bear that you are no longer a threat to them.
- Never yell at the bear or throw things at the bear, these are obvious signs of aggression towards the bear.

### Predatory Attacks:

- The bear is hunting or stalking you! You are being treated as potential food. **DO NOT PLAY DEAD IF THE BEAR CONSIDERS YOU FOOD!**
- You must defend yourself with whatever means are available, act aggressively towards the bear. Stand up on something high and try and make yourself look bigger.
- Try to appear dominant. Try to frighten the bear. Yell, scream, shout and wave your arms. Jump up and down and fight back. Hold your jacket or backpack over your head to make yourself look bigger.
- Use your deterrent; either a banger or bear spray.

### Your Safety in Bear Country involves two things:

1. Actively work to avoid and prevent bear encounters. Before heading out into the field, educate yourself about bears and bear safety.
2. When dealings with bears, there are no set rules. Every bear will react differently; their reaction depends upon their previous experience with humans.

## The Problem Bear:

Problem bears have lost their fear of human and are often human habituated or human food conditioned. Problem bears no longer avoid people, and will defy them in attempts to get food, or they will associate humans with food. Such bears will make repeated bluff charges or will attempt to enter tents or buildings and cause property damage as well as human injury or death in an attempt to obtain food. Problem bears develop when they learn that people have easily obtainable food or that people are not a threat. This learning process can be prevented by:

- Making sure that no food is made available to bears at any time when you are in the field. You can do this by maintaining a clean camp and paying strict attention to your food preparation and food storage, including garbage.
- Develop a bear prevention program and ensure that it is strictly enforced in camps.
- Educate all personnel about bears before heading out into bear country.

Habituated bears cannot be rehabilitated and are often destroyed.

**A FED BEAR IS A DEAD BEAR!**



## Avoiding Bear Problems in the Field:

Your best defense against bears is to actively practice bear avoidance techniques when working in the field. You can prevent chance encounters by taking the following precautions:

- Know the areas and habitats bears use at different times of the year, and attempt to avoid such areas or be extremely cautious if you have to traveling through them.
- Contact the local Fish & Wildlife Office to get current information on the bears in the area
- Always be aware of your surroundings. **Stay alert.** Watch for signs of bears along your route.
- Use binoculars to look around for bears when you are in open terrain.
- Never approach a bear if you see one feeding in the distance.
- Note the behavior of other wildlife in the area. Birds can alert you to a possible animal carcass, and perhaps a bear. The area should be avoided. Birds or squirrels alarm calls might be telling you that a bear is near.
- Always travel in daylight and try to avoid areas with restricted visibility. (dense brush)
- Make lots of noise, especially when traveling in dense vegetation. Sing, shout, or talk loudly. You can carry portable air horns, cans of rocks. (Please note that bear bells are not effective – they do not make enough noise to warn a bear that you are approaching. You need to be loud so the bear can hear you coming!) Remember that the noise you make can be masked by loud natural sounds such as the wind or water. Therefore it is possible that the noise you make can go unnoticed by a bear whose attention is focused on feeding. You must make every attempt not to surprise a bear. In areas of loud natural noise, be louder!
- Stay together and travel in groups. Bears will not attack large groups of people. When traveling in groups, stay close together. A group of people is no good if the individuals have spread apart along the trail!
- Do Not wear perfumes or cosmetic products when you are traveling in bear country. Do not mask your human scent.
- Women should use internal sanitary protection, (i.e. tampons) when menstruating and burn all used sanitary products after usage. Keep all used sanitary supplies in sealed bags until you have a chance to burn.
- Carry bear deterrents and know their limitations. Be familiar with how to use the deterrents, how to transport the deterrent safely and under what conditions it is most effective. (More information on types of deterrents at the end of this document.) Carry the deterrent in a belt, out in front and ready to grab at a moments notice, never in your backpack.

## Field Workers: Precautions in Bear Country

Field workers should take extra precautions when working in bear country. If possible, fly over the area you will be working to check for bears from the aircraft.

- Whenever possible go out into the field with another person. One person can act as a lookout for the other. Keep watch for bear signs.
- Never approach a bear.
- Report where you are going and when you will return every time you leave camp. Have a plan of action if someone does not report back to camp at a specified time.
- Bears do get use to a camp's schedule and you will have fewer surprise encounters if everyone in the camp comes and goes at the same time every day.
- Take a two-way radio with you when you go out into the field.
- Always carry bear deterrents with you in the field and understand each deterrent's limitations. Carry your deterrents on a belt (fanny-pack), out in front and ready to use instantly. Do not carry your deterrents in your backpack.
- Keep any food that you take with you sealed in odor proof/bear proof containers. Make every attempt to take odorless food with you, not something with a heavy scent.
- Pack out any garbage in odor proof containers and burn once you return to camp.
- The noise of an ATV or skidoo can scare off a bear. Starting the machine and revving it up can scare off a curious bear. **DO NOT CHASE A BEAR WITH AN ATV OR SKIDOO.** You may need to drive the ATV around in circles to scare off the bear, but do not chase the bear.



- Take extra precautions when traveling along lakes or stream beds, bears use streams and river beds as travel routes. Be sure to carry noise makers.
- Limit your workday so you are not out in the early morning or evening when bears are most likely to be foraging.
- All Field Workers should be proficient in First Aid. Do not go out into the field without first aid training.

A person's best defense against bears is to avoid them. If this is not possible, then being heard, smelled, or seen may lessen your chances of surprising a bear and/or provoking an attack. THERE ARE TWO REASONS FOR THE INCREASE IN BEAR/HUMAN ENCOUNTERS:

1. There are more people than ever in bear country
2. Bears are becoming human habituated and foods conditioned and are associating people with/as a food source.

## Bear Deterrents:

A bear deterrent is a method or device, (physical, chemical or other), designed to chase away bears.

Preventing the attraction of bears through proper food storage, garbage disposal and camp maintenance is the most economical and effective way to reduce bear problems. However, bears are sometimes attracted to clean and well-maintained camps. Use of proven deterrents will increase human safety and reduce the need to kill problem bears.

## Types of Bear Deterrents:

Please note that some deterrents are not recommended. Deterrents are not guaranteed to save you from a bear. Your safest method is to practice **Bear Awareness and Avoidance**. You may not be able to scare away a starving bear.

### Noisemakers:

#### Pro's

- Cracker shells (fired from a shot gun). These are shells that will travel 200 meters when fired from a shotgun and explode in an area in front of an approaching bear. To be used when the bear is at a distance and approaching your camp.
- Pencil Flare Guns – highly portable but many people have received injuries from this type of deterrent as the pen unexpectedly detonates while they are holding it. This is the result of improper training and unsafe practices. All personnel at Hope Bay **must** receive proper training in these devices before using them. If you have missed a training session, please see the site supervisor for training and demonstration.
- Air Horns – creates a loud sound that may be effective in scaring the bear away.

#### Con's:

- Noisemakers that are fired from a shotguns fall under the Firearms legislation and you are required to have your PAL license to carry the shotgun in the field. You are also responsible for the safe storage of a firearm while in the field.
- Pencil launchers must be cleaned after use, just as a rifle or shotgun must be cleaned after use so that they do not misfire.
- Flares and noisemakers are not prudent to use in very dry conditions as you can start a fire.
- Pyrotechnics, cracker shells, and flares will not work if they get wet. These items also have an expiry date and should be replaced once they have reached their shelf life.
- You must be careful to aim the noisemaker in front of the approaching bear so the bear will run away from you and not land the noisemaker behind the bear, thus scaring the bear towards you.



- Noisemakers will lose their effectiveness after repeated use. Bears will simply get use to the loud noise and continue to approach.
- Air horn (portable, inexpensive but can sometimes provoke a bear into attacking).

**Other noises:**

- Shake a can filled partially with rocks for noise.

Noises that cannot be reproduced in the wild, (e.g. a metallic noise), will let a bear know that you are approaching and give them advanced notice to move out of the area. However, noisemakers that startle a bear, such as an air horn, can provoke an attack. If you release an air horn too close to a bear hiding in the bush and it startles them, they may charge. A can partially filled with rocks makes a loud clattering noise and is very effective in letting bears know of your presence before they pick up your scent.

**Chemical Sprays:**

There is no bear deterrent that will be 100% effective. In order to be safe in bear country practice avoidance, but when confronted by a bear be sure to have more than one deterrent available in your camp. Bear Sprays are highly effective but they must be used correctly to be effective. As with all deterrents they have their good points and their bad points. In order to decide if this is a deterrent that you want to use, you must understand both the good and the bad points of the deterrent. Positive/Negative Aspects of Bear Sprays:

- The main ingredient in bear spray is “Capsicum” an extract from hot peppers. Capsicum needs to strike the eyes, nose or mouth of the bear, (open membranes) to be effective. These sprays can only be used at very close range, 10 – 25 ft therefore, depending upon the brand, always read the label; the bear needs to be very close for the spray to strike the eyes, nose or mouth. You cannot discharge the bear spray too early – or it will be completely ineffective. Bears will often “bluff charge” and when you/your group are standing your/their ground and not backing away – that alone may deter the bear before it even gets close enough for you to use the spray. If the bear comes within the range of the bear spray – aim directly into their face and spray.
- You must be aware of the wind direction. If you the wind is blowing towards you, the spray will be carried by the wind into your face. (This may seem humorous while you are reading this write-up – BUT – in the field this would be a very serious situation.)
- People with asthma or bronchitis may have respiratory problems when using chemical bear sprays if they get any whiff of the spray in their direction.
- Bear spray may not be effective in sub-zero weather. (Spray cans do not fire well in very cold temperatures.) In colder weather you need to keep the can of bear spray warm in order for it to fire effectively.
- Bear spray will not be effective in the rain. When you fire a can of bear spray, the spray will create a billowing cloud of capsicum and propellant. Rain can/will wash the spray right out of the air before it strikes the bear in the face.
- Bear spray is only to be used as an airborne deterrent. There has been misconceptions that bear spray applied to the outside of one’s tent, clothing, or research equipment will “repel” a bear. Bear Spray is NOT a Bear Repellent! There is good evidence to show that once capsicum has been sprayed, bears are attracted to the area where it has been released. If you have used your can of bear spray to deter a bear, wash the nozzle off with soap and water to remove the scent. Replace your can of spray as soon as possible. You do not want to have another bear encounter with a half a can of spray left!
- Bear Sprays have a shelf life. You must note the shelf life when you buy the can of spray and pay strict attention to the shelf life. The Capsicum does not deteriorate over time; it is the canister seals that deteriorate over time. Write the date that you purchased the spray on the bottom of the can and always replace your bear spray when you are nearing the end of the shelf life.
- Do not test your can of spray before going out into the field. Suppliers sell inert cans of spray, (i.e. contain no pepper ingredients), if you wish to train personnel on how to use the bear spray effectively. You need to take a full can of spray into the field, not a partially used one. In areas where there is known to be frequent bear encounters, it may be prudent to carry two cans of bear spray per person.
- Bear deterrents are only to be used for the purpose they are intended for. Misuse of bear deterrents such as chemical sprays, bangers, and pyrotechnics is considered a criminal offence.



### Pen Launchers & Bangers

#### **PUSH BUTTON LAUNCHER**



#### **PULL-TYPE LAUNCHER**



#### **BEAR BANGERS**

##### **Centre Fire**

Distance fire: 30-40m

Time delay: 0.8 to 1.2 sec





## **PEN LAUNCHERS**

### **Instructions for Safe Use**

#### **Push Button Launcher**

1. Pick up a proper cartridge – There are two types, centre fire & rim fire. **MAKE SURE YOU HAVE THE RIGHT TYPE CARTRIDGE FOR THE LAUNCHER YOU ARE USING.**
2. Remove safety cap
3. Make sure that the key ring handle is on position “SAFE”
4. Carefully screw the cartridge into the launcher. It must be properly seated in order to work. **KEEP THE LAUNCHER POINTED AWAY FROM YOUR FACE AND BODY WHEN LOADING.**
5. Pull the key ring backwards and cock the launcher. **KEEP THE LAUNCHER POINTED AWAY FROM YOUR FACE AND BODY.**
6. Put the trigger on position “FIRE”, by twisting the key ring handle at 90°
7. Point the launcher skywards
8. Push the trigger button and shoot vertically.
9. Do not keep the launcher loaded or with the trigger cocked until it is needed. **NEVER KEEP A LOADED LAUNCHER IN YOUR POCKET OR IN YOUR PACK. MANY PEOPLE HAVE BEEN SERIOUSLY INJURED THIS WAY.**
10. Shoot only with a launcher that is in good condition
11. Shoot vertically, away from flammable objects
12. Never point at humans or animals
13. Use only if necessary.

#### **Pull-Type Launcher**

1. Pick up a proper cartridge – There are two types, centre fire & rim fire. **MAKE SURE YOU HAVE THE RIGHT TYPE CARTRIDGE FOR THE LAUNCHER YOU ARE USING.**
2. Remove safety cap
3. Make sure that the key ring handle is on position “SAFE”.
4. Carefully screw the cartridge into the launcher. It must be properly seated in order to work. **KEEP THE LAUNCHER POINTED AWAY FROM YOUR FACE AND BODY WHEN LOADING**
5. Point the launcher skywards
6. Pull the trigger button and shoot vertically
7. Do not keep the launcher loaded or with the trigger cocked until it is needed. **NEVER KEEP A LOADED LAUNCHER IN YOUR POCKET OR IN YOUR PACK. MANY PEOPLE HAVE BEEN SERIOUSLY INJURED THIS WAY.**
8. Shoot only with a launcher that is in good condition
9. Shoot vertically, away from flammable objects
10. Never point at humans or animals
11. Use only if necessary.

#### **Bear Bangers**

1. Store in cool and dry area
2. Do not expose to open fire or heat
3. Use only in case of need
4. Do not remove the safety cap from the cartridge before you want to use it
5. Shoot only with a launcher that is in good condition
6. Do not keep the cartridge loaded onto a launcher
7. Replace the cartridges after the expiry date has passed.
8. Never try to take a cartridge apart
9. In case of emergency place in a container of water.



**IMPORTANT NOTICE**

*Pencil Flare Guns – highly portable but many people have received injuries from this type of deterrent as the pen unexpectedly detonates while they are holding it. This is the result of improper training and unsafe practices. All personnel at Hope Bay **must** receive proper training in these devices before using them. If you have missed a training session, please see the site supervisor for training and demonstration.*

Resources used:

*University of Alberta*

*Staying Safe in Bear Country: A behavioral-based Approach to Reducing Risk by Magic Lantern Communications Ltd*

*Tru-Flare safety products (<http://www.truflare.com>)*

**Prepared by:**

**Dave Power  
Sr. Safety Coordinator**



---

## Company Safety Procedure

Ref # 05-019.2

---

Date: June 27, 2005

Section: Hope Bay Ltd.

Subject: ***Fire Arms Safety***

Purpose: The following procedure has been assembled in order to further define responsibilities and duties for personnel in regards to the care and use of Firearms at Hope Bay.

Objective: To ensure the necessary steps are taken to protect all employees from exposure to hazards and to ensure that the applicable laws are adhered to.

---

### Procedure:

1. Firearms are not to be possessed by personnel who are not licensed under the Canadian Firearms Act. Therefore, the only personnel who will be permitted to handle these firearms are those in possession of a valid Firearms Acquisition Certificate, or a Possession Only or Possession and Acquisition license issued by the Canadian Firearms Registry, and who have been authorized by the General Manager, Northern Operations or his designate.
2. All firearms that are held, used or stored onsite at Hope Bay must be registered with the Canadian Firearms registry
3. Firearms are to be secured in a locked cabinet or room with the key held in a location available only to the authorized Firearms Handler (shooter) or his authorized designated assistant.
4. All ammunition will be removed from the firearm and secured separately.
5. If, due to circumstances of predator control, the firearms cannot be secured, they will be 'unloaded and "proved" safe' with the ammunition stored separately or under the direct control of a licensed and authorized firearms possessor.
6. Whenever the firearm is removed from storage for use or maintenance, a written log will be maintained noting who the authorized person was that removed the firearm, time out / in and how much ammunition was consumed.
7. In the absence of the designated Firearms Handler or his assistant the key to the firearms storage location, will be held by the senior person in camp.





---

## Company Safety Procedure

Ref # 06-020.2

---

**Date:** December 13, 2006

**Subject:** SURFACE BLASTING PROCEDURE

**Purpose:** The following procedure has been created in order to define responsibilities and outline duties for all personnel involved with surface blasting at Hope Bay.

**Objective:** The objective of this procedure is to ensure the safe handling of explosives while blasting with the safety of all personnel being utmost in mind.

**Procedure:**

**GENERAL**

1. No employee shall conduct a blasting operation unless he is authorized to do so by the supervisor in charge and unless he is in possession of a Nunavut Blasters Certificate.
2. Smoking, open lights or flames are not permitted within 20 meters (65 feet) of explosives.
3. Not more than a normal day's use of explosives may be stored at the worksite.
4. Excess explosives and detonators "MUST" be moved to their proper storage boxes and kept at a safe distance before the blast takes place.
5. Excess explosives and detonators remaining at the end of the shift "MUST" be returned to their proper storage Magazines at Roberts Bay.
6. No other material is permitted to be stored with explosives or detonators.
7. When a blast has not fired due to a defective cap or circuit and after the blaster has assured himself that the blasting machine has been disconnected and the lead wires short circuited, the circuit may be repaired.
8. All blasting machines must be of a type designed and manufactured specifically for the purpose for which it is used and kept in good condition. Also, a qualified and authorized person shall test the output of the blasting machine as per the manufacture recommendations.
9. The blaster shall ensure that residual charge remaining in the blasting machine after use is discharged in accordance with the manufacturer's instructions.
10. During a pending electrical storm no loading of explosives shall be permitted. If loading has started, no connection will be permitted and all personnel will evacuate to a safe location until the electrical storm has passed. All entrances to the blast area will be guarded against inadvertent entry.
11. Where electrical blasting is about to be conducted, no radio frequency transmitter shall be operated within 20 meters of such operations.
12. No mobile equipment shall be permitted within 8 meters of a charged blasthole except the equipment used to lay blast mats over the blast area. The exhaust of this equipment must be directed above the cab of the equipment.



## BLASTERS LOG BOOK

1. A blasters log book must be maintained for all activities surrounding blasting operations.
2. The blaster shall record in the blasters log book a record of each primary blast that includes a report of the following
  - (i) the date, time and location of the blast;
  - (ii) the burden, spacing, depth and number of holes blasted;
  - (iii) the type of explosives used;
  - (iv) the prevailing atmospheric conditions, and whether its is clear or overcast.
3. The blaster shall record in the blasters log book a record of all maintenance, inspection and testing of any blasting machine in use.
4. A record of all explosives and detonators used each day shall be recorded in the blasters log book in addition to the magazine storage log book.

## GUARDING OF THE BLAST

1. The blaster in charge of a blast is responsible to ensure that
  - (i) a safe zone must be established to ensure no person may come too close to the blast.
  - (ii) a warning is given by a siren or horn for one minute prior to initiating the blast. This will be followed by an all clear signal using a siren or horn for a period of 30 seconds after all danger from the blast has passed.
  - (iii) Where necessary, post signs to warn people or traffic of the impending blast and guards are posted to stop any traffic and personnel before the blast

## NOTIFYING AIRCRAFT

1. Blasting operations will **NOT** be permitted during the arrival of scheduled fixed wing aircraft to the belt. A minimum of one (1) hour separation is required between a schedule arrival /departure time and blasting operations. Blasting operations will not be permitted after a fixed-wing aircraft has landed anywhere on the belt.
2. The Supervisor in charge of the blasting operation will be responsible for notifying **ALL** helicopter pilots operating within the Belt of the planned blasting operation 30 minutes in advance of the blast. This includes pilots flying at the time and pilots on the ground. If a helicopter pilot cannot be notified for any reason, the blasting operation **MUST** be suspended until such time contact with the pilot is made.
3. Ten (10) minutes prior to blasting operations, the supervisor in charge will ensure a warning announcement of the pending blast is made to **ALL** aircraft within HF radio distance. The announcement will be made on 122.8 **and** 126.7 frequencies. GPS coordinates will be given to the location of the blast.
4. All helicopter pilots flying must maintain a safe distance from the blast site as per Transport Canada - Canadian Aviation Standards.
5. Once the blast is completed and the all clear signal is given the supervisor in charge of the blast will notify **ALL** helicopter pilots operating within the Belt that the blast is completed and the airspace is safe for travel.
6. Also, an announcement will be made on 122.8 **and** 126.7 HF radio frequencies that the blast is completed and the airspace is safe for aircraft travel.
7. Details of all notification requirements must be recorded in the Blasters Log Book



## **TRANSPORTING EXPLOSIVES BY HELICOPTER OR AIRCRAFT**

1. All transportation of explosives and detonators will be accompanied by a person with a valid Nunavut Blasting Certificate.
2. The pilot of the aircraft must be advised in advance of the explosive cargo he will be transporting.
3. Explosives and detonators are not permitted to be transported at the same time. Separate trips will be conducted for this purpose.
4. Electric detonators must be transported in their original containers and the wires must not be uncoiled or changed in any manner prior to or during the flight. This will ensure the best protection against current interference from Radio Frequency or static electricity.
5. A record will be maintained in the Blasters Log Book of all transporting of explosives by air.

## **ELECTRICAL BLASTING**

1. Where blasting is initiated by means of electricity,
  - (i) if more than one shot is to be fired electrically, the blaster shall, immediately before blasting, test the electrical circuit with an instrument specifically designed and manufactured for testing blasting circuits immediately before blasting;
  - (ii) if balanced circuits are required, each circuit shall be tested before firing with an instrument described in paragraph (a);
  - (iii) if electric detonators are used
    - (a) the protective shunt shall not be removed from the leg wire until connections are made,
    - (b) the leg wire shall not be shortened,
    - (c) the blasting circuit trunk lines or lead wires to the face or faces shall be short-circuited while the leads from the detonators are being connected to each other and to the blasting lead lines,
    - (d) the short-circuit referred to in subparagraph (iii) shall not be removed until all persons have left the worksites to be affected by the blasting operation, and
    - (e) the short-circuit referred to in subparagraph (iii) shall be located so that a premature explosion will not endanger the person opening the short-circuit; and
  - (iv) before any person returns to the worksite affected by the blasting operation,
    - (a) the firing cables shall be removed from the battery, blasting machine or other source of electricity and shall be short-circuited, and
    - (b) the blasting switch shall be locked in the open position.

## **RE-BLASTS**

1. All re-blasts are to be conducted under the constant supervision of the Supervisor in charge of the blasting operation.
2. The supervisor will ensure that all precautions are met regarding the immediate detonation of a blast.
3. Stick powder shall not be removed from a misfired hole. Missholes will be marked using yellow paint and must be reported to supervision.
5. A hole may be drilled for the purpose of reblasting a missed hole once the supervisor in charge has determined, in consultation with the driller, the location, angle and depth of the hole to be drilled, and the supervisor shall remain present throughout the drilling of the hole and such hole shall not be closer to any part of a missed hole than 1 meter.



6. Holes containing ammonium nitrate and fuel oil mixture (amex) must be washed out with water using copper piping or non-conductive materials.
7. Waiting time after a re-blasting is a minimum of ten (10) minutes.

## **DRILLING**

1. No drilling shall commence at a site unless the exposed face is:
  - (i) washed cleaned with water;
  - (ii) carefully examined for misfires and cut-off holes, giving special attention to bootlegs; and
  - (iii) conspicuously marked with the location of all misfires and cut-off holes.
2. No person shall drill or allow drilling to be conducted within 2 meters of a misfired hole, a cutoff hole or a hole containing explosives; and within 1 meter of any part of a bootleg, or within 5 meters of a misfired hole, a cutoff hole, or a hole containing explosives.
3. No person shall drill within 8 m of a site on a face where explosive loading operations are being conducted.
4. No person shall cut chip samples from an exposed face unless the face has been washed with water and carefully examined for misfires and cut-off holes; and within 2 meters of any hole containing explosives.

## **Notation:**

**Storage and Handling of Explosives** – Refer to Company Procedure 05-015

Prior to conducting any blasting operation, the blaster **MUST** refer to the Mine Health and Safety Act and Regulations (Section 14) for more information regarding Drilling and Blasting; the Storage, handling and transporting of explosives.



---

## Company Safety Procedure

Ref # 06-21

---

Date: December 13, 2006

Subject: **GUIDELINES FOR TRAVEL OUTSIDE OF CAMP AREAS**

Purpose: The following procedure has been created to define responsibilities to ensure the safety of all persons involved with travel outside the perimeter of the camps.

- 1) Any person leaving the camp for work purposes shall receive permission from their immediate supervisor. Any person leaving the camp for recreational purposes shall obtain the permission of either the Project Manager or the Site Superintendent.
- 2) Recreational travel shall only be permitted between the hours of 7:00 AM to 10:00PM between the months of May and September and 8:00 AM to 8:00 PM between the months of October and April.
- 3) In addition to receiving permission from management to leave the immediate camp area but staying within the proscribed area all persons are required to sign out on the board provided, noting their intended location and expected return time. Upon completion of your trip YOU are responsible to remove your name from the board. Under no circumstances is any other person permitted to do so.
- 4) Persons shall be permitted to travel alone ONLY within the hiking limits outlined on the area site map and shall be required to carry a 2-way radio at all times. This map and these guidelines will be posted in a conspicuous place and shall also be given to each person upon camp orientation.
- 5) All recreational travel OUTSIDE the proscribed area shall be done in a minimum of pairs only and shall remain in sight of each other. If you are leaving the proscribed area an agenda including arrival time back to the camp must be given to the Project Manager or the Site Superintendent.
- 6) All work travel OUTSIDE the proscribed area shall be done in a minimum of pairs who shall remain in sight of each other or in radio contact. Your immediate supervisor must be made aware of your work location.
- 7) If traveling via snowmobile make sure to carry sufficient fuel to complete a round trip with at least one half tank of gas in reserve, upon trip completion. Survival gear must be carried when traveling distances, which may make returning to camp difficult in the event of a breakdown or encountering severe weather conditions.
- 8) All travelers outside of radio communication range shall carry a portable satellite telephone, and must have received training to its use.
- 9) No person shall travel alone by boat and all persons must wear a life preserver at all times. Only persons who have received training on safe boating practices will be permitted to travel by boat. Strict adherence to safe boating practices must be followed at all times!



## MHBL Travel Itinerary & Permission Form

(Required for all recreational travel)

**Complete this form before seeking permission to travel outside of the camp area.**

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Other Members In Your Party: \_\_\_\_\_

Snowmobile Taken: \_\_\_\_\_

Destination \_\_\_\_\_

Departure Time: \_\_\_\_\_

Expected Return: \_\_\_\_\_

List Survival Gear Taken: \_\_\_\_\_

Permission to travel: \_\_\_\_\_

Party has returned: \_\_\_\_\_

### Reminders:

Do you have permission from your supervisor, the site superintendent or project manager?

Do you have a radio and or satellite telephone, if your destination is beyond radio range?

Do you have survival gear and extra food?

Have you checked the weather?

Has any of your party been there before?

What do you need for location and navigation?

Wherever possible STAY on marked trails.

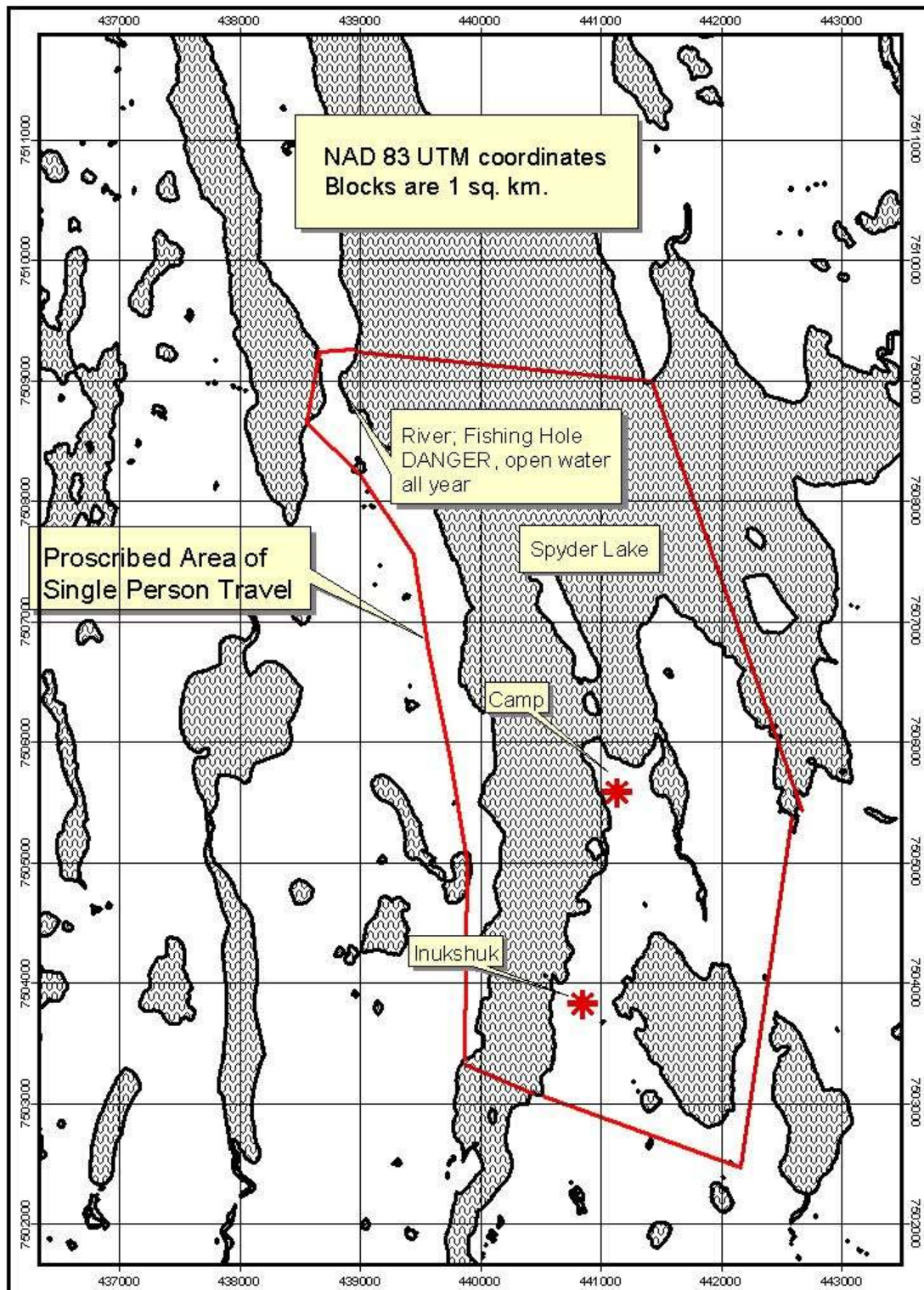
Place this form in the box provided before you depart and be sure to get your supervisor to sign-off when you return.

**Note:** If you are traveling for work you must always obtain permission from your immediate supervisor who will be made aware of your work location; plans and preparedness; time of return; contact schedule and means of communication.



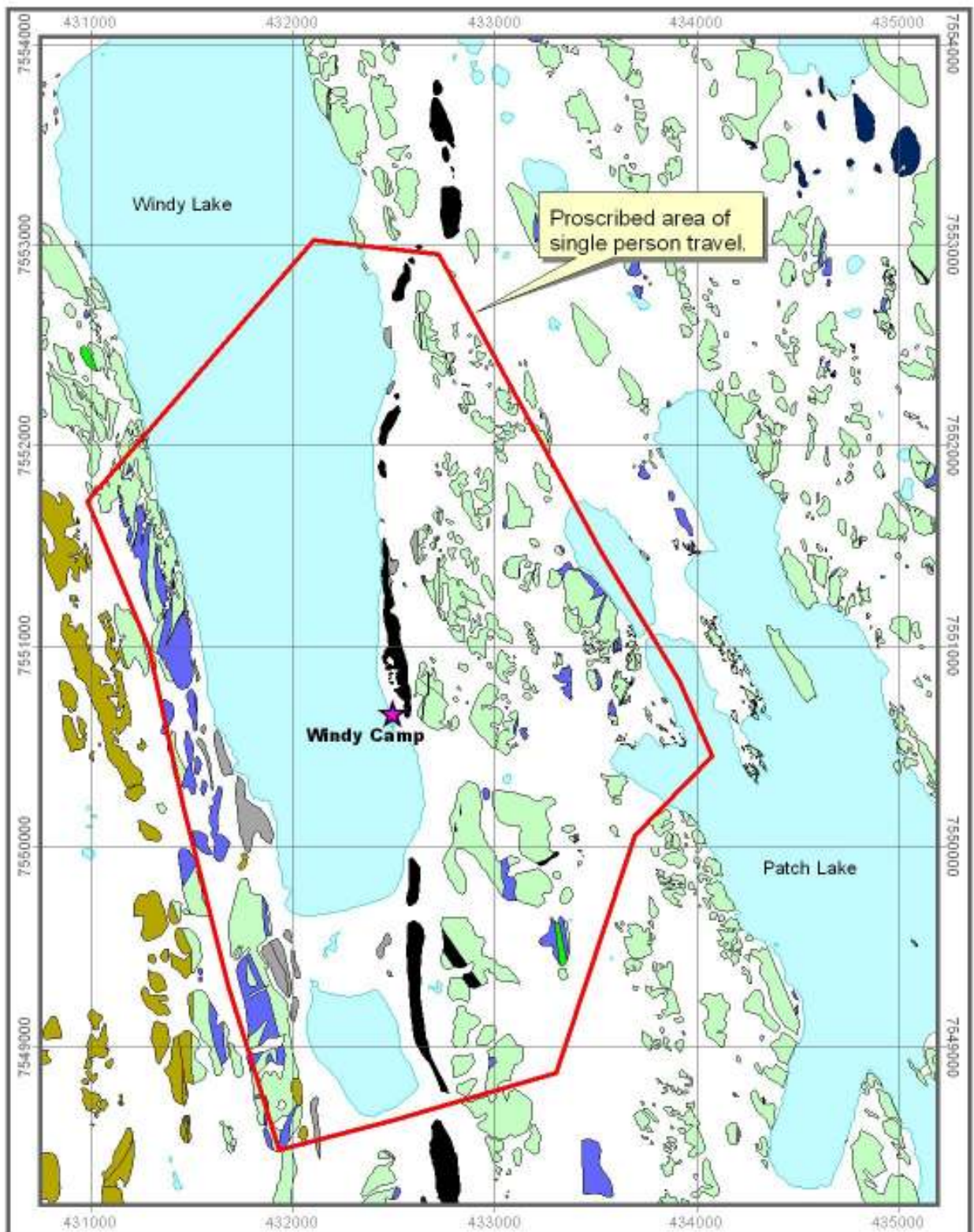


### Boston Camp





## Windy Camp







---

## Company Safety Procedure

Ref # 06-22

---

Date: December 13, 2006

Subject: **Helicopter Safety Rules & Procedures**

Purpose: The following procedure has been created to ensure the safety of all personnel traveling by helicopter on the belt.

- Every person traveling in a helicopter **MUST** receive a safety briefing from the helicopter pilot before the first flight each year. This briefing is for each type of helicopter in use on site.
  - The pilot will be responsible for documenting each employee briefing and submitting the training document to the Site Supervisor.
  - The Site Supervisor will forward the training document to the safety department for retention.
- 

### **RULES & PROCEDURES**

- NO Smoking in and around aircraft. Maintain a safe distance of 100 feet.
- Approach and departure paths:
  - Always approach and depart from the down slope (lower) side as directed by the Pilot
  - Approach and depart helicopter in a crouch position, do not run
  - Keep in pilot's field of vision at all times
  - Stay clear of landing area when helicopter is landing or departing
  - Stay away from the main and tail rotors. Do not chase any item that has become unsecured.
  - NEVER** go near the tail of helicopter
- Tools and Equipment:
  - Secure hand tools, hard hats and equipment awaiting transport
  - Plan and make assignments for carrying tools/equipment to/from helicopter
  - All tools and equipment loaded/unloaded by qualified personnel and under direction of the pilot
  - Carry long/long objects parallel to the ground, never on shoulder
  - Turn portable radios off



- In-Flight Discipline:
  - Follow the instructions of pilot
  - Loose items inside of aircraft secured and manageable
  - All baggage secured in aircraft or cargo compartment
  - Never throw any object from the helicopter
  - No movement inside aircraft once seated
  - Keep clear of flight controls at all times
  - Unbuckle only when directed to so by Pilot
  - Reconnect belt once unbuckle to prevent belt from accidentally hanging out of door
  - Know location of first aid kit, survival kit, fire extinguisher, ELT (Emergency Locator Transmitter), fuel and battery shutoff switch location and operation, and radio operation.
- In-Flight Emergency Procedures
  - Emergency Exits: Location and normal operation
  - Follow instructions of Pilot
  - Snug seat belt and shoulder harness; secure gear
  - Emergency Seating Position **WITH SHOULDER HARNESS** (four point or single diagonal strap): sit in full upright position with head and back pressed against seat and use arms to brace in position.
  - Emergency Seating Position **WITH LAP BELT ONLY**: bend over as far as possible and hold onto your legs.
  - Assist any injured person who cannot leave the aircraft.
  - Move clear of the aircraft only after rotor blades stop or when instructed to do so by the pilot.
  - Assess situation, follow pilot's instructions, and render first aid;
  - If safe, remove first aid kit, survival kit, radio, ELT and fire extinguisher.
  - Stay Calm – Call for Help /check ELT for operation “listen for signal”

*References: Transport Canada*



---

## Company Safety Procedure

Ref # 06-23

---

Date: December 15, 2006

Section: Hope Bay Ltd.

Subject: **Incident Announcement**

Purpose: To provide information soon after a major loss or a high potential incident. When incidents are reported promptly and adequately, managers and supervisors can quickly perceive similar problems and take prompt actions before there are other losses.

Procedure:

1. After a major loss or a high potential for a major loss occurs, the department head or his designate will complete the Incident Announcement form once he/she has completed a preliminary investigation. Every effort must be made to complete the form within 24 hours from the time of the incident or potential incident occurring.
2. A copy of the Incident Announcement form will be forward onto all levels of supervision and the Occupational Health and Safety Committee(s). This report can be submitted to the Chief Mines Inspector or other regulatory agency as part of the **initial** reporting procedure. However, this report must in no way delay reporting periods or substitute specific report forms as mandated by the respective legislation.
3. The Incident Announcement is a tool to quickly and effectively report major loss or high potential for major loss incidents. **It is NOT a substitute for a full investigation.**
4. Department heads and Supervisors are encouraged to post the Incident Announcement at the workplace. Incident information can be promptly shared with employees by means of bulletin boards, muckpile talks or in meetings. A prompt announcement following a major loss or potential for a major loss has several benefits:
  - (i) provides facts and mitigates rumor mill
  - (ii) identifies general safety problems
  - (iii) initiates immediate action to prevent similar problems
  - (iv) increases safety awareness



## INCIDENT ANNOUNCEMENT

<input type="checkbox"/> <b>Personal Injury</b> <input type="checkbox"/> <b>Damage</b> <input type="checkbox"/> <b>Process Loss</b> <input type="checkbox"/> <b>Other Incident</b>	<b>LOCATION:</b>	
	<b>DEPARTMENT /COMPANY:</b>	<b>DATE</b>

<b>NATURE OF LOSS</b>	<b>APPARENT NATURE AND EXTENT OF INJURY, DAMAGE, PROCESS LOSS OR POTENTIAL LOSS:</b>
-----------------------	--

<b>DESCRIPTION OF INCIDENT</b>	<b>INFORMATION AVAILABLE AT THIS TIME:</b>
--------------------------------	--

<b>APPARENT CAUSES</b>	<b>CAUSES APPARENT AT THIS TIME:</b>	
	<b>Report prepared by:</b>	<b>Date:</b>

*This report does not replace the Incident Investigation Report. It provides critical information about the incident prior to the completion of a full investigation.  
Reference: Practical Loss Control Leadership*



# **ACCIDENT INVESTIGATION**

Supervisors/ OH&SC Guide

**Date: January 20, 2004**  
**Revised: December 14, 2006**

# **ACCIDENT INVESTIGATION**

## **TABLE OF CONTENTS**

Policy Statement on Accident/Incident Investigations	3
Procedure for Responding to an Emergency	4
Procedure for Conducting Investigations	5
Procedure for Determining Loss Potential	7
Immediate /Direct Causes & Basic Causes	8
Interviewing Witnesses	9
Investigation Guide	10
List of Key Questions – Investigation Guide	11
Supervisors Responsibilities	18
List of General Questions	19
Instructions for re-enactment	22
Remedial Action Follow up	23
Flow Chart	24
Return to Work Form	26
Investigation Report Form (sample)	27
Definitions	29
Table I (Substandard Actions – Explanation)	30
Table II (Substandard Conditions – Explanation)	31
Table III (Basic Underlying Causes of Accidents)	32

## **POLICY STATEMENT**

### **Accident and Incident Investigation**

In keeping with our commitment to safety and health our accident and incident investigation policy includes the following principles:

- 1) Attaining the highest possible performance in the reporting and investigation of accidents and incidents is the best way to prevent their recurrence and thus increase safety and health along with productivity in our operations.
- 2) Our investigation program is to focus on determining what happened and the reasons why, so we can take effective remedial measures to control the causes for the event.
- 3) Prompt reporting and investigation is vital to the investigation program. All personnel are required to report all occupational injuries and illnesses, property and/or environmental damages, production delays, and near miss incidents to supervision and first aid at least by the end of the shift on which it occurs.
- 4) All reported accidents and incidents must be investigated immediately by the appropriate supervisor or team following our standard investigation procedure. This includes all contractors working on site.

## **RESPONDING TO AN EMERGENCY**

### Introduction

This procedure outlines the format for reacting to an emergency situation, keeping in mind that although every emergency is different, the basic steps and order of priority are always the same.

#### 1. Taking Control

The senior person, at the site of the emergency, is responsible for taking control of the situation and ensuring the order of priority is followed. The first priority is always the protection and rescue of people, the second is the environment, followed by our property then production.

#### 2. Protect Personnel

Immediately assess the situation and take care to ensure the safety of rescuers and first aid is given to those who require it. Contact the site Medic. They will coordinate any Medevac services, if required (refer to Medevac Procedures)

#### 3. Maintain Control

Place guards, install signs and rope the area off to secure the scene to prevent further injuries and other losses and where necessary preserve evidence for the investigation team.

Keep in mind that the OH&S Committee and Mines Inspection Services will likely investigate any serious accident or incident.

#### 4. Casualty Care

Continue with casualty care until the emergency response people can take over.

#### 5. Restore Operations

When the investigation team releases the site, restore operations to normal.



## ACCIDENT AND INCIDENT INVESTIGATION PROCEDURE

### Introduction

This procedure outlines the format for examining accidents and incidents to find out the reasons for occurrence. Steps should then be taken to control the causes. The procedure takes into account the fact that accidents are seldom the result of a single cause, but are in fact, the result of a combination of several causes.

#### 1. Responsibility

The immediate supervisor responsible for the people, property or process involved in any accident or incident will immediately conduct a preliminary investigation of the event to determine the **LOSS POTENTIAL RATING** (section #5 of the form).

#### 2. Notification

Ensure the appropriate people are notified when the loss potential rating is determined.

- a) Ratings of five or less require preliminary investigation by the immediate supervisor only.
- b) Ratings from five to nine require an in depth investigation by the Site Superintendent and Contractor Foreman if it involves one of his employees.
- c) Ratings of ten and over require an in depth investigation by the Site Superintendent, and when appropriate the OH&S Committee.

The superintendent responsible for any in depth investigation will make the necessary arrangements to have the worker members of the OH&S Committee available for the investigation. He will also ensure that any Government Agencies as required by legislation are notified.

#### 3. Cause Identification

As soon as possible, interview the witnesses and examine the scene, equipment and records to find out the immediate and basic causes.

Use all available expertise if required. Engineering, safety or maintenance department personnel are available from the Con Mine to provide assistance.

4. Remedial Action

The supervisor initiating the investigation must take the necessary steps to control the immediate cause right away.

The persons doing an in depth investigation will make recommendations for remedial actions to control basic causes.

5. Documentation

Record your findings along with any remedial actions taken or recommended on the standard investigation report form.

6. Review Meeting

As soon as the in depth investigation is completed, review it with the next level of supervision, who will evaluate its thoroughness and accuracy then approve a remedial action plan.

7. Report Distribution

When only a preliminary investigation is required, both copies of the accident investigation form are to be immediately forwarded to the Site Superintendent.

When an in depth investigation is required, a copy of the report is to be immediately faxed to the Safety Department (867-873-3083). The blue copy and the white copy will stay with the investigator until the remedial action is completed. Once all remedial action is completed, the investigation report will reflect the dates each item was acted upon in the "Date Completed" section. The accident Investigation report will be filed into a binder for future reference and kept in the First Aid Room.

The OH&S Committee's will receive a copy of each accident report for review at their meetings. Sharing of accident reports between the Boston and Windy Camps is essential to ensure problem areas or trends are being identified early and acted upon accordingly.

## PROCEDURE FOR DETERMINING LOSS POTENTIAL

### Introduction

This procedure outlines the format for determining the loss potential of an accident or incident and is to be used when completing step #5 of the investigation report.

There are three basic steps to the procedure. First you must assess how severe the loss is or could have been, then take a realistic look at how often it could recur. When you combine these two factors you have a rating of the Loss Potential.

### Severity Potential

Assess how severe the loss was or could have been and assign it a Serious, Moderate, or Minor severity rating.

Serious	Actual or potential for loss of life, substantial loss of blood, unconsciousness, fracture of an arm or leg, amputation of a leg, arm, hand or foot, burns to a major part of the body, loss of sight, loss of property, process or production.
Moderate	Actual or potential for injury or illness, serious enough to prevent the person from performing their regular duties for at least one day, or property, process or production loss from \$5,000 to \$19,999.
Minor	When the actual or potential for personal injury, illness, and property damage, process or production loss is less than moderate.

### Probability of Recurrence

Use your knowledge and experience to decide how often the activities that are involved take place at the Camp or surrounding areas.

Frequent	Many people do it often every day.
Occasional	A few people or many people once in a while
Seldom	Very seldom done at Hope Bay.

Combine the severity potential rating with the probability of recurrence to determine the loss potential rating.

## IMMEDIATE /DIRECT CAUSES & BASIC CAUSES

**IMMEDIATE/DIRECT CAUSES** – are the circumstances that immediately precede the contact. They usually can be seen or sensed. They are the substandard actions and substandard conditions.

- After analysing the accident, identify all the immediate/direct causes. Place check mark for each applicable item. An explanation of each substandard action and substandard condition is given in Table I and Table II respectively.
- Once all the factors have been identified, explain in writing how each factor contributed to the accident.

For example, if the worker was injured following a blast because no one had guarded a diamond drill hole, place a check mark beside code **2** for “failure to warn”, then under section “4” explain that “the crew did not guard a diamond drill hole on the level above the blast”.

The causes selected do not necessarily relate to the actions or conditions created by the injured worker. For example, the cross shift may have been notified about the diamond drill hole but failed to pass on the information.

**BASIC CAUSES** – are the real reasons why the substandard actions and/or substandard conditions occurred; the factors that when identified, permit meaningful management control.

There are **basic/underlying** reasons why each substandard action and substandard condition was allowed to occur. In order to prevent the accident from recurring, it is important to determine the underlying/basic causes. According to the **Loss Control** philosophy, these basic/underlying causes are controlled by management.

- Mark each **basic/underlying** factor with a check mark as it relates to the accident. Multiple selections are possible.
- An explanation of each basic/underlying factor is given in Table III.
- Once all the basic/underlying factors have been identified, explain in writing how each factor contributed to the accident.

For example, if immediate/direct code **2** was selected because the crew had failed to guard a diamond drill hole on the level above the blast, mark a check mark by **#2 - Lack of Knowledge** (Personal Factors), **1 – Inadequate Leadership/Supervision** and **2 - Inadequate Engineering** (Job Factors) and explain that “the crew failed to guard the diamond drill hole because the crew was not aware of the diamond drill hole, supervision had not told the crew about it nor had engineering marked it on the print”.

## **INTERVIEWING WITNESSES**

- 1) Interview eyewitness first.
- 2) Keep it to the team and the witness only - in private.
- 3) Get only the facts.
- 4) Stay away from fault finding.
- 5) Keep your opinions to yourself.
- 6) Ask questions to fill in any gaps.
- 7) Remember who, what, why, when and how.
- 8) Be sure you understand the statement as employee meant it.
- 9) Ask for suggestions on ways to prevent a recurrence.
- 10) Do not forget to thank the person sincerely.
- 11) Record all data accurately.

## INVESTIGATION GUIDE

Investigation requires "looking into" all facts involved in the accident. You must determine:

Who

Where

What

When

accomplished by

- Inspection/ observation
- Inquiry and discussion
- Knowledge of operations
- Knowledge of safe procedures
- Hazard recognition

Why

Since every accident follows a sequence, it is important to determine each step of the sequence:

PEOPLE	CAUSE	ACCIDENT, INJURY OR DAMAGE
<p>Was the person involved:</p> <ol style="list-style-type: none"> <li>1. Trained in safe working methods?</li> <li>2. Aware of the consequences of his actions?</li> <li>3. Capable of performing his job? <ol style="list-style-type: none"> <li>a. Were there physical limitations?</li> <li>b. Were there external limitations?</li> </ol> </li> <li>4. Aware of proper methods, consequences, and limitations and still took short cuts?</li> </ol>	<ol style="list-style-type: none"> <li>1. What conditions of the plant, equipment, machinery, tools, etc. contributed to the accident?</li> <li>2. What employee actions contributed to the accident? (Note: both #1 and #2 are usually involved.)</li> </ol>	<p>Describe the accident and injury to help:</p> <ol style="list-style-type: none"> <li>1. Identify the accident causes.</li> <li>2. Develop statistics that identify patterns, trends, or accidents of a repeat nature.</li> <li>3. Decide if the corrective action taken is effective or if it is still needed.</li> </ol>

*It is imperative that you don't stop at this point*

Corrective action is vital if similar accidents are to be prevented. After the cause is identified, select a corrective action.

Does:

- Your recommendation involved the correction of an unsafe condition?
- Corrective action involves additional education or specific training of employees?
- Your recommendation involved different personnel selection and orientation?
- Your recommendation involves increased monitoring or supervision on your part?

**Remember:** Proper corrective action may involve a variation or combination of each step.

STEPS IN ACCOMPLISHING YOUR CORRECTIVE SUGGESTIONS:

- Select the person, department, or function that will best apply your suggestions and recommendations.
- Set dates.
- Follow up.

**Remember:** By removing the cause, you reduce the possibility of similar accidents recurring.

## ACCIDENT INVESTIGATION TECHNIQUES - STANDARD OPERATING PROCEDURE

### PURPOSE:

This document will provide a supervisor with comprehensive guidelines to be used in the investigation of any accident, which occurs on mine property. These guidelines will enable the supervisor to determine what happened, how it happened, and most important, why it happened.

### CASUAL FACTORS:

These factors should be recorded and included in reports and will cover all relevant facts:

#### WHO:

1. Who was injured?

---

2. Who saw the accident?

---

3. Who was working with him/her?

---

4. Who had instructed/assigned him/her?

---

5. Who else was involved?

---

6. Who else can help prevent recurrence?

---

7. Who was his/her supervisor?

---

WHAT:

1. What was the accident?

---

---

2. What was the injury?

---

---

3. What was he/she doing?

---

---

4. What had he/she been told to do?

---

---

5. What tools were being used?

---

---

6. What machine was involved?

---

---

7. What operation was being performed?

---

---



8. What instructions had been given?

---

---

9. What specific precautions were necessary?

---

---

10. What specific precautions were given?

---

---

11. What protective equipment was being used?

---

---

12. What protective equipment should have been used?

---

---

13. What had other persons done that contributed to the accident?

---

---

14. What problem or question did he/she encounter?

---

---

15. What did he/she or witnesses do when the accident occurred?

---

---

16. What extenuating circumstances were involved?

---

---

17. What did he/she or witnesses see?

---

---

18. What will be done to prevent recurrence?

---

---

19. What safety policies or procedures were violated?

---

---

20. What new or revised policies or procedures are needed?

---

---

21. What safety training was given?

---

---

22. Was the training documented?

---

---

WHEN:

1. When did the accident occur?

---

---

2. When did he/she start on the job?

---

---

3. When was he/she assigned on the job?

---

---

4. When were the hazards pointed out to him/her?

---

---

5. When had his/her supervisor last checked on the progress of the specific job assigned?

---

---

6. When did he/she first sense something was wrong?

---

---

WHERE:

1. Where did the accident occur?

---

---

2. Where was he/she at the time?

---

---

3. Where was the supervisor at the time?

---

---

4. Where were fellow workers at the time?

---

---

5. Where were other people who were involved, at the time?

---

---

6. Where were witnesses when the accident occurred?

---

---

WHY:

1. Why was he/she injured?

---

---

2. Why did he/she do what he/she did?

---

---

3. Why did other persons do what they did?

---

---

4. Why wasn't protective equipment used?

---

---

5. Why weren't specific instructions given him/her?

---

---

6. Why was he/she in the position he/she was?

---

---

7. Why was he/she using the tools or machine he/she used?

---

---

8. Why didn't he/she check with his supervisor when he/she noticed things weren't as they should be?

---

---

9. Why did he/she continue working under the circumstances?

---

---

10. Why wasn't the supervisor there at the time?

---

---

---

**NOTE I: The supervisor's objective is not to place blame on anybody, but rather to prevent recurrence.**

---

#### **SUPERVISOR'S RESPONSIBILITIES:**

The immediate responsibilities of the on-site supervisor include securing the scene of the accident when appropriate, emergency rescue and medical first aid, and taking action to minimize the possibility of IMMEDIATE future accidents.

## **SUPERVISOR'S RECOMMENDATIONS:**

Provide specific recommendations of corrective actions to eliminate casual factors to include but not limited to:

- A. Job safety analysis
- B. Job instruction training
- C. Elimination of or minimization of exposure to hazards.

---

NOTE II: Supervisors must remain as objective and unbiased as possible.

---

NOTE III: Supervisors must exercise GOOD judgement and ask the right questions.

---

## **GENERAL QUESTIONS TO BE ASKED:**

1. Was there a hazardous condition?

---

---

---

2. Was it recognized?

---

---

---

3. Was it reported?

---

---

---

4. Was there a written or known job procedure?

---

---

---

5. Was it followed?

---

---

---

6. Did the job procedure anticipate the factor that contributed to the accident?

---

---

---

7. Was the employee trained properly?

---

---

---



8. Was there a violation of a safe job procedure or rule?

---

---

---

9. Was appropriate personal protective equipment specified for the job?

---

---

---

10. Was it used?

---

---

---

#### **SUGGESTIONS FOR BETTER INTERVIEWS:**

1. Conduct interviews with employees involved ASAP.
2. Visual details often provide a better understanding of the accident, so conduct the interview at the scene.
3. Insure the privacy of witnesses being interviewed to preclude the possibility of non-verbal intimidation by co-workers.
4. Interview all witnesses to insure the best reconstruction of the entire series of events.
5. Confirmation of observations is of utmost importance.
6. Look for all relevant facts.

This document is intended for use as a guideline only. Any other question or information determined by the supervisor to be pertinent shall be included in the report.

## RE-ENACTMENT

To be done only when it is absolutely necessary to verify critical facts or when necessary information cannot be gained any other way.

- Control all potential energy sources by locking and/or tagging.
- Nothing is to be touched or operated.
- Go through the motions only.
- Have the demonstrator explain the steps one-by-one.
- Act out the event up to but not including the contact, stage.
- Take no chances at any time.
- Use the most qualified person as demonstrator.
- Ensure all personnel not part of the re-enactment are kept in a safe zone.

## **REMEDIAL ACTION FOLLOW UP**

### **PROCEDURE**

#### Introduction

This procedure outlines the format for systematic follow up on the implementation of remedial action plans to make sure they are being carried out as planned.

#### Application

Remedial action plans developed for accidents, incidents, work refusals, inspections, job observations or safety suggestions are to be followed up on by carrying out the steps of this procedure.

#### Responsibility

The person approving the remedial action is responsible for following up to ensure it is being carried out and is working as planned and coordinating the involvement of any other departments.

#### Progress Reports

The person responsible for carrying out the remedial action will report verbally each week to their immediate supervisor on the status of the remedial action.

The person following up will maintain a follow up log for recording and tracking progress with remedial actions.

#### Verification

Within five working days after the scheduled completion date for corrective action the person responsible for corrective action will verify whether it is completed and working as planned or not.

#### Final Report

When the remedial action is completed and verified, a copy of the progress report will be forwarded to the Occupational Health and Safety Committee for audit purposes.

# FLOW CHART

Minor Loss Actual & Potential	Moderate Loss Actual & Potential	Serious Loss Actual & Potential
Preliminary investigation Only by supervisor	In-depth investigation by senior supervision	In-depth investigation by superintendent & when appropriate the OH&SC
Remedial action done by the supervisor	Review & approve by the Site Superintendent	Review & approve by the General Manager
Monitoring by the Site Superintendent	Remedial action done by the supervisor	Remedial action by the Site Superintendent
	Monitoring by Safety Department	Monitoring by Safety Department

We have an obligation to ensure that our people are receiving proper treatment and that the appropriate follow-up and documentation is in place whenever someone has a work related injury, or illness. With this in mind, the following procedures will be implemented immediately throughout the belt.

## INJURY/ILLNESS REPORTING

All work related personal injuries and illnesses are to be reported to supervision and first aid no later than the end of the shift on which it occurs.

## PERSONS REQUIRING MEDICAL ATTENTION

Prior to leaving first aid, personnel requiring medical attention are to be given a Miramar doctor's report form by the first-aid attendant. The form is to be completed by the Doctor and returned by the worker, to their supervisor. They will also be given written instructions for reporting the work or modified work after the medical attention has been received.

## HANDLING REPORTS

FIRST AID REPORTS: The medic will ensure that a copy of the completed report is given to the appropriate supervisor, no later than the end of the shift on which it was completed

DOCTORS REPORTS: The supervisor will ensure the report contains the necessary information. Initial or sign it, then give it to the medic. (persons who have seen a Doctor are not to return to work without a doctor's report)

**MIRAMAR HOPE BAY LTD.  
RETURN TO WORK REPORT**

**EMPLOYEE'S NAME:** \_\_\_\_\_

**1. I attended this client for the following:** (please check appropriate box below)

- Non-work related Illness ☐
- Non-occupational Injury ☐
- Occupational Injury ☐

**2. Please briefly describe the nature/diagnosis of the client's illness or injury:**

**3. The client was seen at/on:** (please check appropriate box and write in appropriate date below)

- Onset of illness/injury ☐ \_\_\_\_\_.
- At termination of illness/injury ☐ \_\_\_\_\_.
- Last seen on ☐ \_\_\_\_\_.

**4. The client may resume FULL duties on:** (please write the appropriate date below)

**5. The client may resume MODIFIED duties on:** (if applicable, please write appropriate date below)

**6. If the client is unable to perform full duties due to a physical condition, illness or medication, please complete the following:** (please indicate yes or no beside each item below)

- Walking:
- Walking (rough surfaces):
- Climbing stairs:
- Bending:
- Lifting (maximum weight):
- Prolonged standing:
- Working at height:
- Working in damp areas:
- Working in cold areas:
- Working in hot areas:
- Working underground:
- Working in noisy areas:
- Working outdoors:
- Operating/repairing mobile equipment:

**Date:** \_\_\_\_\_ **Medical Authority:** \_\_\_\_\_  
(please sign and print your name)

CORRECT EXAMPLE

## INVESTIGATION REPORT

File No.: \_\_\_\_\_

<b>1</b>	ORIGINATOR: <b>Sam Supervisor</b>	DATE OF EVENT: <b>7-12-96</b> <b>0800 am (X pm )</b>	DATE REPORTED: <b>7-12-96</b> <b>0900 am (X pm )</b>	DEPARTMENT: <b>MINE</b>		
	TASK BEING PERFORMED: <b>Rock Bolting</b>			LOCATION: <b>XY Stope</b>		
<b>2</b>	<b>INJURY OR ILLNESS</b>					
	INJURED'S NAME: <b>Joe Worker</b>			EMP. NO. <b>001</b>	AGE <b>35</b>	
	OCCUPATION: <b>Miner</b>			DATE OF HIRE <b>7-3-92</b>	SEX <b>M</b>	
	EXPERIENCE: <b>3 years</b>			PROPERTY DAMAGE PROPERTY DAMAGED/LOST: <b>None</b>		
	NATURE OF INJURY: <b>Cut hand</b>			NATURE OF DAMAGE:		
	PART OF BODY <b>Right hand</b>			ESTIMATED COST:		
	SUBSTANCE/EQUIPMENT INVOLVED: <b>Jackleg drill</b>					
	OTHER LOSSES: (Describe) <b>none</b>					
<b>3</b>	<b>DESCRIBE: (How the event occurred, include activity at the time)</b>					
	<b>Joe was drilling holes with a jackleg drill to install split set bolts.</b> <b>A small piece of loose rock fell from the roof, hitting Joe on the</b> <b>right hand. Upon investigation and by questioning Joe and his partner</b> <b>Bill Drill (witness). It was determined there was no scaling bar in</b> <b>their workplace so they had not barred down before starting to bolt.</b>					
<b>4</b>	<b>DESCRIBE IMMEDIATE CAUSES: (And the remedial actions taken to correct them)</b>					
	<b>Workers failure to get a scaling bar and bar down loose rock before</b> <b>starting to bolt. Corrective Action - Worker's were instructed by</b> <b>their supervisor to get a scaling bar and bar down loose rock before</b> <b>starting to bolt. Both workers were given a verbal warning for not</b> <b>following safe bolting procedures. They had been instructed in these</b> <b>procedures on 6-8-96. Corrective action was noted in log book</b>					
<b>5</b>	<b>ASSESS THE LOSS POTENTIAL</b>					
	<b>SEVERITY POTENTIAL</b> SERIOUS <input type="checkbox"/> 10 MODERATE <input checked="" type="checkbox"/> 5 MINOR <input type="checkbox"/> 1		ADD TO +	<b>PROBABILITY OF REOCCURRENCE</b> FREQUENT <input type="checkbox"/> 4 OCCASIONAL <input checked="" type="checkbox"/> 2 SELDOM <input type="checkbox"/> 0	EQUALS =	<b>LOSS POTENTIAL RATING</b> <b>( 7 )</b>
	SIGNATURE OF INVESTIGATOR: <u>Sam Supervisor</u> DATE: <u>7-12-96</u>					

Ratings of 5 OR LESS forward both copies to **The Safety Department** at the end of the shift.

Ratings of OVER 5, give copy to the person doing the in-depth investigation and forward the blue copy to **The Safety Department** at the end of the shift.

## DEFINITIONS

ACCIDENT	is an undesired event that results in harm to people, damage to property or loss to process.
BASIC /UNDERLYING CAUSES	are the real reasons why the substandard actions and /or substandard conditions occurred; the factors That when identified, permit meaningful management control.
FIRST AID INJURY	is any one-time treatment and subsequent treatment of scratches, cuts, burns, splinters, etc., which do not require medical care even when provided by a registered professional personnel.
IMMEDIATE /DIRECT CAUSES	are the circumstances that immediately precede the contact. They usually can be seen or sensed. They are the substandard actions and substandard conditions.
INCIDENT	is an undesired event, which under slightly different circumstances, could have resulted in harm to people, damage to property or loss to process.
LOSS POTENTIAL	is a measure of the probability of occurrence and expected severity of the effects. (RISK)
LOST TIME INJURY	is any injury that results in actual or scheduled work days away from work (includes fatal injuries)
MEDICAL AID ONLY INJURY	is a medical injury that does not result in work days lost.
MEDICAL INJURY	is any injury for which medical treatment was provided and the claim is allowed and paid by the Workers' Compensation Board. It includes the medical aid only, lost time and fatal injuries.
PREVENTIVE ACTION	is an action taken to prevent an accident from occurring by eliminating or minimizing one or more of the casual factors identified in an accident investigation.
PROBABILITY OF RECURRENCE	<b>Frequent</b> – Accident likely to occur several times. <b>Occasional</b> – Accident expected to occur sometime <b>Rare /Seldom</b> - Accident unlikely to occur but possible



**Table I****IMMEDIATE/DIRECT CAUSES****SUBSTANDARD ACTIONS****General Examples**

Keep in mind these causes deal with the actions of people.

<b>01</b>	<b>Operating equipment without authority</b>	Situations where special rules, special permits or skill training are required.
<b>02</b>	<b>Failure to warn</b>	People, including supervisors, are aware of a dangerous condition, but fail to advise other people and/or management.
<b>03</b>	<b>Failure to secure/make safe</b>	Not shutting down or preventing access to hazardous or improperly operating equipment or area, not locking-out electrical or operating equipment, not scaling rock (mining).
<b>04</b>	<b>Operating at improper speed</b>	Driving vehicle or operating other equipment outside of design or prescribed limits. Includes running or hurrying to complete the job.
<b>05</b>	<b>Making safety devices inoperable</b>	Causing guards, barriers, governors or warning devices in place not to operate as designed (could be more dangerous than <u>removing</u> a device since others may believe it would operate properly if there).
<b>06</b>	<b>Removing safety devices</b>	Removing guards, barriers, warning devices.
<b>07</b>	<b>Using defective equipment</b>	Continuing to use hazardous, poorly operating equipment <u>known</u> to be defective.
<b>08</b>	<b>Using equipment improperly</b>	Not using the equipment the way it was supposed to be used.
<b>09</b>	<b>Failure to use PPE properly</b>	Self-explanatory.
<b>10</b>	<b>Improper loading</b>	Loading materials incorrectly either in number, sequence, distribution or size in vehicles, equipment or storage areas.
<b>11</b>	<b>Improper placement</b>	Placing equipment and/or materials in a hazardous or disruptive position.
<b>12</b>	<b>Improper lifting</b>	Causing injury to the person doing the lifting, injury to other people, damaging property or interrupting process through an improper lifting technique.
<b>13</b>	<b>Improper position for task</b>	People taking a position so as to cause injury, damage to property or loss to process; loss could result from one particular event or over a period of time.
<b>14</b>	<b>Servicing equipment in operation</b>	Attempting to repair, service or adjust equipment while it is operating.
<b>15</b>	<b>Horseplay</b>	Any activity not part of the normal routine of work, which creates a disruptive or hazardous situation, usually done for "fun" or to ease boredom.

<b>Table II IMMEDIATE/DIRECT CAUSES</b>		
<b>SUBSTANDARD CONDITIONS</b>		<b>General Examples</b>
<i>Deals primarily with physical, mechanical or environmental conditions.</i>		
<b>01</b>	<b>Inadequate Guards or Barriers</b>	Includes guards or barriers which do not provide the needed protection or are not in place.
<b>02</b>	<b>Inadequate ground support</b>	Insufficient number of rock bolts or other means of ground support. Ground support should have been installed but wasn't
<b>03</b>	<b>Inadequate or Improper PPE</b>	Includes PPE not made available or which does not provide needed protection.
<b>04</b>	<b>Defective tools, equipment or material</b>	Could be defective through normal wear and tear, misuse and/or abuse or inadequate design or materials.
<b>05</b>	<b>Congestion or restricted action</b>	People, materials or equipment in a space or area inadequate for their safe or efficient operation.
<b>06</b>	<b>Inadequate warning system</b>	Includes communication of warnings and coverage of required areas (eg.: signs, labels, colour-coding, available warnings and lights).
<b>07</b>	<b>Fire and Explosion Hazards</b>	Self-explanatory.
<b>08</b>	<b>Substandard housekeeping</b>	Includes presence of contaminants or other substances eg. slippery substances on floor which should have been cleaned up; unnecessary items, inefficiency in the availability of tools, materials and equipment.
<b>09</b>	<b>Hazardous environmental conditions: dust, gases, smoke, fumes, vapours</b>	Includes chemical, biological (insects, animals, plants, bacteria, viruses, fungi, etc.)
<b>10</b>	<b>Noise exposure</b>	Noise levels which can injure or cause stress to people, equipment or materials, including exposure over an extended period; noise levels which interfere with communication or recognition of necessary auditory signals.
<b>11</b>	<b>Radiation exposure</b>	Radiation levels (ionizing or non-ionizing, such as light or heat), which can injure or cause stress to people, equipment or materials, including exposure over an extended period.
<b>12</b>	<b>Temperature extremes</b>	Hot or cold, indoors or outdoors, sudden or over an extended period (includes air, equipment and material temperature), could cause damage or stress.
<b>13</b>	<b>Inadequate or excessive illumination</b>	Deals with light adequate to function or perform a task.
<b>14</b>	<b>Inadequate ventilation</b>	Includes natural or mechanical ventilation, which supplies sufficient oxygen and protects against airborne contaminants or gases (for example, carbon monoxide).
<b>15</b>	<b>Ground Conditions</b>	In the mine environment, created by poor blasting practices, poor engineering practices, geological features.

An explanation of each basic/underlying factor is shown in Table III.

**Table III BASIC/UNDERLYING CAUSES OF ACCIDENTS**

<b>PERSONAL FACTORS</b>	
<p><b>INADEQUATE PHYSICAL/MENTAL CAPABILITY</b></p> <p><b>Physical</b></p> <ul style="list-style-type: none"> <li>• inappropriate height, weight, size, strength, etc.</li> <li>• restricted range of body movement</li> <li>• limited ability to sustain body positions</li> <li>• substance sensitivities or allergies</li> <li>• vision or hearing deficiency</li> <li>• other sensory deficiency (touch, taste, smell, etc.)</li> <li>• respiratory incapacity</li> <li>• other physical disabilities</li> </ul> <p><b>Mental</b></p> <ul style="list-style-type: none"> <li>• fears and phobias</li> <li>• emotional disturbance</li> <li>• inability to comprehend</li> <li>• poor judgement or coordination</li> <li>• slow reaction time</li> <li>• low mechanical aptitude or learning aptitude</li> <li>• memory failure</li> </ul> <p><b>LACK OF KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>• inadequate orientation, training &amp; update training</li> <li>• lack of experience</li> <li>• misunderstood directions</li> </ul> <p><b>LACK OF SKILL</b></p> <ul style="list-style-type: none"> <li>• inadequate initial instruction</li> <li>• inadequate practice</li> <li>• infrequent performance</li> <li>• lack of coaching</li> </ul>	<p><b>STRESS</b></p> <p><b>Mental</b></p> <ul style="list-style-type: none"> <li>• emotional overload</li> <li>• fatigue due to mental task load or speed</li> <li>• extreme judgement/decision demands</li> <li>• extreme concentration or perception demands</li> <li>• confusing directions, conflicting demands</li> <li>• preoccupation with problems, frustration</li> <li>• routine, monotony, uneventful (meaningless activities)</li> </ul> <p><b>Physical</b></p> <ul style="list-style-type: none"> <li>• fatigue due to task load, duration, lack of rest</li> <li>• fatigue due to sensory overload</li> <li>• exposure to health hazard or temperature extremes</li> </ul> <ul style="list-style-type: none"> <li>• constrained movement</li> <li>• drugs</li> <li>• injury or illness</li> </ul> <p><b>IMPROPER MOTIVATION</b></p> <ul style="list-style-type: none"> <li>• improper performance is rewarding</li> <li>• proper performance is punishing</li> <li>• lack of improper incentives</li> <li>• excessive frustration</li> <li>• inappropriate aggression</li> <li>• improper attempt to save time or effort, avoid discomfort</li> <li>• improper attempt to gain attention</li> <li>• inappropriate peer pressure</li> <li>• improper supervisory example</li> </ul>

<b>JOB FACTORS</b>	
<p><b>INADEQUATE LEADERSHIP &amp;/OR SUPERVISION</b></p> <ul style="list-style-type: none"> <li>• instructions, orientation &amp;/or training</li> <li>• identification &amp; evaluation of loss exposures</li> <li>• work planning or programming</li> <li>• matching or qualifications &amp; job task requirements</li> <li>• performance measurement &amp; evaluation</li> <li>• inadequate or incorrect performance feedback</li> <li>• unclear or conflicting reporting relationships</li> <li>• unclear or conflicting assignment of responsibility</li> <li>• improper or insufficient delegation</li> <li>• inadequate policy, procedure, practices or guidelines</li> <li>• objectives, goals or standards that conflict</li> <li>• lack of supervisory/management job knowledge</li> </ul> <p><b>INADEQUATE ENGINEERING</b></p> <ul style="list-style-type: none"> <li>• consideration of human factors/ergonomics</li> <li>• standards, specifications &amp;/or design criteria</li> <li>• monitoring of construction, or initial operation</li> <li>• assessment of operational readiness</li> </ul> <p><b>INADEQUATE PURCHASING</b></p> <ul style="list-style-type: none"> <li>▪ Specifications on requisitions, or to vendors</li> <li>▪ Research on materials/equipment</li> <li>▪ Mode or route of shipment, inspection &amp; acceptance</li> <li>▪ transportation, handling &amp; storage of materials</li> </ul>	<p><b>INADEQUATE TOOLS/EQUIPMENT</b></p> <ul style="list-style-type: none"> <li>• assessment of needs &amp; risks</li> <li>• human factors/ergonomics considerations</li> <li>• standards or specifications</li> <li>• adjustment, repair, removal, replacement &amp; maintenance</li> <li>• availability</li> </ul> <p><b>INADEQUATE WORK STANDARDS</b></p> <ul style="list-style-type: none"> <li>• standards development, communication &amp; maintenance</li> <li>• inconsistent standards, procedures &amp; rules</li> <li>• inventory &amp; evaluation of exposures &amp; needs</li> <li>• coordination with process design</li> <li>• employee involvement</li> <li>• publication, translation, distribution</li> <li>• training, reinforcing signs, colour codes, &amp; job aids</li> <li>• tracking of work flow</li> <li>• updating</li> <li>• monitoring use of standards, procedures &amp; rules</li> </ul> <p><b>WEAR &amp; TEAR</b></p> <ul style="list-style-type: none"> <li>▪ Inadequate planning of use</li> <li>▪ Use by unqualified people or for wrong purpose</li> <li>▪ Improper loading or rate of use</li> <li>▪ improper extension of service life</li> <li>▪ inadequate inspection &amp;/or monitoring</li> </ul>

**continued**

- communication of safety and health data
- identification of hazardous items
- improper salvage &/or waste disposal

**INDEQUATE MAINTENANCE**

- preventive assessment of needs, lubrication & servicing
- reparation, adjustment/ assembly, cleaning or resurfacing
- communication of needs, scheduling of work
- examination of units, part substitution

**ABUSE OR MISUSE**

- condoned by supervision
  - intentional
  - unintentional
- not condoned by supervision
  - intentional
  - unintentional

-End-

## **APPENDIX B**

### **Miramar's Environmental Policy**





300-889 Harbourside Drive, North Vancouver, B.C. V7P 3S1  
phone 604-985-2572 fax 604-980-0731

### **Miramar's Environmental Policy**

We are committed to engaging in responsible, sustainable business practices in the way we deal with our investors, northern communities, and the environment. To this end, the Board of Directors adopted the following Environmental Policy:

*Miramar takes very seriously its responsibility to act as a steward of the environment. Therefore, Miramar will:*

- Conduct all operations in an environmentally sound manner which ensures compliance with all applicable national and local regulations
- Assign accountability and responsibility for implementation of the environmental policy and make environmental performance an important factor in the management review process
- Provide adequate resources, personnel and training so that all employees are aware of and able to carry out their responsibilities in accordance with the environmental policy
- Communicate openly with employees, regulatory agencies and the public on environmental issues and address concerns pertaining to potential hazards and impacts
- Work in cooperation with industry, the public and government toward the development of responsible environmental policies, laws, and regulations
- In locations where environmental regulations are absent, apply best management practices to achieve environmental protection consistent with industry standards
- Implement operating practices which incorporate the efficient use of energy and materials and minimizes the use and production of hazardous substances
- Establish and maintain appropriate emergency response plans for all activities and facilities
- Maintain a self-monitoring program at each facility to ensure compliance
- Conduct periodic environmental assessments at all Miramar facilities and develop and implement action plans to correct potential deficiencies in a timely manner
- Encourage all employees to report to management any known or suspicious departure from this policy or related procedures

Approved:



Tony Walsh, President and CEO

10/11/02

Date