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EXPLORATION HEALTH AND SAFETY MANUAL

A GUIDE TO A

SAFE & HEALTHY

WORKPLACE

Rev. No.	Date	Section	Description of Revision	Prepared/Revised by
0	1996			Exploration Safety Group
1	Jan, 1997	All	See Forward	Cameco Exploration Safety Officer
2	Mar, 2004	All	Meet the current Cameco Exploration Health and Safety Policy best practice guidelines	Cameco Exploration Safety Officer
3	Feb, 2008	All	Update and revise deemed to be outdated.	SHEQ Coordinator and Data & Quality Assurance Coordinator
4	Apr, 2010	Appendices	Contact names and numbers, formatting	SHEQ Coordinator and Sr. Administrative Assistant
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10				

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Foreword:

The information presented in this manual was in part first compiled in 1996 by the **Exploration Safety Group** in Ontario and modified in 1997, by Cameco Exploration's Health and Safety Officer, for use in Saskatchewan. Cameco Exploration did not participate directly in formulating this Groups policy; however, the Exploration Health and Safety Officer was in contact with a number of the contributors of the original document.

This manual was revised in 2004 to meet the current Cameco Exploration Health and Safety Policy best practice guidelines. The information supplied herein is believed current and is in agreement with The Saskatchewan Occupational Health and Safety (OHS) Regulations, 1996.

This manual is not a definitive guide to government regulation or to practices or procedures wholly applicable to the exploration sector.

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SECTION 1

Introduction

Purpose:

This Health and Safety Manual is provided to assist and encourage exploration employers, employees and contractors to ensure safe and healthy workplaces.

Motto: ***"No job is so important that we can't take the time to do it safely!"***

Scope:

- to communicate new and proven techniques and technologies that affect health and safety.
- to establish results oriented working groups
- to address health and safety issues
- to identify and prioritize health and safety hazards unique to the mineral exploration sector and propose effective solutions.
- to identify and promote appropriate sector specific training programs that promote a healthier and safer workplace.
- to establish procedures for certain aspects of diamond drilling, which pertain primarily to safety and the environment.
- This document will be reviewed at a minimum of once every three years.

SECTION 2

Roles and Responsibilities

Health and Safety activities are based on specific individual responsibilities, most of which can be found in the Occupational Health and Safety Act and Regulations for each province. In the Saskatchewan regulations these are discussed under Part III.

All individuals in the company, at all levels and functions, are responsible for understanding and carrying out the responsibilities and duties as presented in the Occupational Health and Safety Act for that jurisdiction and in conjunction with that company's Health and Safety Policy.

It is emphasized that **all employees** read and become familiar with the Occupational Health and Safety Act and all applicable regulations, along with Cameco's Exploration Health and Safety Manual. Employees must know what their responsibilities are, and have the required ability and training to fulfil them.

In 2007, the Safety, Health, Environment and Quality (SHEQ) Management System was introduced to Cameco's Exploration Department. The SHEQ roles and responsibilities are outlined in Appendix V.

Health and safety is not an addition to an employee's job. It is an integral part of that job-a full-time component of each individual's responsibilities.

SECTION 3

Health and Safety Representative (HSR)

At an exploration project where the number of workers regularly is less than ten, the HSR shall be the Project Geologist or his designate.

The HSR shall inspect the workplace a minimum of once a month. Camp inspection reports are required to be filled out within seven days of mobilization and monthly thereafter until the end of that field season. The HSR must report any situations that may be a danger to workers or to the public. The HSR must then make recommendations and report his or her findings to the Exploration SHEQ Coordinator.

Accidents and incidents must be reported to the Exploration SHEQ Coordinator as soon as possible, after the occurrence.

Copies of **Site Inspection Reports** (Appendix I) and **Incident /Accident Reports** (Appendix II) shall be forwarded to the Exploration SHEQ Coordinator. Lost Time Incidents or Medical Aid occurrences, to either Cameco personnel or Contractors employed by Exploration, must be reported to the Exploration SHEQ Coordinator within 24 hours of the occurrence to meet corporate SHE-20 reporting requirements.

SECTION 4

LEGAL DUTIES

Under Health and Safety Legislation, refer to applicable Legislation in your particular jurisdiction.

Employer Guidelines:

- Provide the required Personal Protective Equipment (PPE) to ensure the health, safety and welfare of the worker.
- Ensure PPE is adequately maintained and in good condition.
- Ensure health and safety measures and procedures are carried out in the workplace.
- Take every reasonable precaution to protect the worker in the workplace.

Supervisor Guidelines:

Ensure that a worker:

- Works with and uses proper PPE, and procedures required.
- Is advised of the existence of any potential or actual danger to the health or safety of the worker, of which the supervisor is aware.
- takes every precaution reasonable, in the workplace, for his or her protection.

Worker Guidelines:

- reports to his/her employer or supervisor the absence of, or defect in any equipment, or PPE, of which the worker is aware and which may endanger himself or herself or another worker.
- reports to his/her employer or supervisor any health and safety issues or the existence of any hazard of which he/she knows.

SECTION 5

General Health & Safety Rules

Effective rules serve as guidelines to employee behaviour on an activity that has an inherent risk. The following definitions will guide employees when relating the terms based in this manual.

- **Standard** - A standard is an established criteria for effective performance, the basis against which desired performance is measured.

- **Rule** - A rule is a prescribed guide for conduct or action.

- **Procedure** - A procedure is an established and defined method of performing specific work. Procedures usually present a step-by-step prescription to do a task consistently and with maximum efficiency; they are best applied to critical tasks with high potential for loss.

General Safety Rules

General rules are broad in nature and apply throughout the organization.

- Follow instructions; don't take chances. If you don't know, ask.

- Report immediately any condition or practice you think might cause injury to employees or damage to equipment.

- Put everything you use in its proper place. Keep your work area clean and orderly.

- Use the right tools and equipment for the job and use them safely.

- Whenever you or the equipment you operate is involved in an accident, regardless of how minor, report it immediately. Get first-aid promptly.

- Wear approved personal protective equipment as directed. Keep it in good condition.

- Don't horseplay; avoid distracting others.

- When lifting, bend your knees, grasp the load firmly, then raise the load keeping your back as straight as possible. Get help for heavy loads.

- Obey all rules, signs, and instructions.

Rule Compliance and Recognition

Commendations will be an integral part of the rule compliance program. Retraining and guided skill development will also be part of the rule compliance program. Exemplary performance will be recorded in personnel files and performance review documentation.

The following guidelines serve only as an example of addressing violations of rules, and although perhaps reasonable, these have **not** been adopted by Cameco Exploration as policy.

Stages of Disciplinary Action

	Punitive Approach	**Positive Approach**
First Offence	Oral Warning	Supervisor and worker privately discuss the problem. Supervisor stresses why the standards are important, what must be done, and expectations that the person will do it.
Second Offence	Written Warning	Supervisor and worker review the facts, discuss mitigating factors, and agree on a specific course of correction. Supervisor may follow this up with a memo to the worker, summarizing the discussion and stating the worker's willingness to cooperate.
Third Offence	Time Off Without Pay	Supervisor asks the worker to decide whether or not he or she wishes to continue working for the company. which means meeting the performance standards. Worker gets a day off, to think it over and make a decision.
Fourth Offence	Discharge	Discharge

SECTION 6

Safe Work Practices

In the mineral exploration industry, there are an inherent number of hazards on every project. In order to minimize accidents and injuries, a series of safe work practices have been developed and adopted by Cameco Exploration to prepare employees for dealing with those hazards **before** an accident occurs.

Following is a list of these procedures:

- New Employee Orientation
- Personal Protective Equipment
- Tools & equipment
- First Aid
- Emergency Response Plan
- Transportation
- Water and Ice Safety
- Wildlife: Encounters and Solutions
- Camp Management

The company will ensure that copies of this manual are available for each employee. The employee is accountable to review and be thoroughly familiar with all of the Safe Work Procedures that relate to his/her work activity.

It is the responsibility of the supervisor to ensure that all workers under his/her direction are familiar with the required work procedures.

SECTION 7

New Employee Orientation

A general orientation / induction to the project and Cameco's safety culture is a necessity for new employees. A great deal of basic information can be presented, allowing them to feel more comfortable in their new environment. This is to be considered the initial "general" introduction to the work place, which all employees must receive prior to assignment to the work situation. This is not a job specific orientation but a first introduction to critical Health and Safety requirements relevant to the project.

The program will include as a minimum:

- The Corporate Safety, Health, Environment and Quality Policy (SHEQ)

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- SHEQ Awareness Guide
- Hazards and Accident / Incident reporting
- Actions in an emergency
- General rules and procedures
- Regulatory requirements
- First aid / medical facilities
- Site specific general hazards
- Pair the new worker with an experienced worker where possible
- Use of personal protective equipment
- Industrial hygiene policies.

The designated HSR is required to carry out training in the field concerning all aspects of Health and Safety as it pertains to Cameco's Exploration programs.

SECTION 8

Personal Protective Equipment

Personal Protective Equipment (PPE) is the "first line of defence" in controlling hazards on the job, so it is extremely important for it to be used properly and in accordance with established standards.
The employer is responsible for providing PPE and the worker is responsible for its proper care and maintenance. The following items of PPE are recommended;

Eyes:

- Wear safety glasses with side shields while sampling rocks, blasting, operating a chain saw, rock saw, fire pump or when slinging any overhead load. Goggles give even greater protection and are preferable for any work above eye level and when handling hazardous materials. Serious eye injuries from branches can occur while walking through the bush, so it is recommended to wear safety glasses at all times while traversing.

- If you wear regular glasses, get safety lenses and removable side shields for them or wear protective equipment such as a full face shield over them. It is especially important to wear goggles or a face shield when handling corrosives or other hazardous liquids..

Ears:

- Regular exposure to noise levels above 85 decibels (dB) can result in permanent hearing loss. If you are standing three feet from someone and feel the need to shout, the noise level probably exceeds 85 dB. The louder the noise, the shorter the exposure time required to damage your hearing. Prime sources of potentially dangerous noise include chain or rock saws, fire pumps, diamond drills, mining and quarrying equipment, aircraft and blasting operations.

- Muffs and ear plugs must be properly fitted and maintained in order to be effective. Tests have shown that hearing protection equipment that has, under ideal conditions in the manufacturer's laboratory, a noise reduction rating of 25dB, only reduces noise by about half that much in actual workplace settings. It is important that supervisors train workers in properly fitting and maintaining this equipment. The supervisor should also be aware of the actual noise levels of any machinery or processes, which workers will be exposed to, so they can advise them on how to protect themselves from permanent hearing damage.

Head:

- Working in any situation where there might be falling or flying debris requires the wearing of a CSA approved hard hat. Hard hats must be worn around all drill sites, pits or trenches, and around mine sites. The hat should fit comfortably, without being too tight or so loose as to fall over the eyes when bending forward.

Hands:

- Gloves are to be worn when performing heavy manual labour and insulated gloves are to be worn as protection against the cold. There are many types of gloves available and it is important to match the glove to the hazard from which you need protection. Leather gloves offer good protection from cuts and scratches as well as short term protection from fire and

heat. When handling corrosive materials, however, gloves made of nitrile, neoprene or butyl rubber, are required.

- To protect yourself from dermatitis and other skin inflammations, keep your hands clean by washing them with the mildest cleansing agent that will do the job..

Feet:

- Any long-distance hiking requires durable boots with non-slip soles and proper ankle support. CSA approved Level 1 safety boots (with a green triangle patch) should always be worn when handling heavy materials or using heavy objects to cut or hammer (e.g. axe, heavy sledge, chainsaw) or when subject to a potential puncture injury (e.g.drill site). Heavily insulated waterproof boots (with pull-out wool or felt liners) should be worn in cold weather.

Cameco Exploration has, in addition, a personnel protective clothing policy for those employees who require specific items in order to perform their duties. Employees are responsible to do their own purchasing and make an application for refund on a Travel Claim and Expense Report. Refer to Appendix III, **Personal Clothing Schedule**.

SECTION 9

Tools and Equipment

Common sense should prevail when you use tools and equipment at a remote work site.
Personal protective equipment (PPE) and proper clothing have been addressed elsewhere in this manual.

Axes:

- Dull axes tend to glance off a log, and can end up in your shin. Keep an axe file handy and sharpen your axe at least twice a day if it is in constant use.

- When the axe is not in use, keep the sheath on it. It not only protects the blade, but anyone who inadvertently stumbles into it. If you are traversing and want to put an axe in your pack, wrap it in a magazine if you don't have a sheath.

- When carrying an unsheathed axe, hold it by the handle close to the head with the blade pointing away from you. Never carry an unsheathed axe over your shoulder.

- If you are felling a tree for the first time, have someone with experience in the proper techniques train you. Before you begin chopping, check that the area is clear and that no branches or other objects will hinder your swing. Be sure you have a clear path of retreat. Do not fell trees when the wind is strong enough to make them sway. Wear safety boots and chop methodically and deliberately. Let the axe do the work for you.

Rock Hammers and Chisels:

- Always wear eye protection while chipping a rock sample as flying slivers can cause eye injuries. As with the axe, make sure your swing isn't impeded by foliage. Use caution when carrying the rock hammer as individuals have been injured from falling on them.

Chainsaws:

- The improper use of chainsaws results in serious and often disabling injuries. It is essential that all workers authorized to use chainsaws be thoroughly trained in their safe handling. Read the instruction manual for the particular model you will be operating.

- Wear safety boots, leather chaps above and below the knee, cut-resistant gloves, a hard hat, eye, and hearing protection.

- Ensure that anyone felling a tree is trained in the proper way to do it. Before cutting, clear the area and path of retreat of any obstructions.
- Ensure a sharp blade is being used to avoid kick-back of the saw.

- Kick-back is the major cause of most severe injuries. All chainsaws should be fitted with a chain brake, which immediately stops the chain if the saw bucks up. To avoid kick-back, cut from a comfortable and safe position to maintain full control over the saw. Never straddle the saw while cutting and do not use the tip of the blade for cutting.

Other guidelines to help you work safely with chainsaws are:

- ensure that all parts are tight and the chain is properly tensioned;
- adjust the idle so that when your finger leaves the trigger, the blade stops;
- do not use a chainsaw for cutting brush or stripping bark;
- do not walk with the saw running. Carry it with the blade pointed to the rear;
- start the saw on the ground or on a stump, not on your knee;
- do not smoke while refueling and do not refuel a hot machine; and
- always keep a first aid kit nearby.

SECTION 10

First Aid

An injury in the field usually happens in an instant and without warning. The faster an injury receives medical attention, the greater the chance for successful recovery.
It is Cameco's Exploration policy to have at least one crew member in the field trained in St. John Ambulance - Standard First Aid or its equivalent. All permanent Cameco field and supervisory personnel are required to take regular St. John Ambulance Standard first-aid and CPR training. It is required that all field personnel acquire this certification with-in one year of employment.
Specific regulations concerning first aid services can be found in the Occupational Health and Safety Regulations for each jurisdiction.
Each Cameco field employee is provided with a **Redi-Medic** (modified) First Aid kit. These should be carried in the employee's backpack at all times. A current list of contents includes;

- 1 Adhesive tape (1" roll)
- 4 Alcohol preps/antiseptic towelettes
- 10 Assorted bandages
- 1 Compress (4"wide)
- 1 Cup and instructions
- 1 First Aid Book
- 1 Matches and waterproof container
- 1 Multi-purpose pad (16"x24")
- 1 Polysporin (5 grams)
- 8 Safety pins
- 1 Scissors (7" medical)
- 1 Signal mirror
- 2 Skin closures
- 1 Soap
- 1 Space blanket
- 2 Sterile dressing (4"x 4")
- 2 Sterile dressing (2"x 2")
- 1 Sterile dressing gauge (2" roll)
- 1 Tensor bandage (2" wide)
- 2 Triangular bandages
- 1 Tweezer

Each project office should have a centrally located first aid kit that is available to all project staff. These kits should be inspected on a monthly basis and contents replenished as necessary.

Care of the Injured in a Remote Area

Wilderness environment is much more severe and poses a far greater threat to both rescuers and casualties.

First aid supplies should be reviewed to ensure that they are appropriate for remote settings. In a remote setting, the rescuer often must improvise equipment, such as splints, slings, and stretchers. Of all the first aid skills required in the wilderness, this ability to improvise is the most important. Additional equipment to protect both rescuers and casualties from the environment should be stored with the first aid kit. Other specific first aid items should be added based on the level of training of staff, location and season as well as type of work site and the legislative requirements of the jurisdiction you are working in.

SECTION 11

Heat & Cold Exposure

Heat Exposure

When a body sweats excessively to dissipate heat, the resulting loss of body salts and fluids cause a muscular reaction called heat cramps. Prolonged exposure to a hot environment causes heat exhaustion. When the temperature control mechanisms of the body fail, heat stroke results.

Heat Cramps

Look for:
- muscle spasms, painful cramps and excessive sweating.

What to do:
- give a glass of slightly salted water to drink (5mL of salt in one litre of water). Repeat only once in ten minutes if needed.

Heat Exhaustion

Look for:
- pale face, cold clammy skin;
- muscle cramps;
- headache and dizziness;
- weak pulse and rapid shallow breathing;
- vomiting and loss of consciousness.

What to do:
- move the person out of the heat;
- loosen clothing;
- give the fully conscious casualty slightly salted water to drink, as much as the casualty will take;
- watch breathing;
- get medical aid.

Heat Stroke

Look for:

- flushed, hot, dry skin;
- elevated temperature;
- rapid, weak pulse;
- noisy breathing;
- convulsions, nausea, vomiting;
- headache, dizziness, unconsciousness.

What to do:

- place at rest in a cool area;
- remove excess clothing and sponge with cold water to reduce temperature quickly to 37'C (98.6'F);
- watch breathing closely;
- get medical aid.

Cold Exposure

Exposure to cold can damage local surface tissue and cause general body cooling. Contributing factors include:

- temperature
- wind velocity
- worker's age and physical condition
- degree of protection from outer clothing or covering
- exposure to cold or icy water

Hypothermia

Look for:

- a dangerous lowering of the body temperature caused by cold, wind, wet clothing or immersion in water;
- shivering, slurred speech, stumbling, drowsiness;
- signs progressively becoming worse - shivering stops, casualty becomes unconscious and breathing stops.

What to do:

- remove to shelter, replace wet clothing gently and cover the head with the least possible movement;
- rewarm the chest, neck and lower trunk with indirect heat such as camp fire or heat from another person's body;
- give warm, sweet drinks if conscious;
- watch breathing closely and give artificial respiration if needed;
- if unable to get medical aid, transport the casualty gently.

Caution: ***Rough handling or excessive movement can disturb the heartbeat of a person in a severe state of hypothermia.***

Frostbite

Look for:

- exposed skin areas that become white, waxy, hard and numb as frostbite progresses.

What to do:

- remove jewellery and tight clothing;
- place the frostbitten area next to warm parts of the body to re-warm;
- take to medical aid.

What <u>not</u> to do:

- do not rub frozen parts;
- do not apply snow or ice;
- do not thaw unless the person can stay warm.

Heart Attack

Look for:

- pain in the chest, shoulders, lower jaw, and upper arm;
- complaints of heartburn or indigestion;
- pallor or blue-grey skin colour;
- sweating, apprehension and distress.

What to do:

- place the person at rest in a semi-sitting position, legs extended;
- call medical aid; tell them you suspect a heart attack;
- reassure the person that help is coming;
- watch breathing closely and give artificial respiration if it is needed;
- monitor the pulse at the wrist or at the neck for signs of circulatory failure.

SECTION 12

Emergency Response Plan (ERP)

No project or individual is immune from emergency situations. They affect communities, homes, workplaces, transportation facilities and the environment. The immediate consequences to human life and property can be extremely severe. The long-term cost, in terms of disrupted and damaged lives, may be incalculable.

Fortunately, there are ways to prevent or minimize the effects of emergencies. These measures are collectively known as emergency preparedness: a clearly defined and systematic approach to the control of emergency hazards. Experience shows that emergency preparedness saves lives, property and the environment, and can prevent emergencies from turning into disasters.

Emergency preparedness encompasses all activities that are necessary to prepare people and organizations to respond effectively to emergency or disaster situations. In emergency preparedness, the hazards are those that might develop at some future time. Preparations take the form of an Emergency Response Plan.

The law requires organizations to establish and maintain an Occupational Health and Safety Program. The development of a plan to deal with major emergencies is an element in such programs.

An ERP describes organizations and procedures for handling sudden unexpected situations.

The first step in the ERP process is determining what types of hazards may affect an individual exploration project. Targeting specific hazards allows the creation of a comprehensive ERP.

Natural emergencies, high winds, flood and forest fires, arise from climate or other environmental factors. Non-natural emergencies, like environmental and medical emergencies, associated with human activity.

Effective risk assessment helps prevent emergencies because most dangerous conditions can be recognized and corrected. Assessment helps to identify what sort of problems, an emergency is likely to cause, and what kinds of help the workplace will require to combat a given emergency. If an emergency does occur, the project team will be ready to respond more effectively. The assessment process should review resources available to combat an emergency. These include emergency response equipment and personnel, medical treatment, evacuation plans, communications, co-ordination, hazard measurement devices, and emergency power. The assessment should also include a review of pre-existing emergency plans, the emergency plans of neighbouring facilities and of the local community. Once the assessment stage has been completed, the organization can proceed to the control stage, the preparation of an emergency plan.

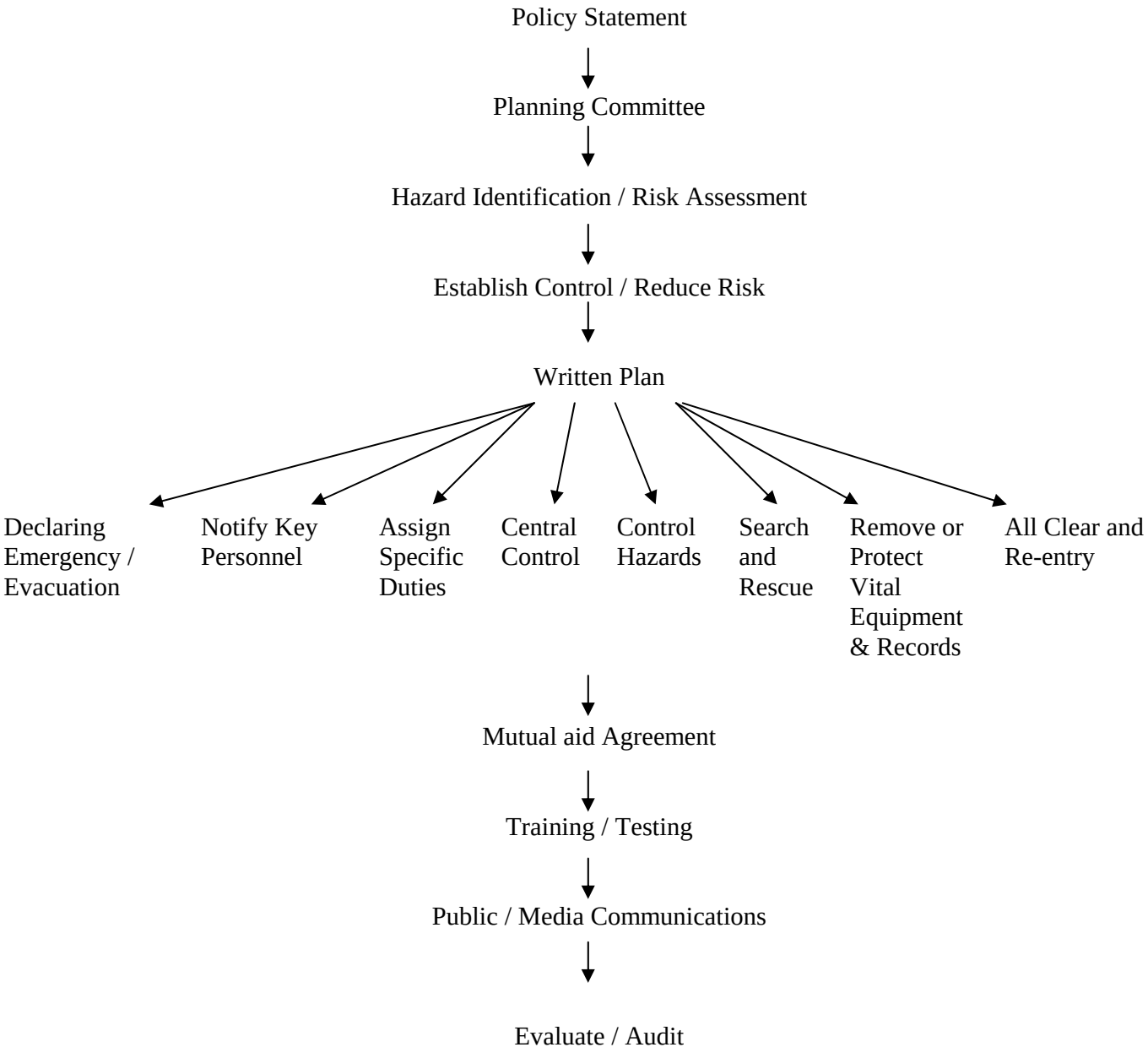
A comprehensive emergency plan addresses all the activities needed to prepare people and organizations to respond to emergencies and disasters. An emergency plan identifies types of emergencies, which might occur and describes measures that respond to these emergencies. There are generally three phases

to an emergency plan: prevention, response and recover.

Those concerned must be trained in the operation of the emergency plan by means of exercises and drills.

To remain effective the emergency plan must be audited at regular intervals. The support of management for the plan is essential to emergency preparedness.

Emergency Response Plan
Overview



General Assessment Rating of Probable Emergencies

How would you rate the probability of the following events occurring at your operation? Rate them in terms of the following six point scale by circling the appropriate number. Upon completing the assessment you will have guideline for establishing possible items in the emergency plan.

0 - Not applicable to our operation
1 - Not probable
2 - Low probability
3 - Moderate probability
4 - High probability
5 - Nearly certain

Fires							
Camp/building	0	1	2	3	4	5	
Chemical Spills And Leaks							
Oil spill		0	1	2	3	4	5
Injuries / Illness							
On site		0	1	2	3	4	5
Off site	0	1	2	3	4	5	
Natural Disasters							
Flood		0	1	2	3	4	5
Storm		0	1	2	3	4	5
Wind		0	1	2	3	4	5
Forest Fire		0	1	2	3	4	5
Transportation							
Automobile accident		0	1	2	3	4	5
Boat accident		0	1	2	3	4	5
Aircraft/Helicopter		0	1	2	3	4	5
Explosions							
Chemicals		0	1	2	3	4	5
Power Failure							
Gas shortage		0	1	2	3	4	5
Camp							
Spills		0	1	2	3	4	5
Fire		0	1	2	3	4	5
Medical Evacuation		0	1	2	3	4	5
Civil/Group Disobedience		0	1	2	3	4	5
Exposures							
Heat		0	1	2	3	4	5
Cold		0	1	2	3	4	5

Environmental

Water pollution	0	1	2	3	4	5
Soil pollution	0	1	2	3	4	5

Communication

Failure of System	0	1	2	3	4	5

Policy

The Policy statement reflects the project's commitment to emergency planning and identifying a senior person responsible for the policy and the development and administration (using people with appropriate expertise) of an effective emergency plan.

Hazard Identification/Risk Assessment

- Hazards should be identified and based on all available information grouped together according to their severity.

- The source of the hazard should be assessed to determine the likelihood and nature of the risk. Risk assessment should determine the initiative, circumstances or events, the pathways of a concern and the nature and probability of the effects of the hazard identified.

Planning to Control Emergency Hazards

A comprehensive emergency plan addresses all activities necessary to prepare people and organizations to respond to emergencies. An emergency plan identifies what types of emergencies might possibly occur, and provides systems which can respond effectively to each situation.

There are three general phases to an emergency plan:

Prevention: The major focus in emergency preparedness should be prevention -- activities designed to prevent accidents and emergencies from occurring.

Response: Responses to an emergency include lifesaving and protection activities that are implemented during the emergency -- activities like treatment of the injured, firefighting and evacuation.

Recovery: Recovery activities are those necessary to bring the organization back to normal or routine operations. For example, some persons may need counselling for post-traumatic stress.

The full range of emergency preparedness activities involves:

- prioritizing hazards and emergency conditions;
- developing emergency plans and procedures;
- assembling the equipment and other resources needed to combat emergencies;
- training those who will play a role in the emergency plan;
- training those who work on the project;
- conducting drills and exercises to test preparedness;
- continually monitoring and evaluating the program.

Evacuation Plan:

By air:

- Selected air carrier
- Availability of strip/landing pad
- Location (GPS reference) condition and weather
- Site location - clearly written instructions
- Access route - clear meeting point for patient transfer
- Pre-start contact made with receiving medical facility

By land:

- Local emergency service contact - name(s) and phone number(s)
- Site location
- Access route - clear directions and guide provided if necessary
- Pre-start contact made with area service

Note: Each camp must have a documented Emergency Response Plan. This should be displayed in a prominent location in the camp office (beside telephone) and list the steps to be followed during an emergency situation. A Cameco Exploration Emergency Contact list of appropriate medical, Cameco employees, and police telephone numbers should be posted. See Appendix IV

SECTION 13

Transportation

Travel in remote areas is often by means of watercraft, aircraft, all-terrain vehicle (ATV's) and snowmobiles. Legislation such as the Motor Vehicles Act regulates the operation of these vehicles. Operators of these vehicles must be fully aware of all legal requirements and passengers must obey the operator's instructions. In many cases, this will require specialized training of the operator. The supervisor is responsible for the workers and the unit being operated. In addition, the operator must be wearing the proper clothing and have access to manufacturer's manual and operating procedures.

Snowmobiles

It is important to remember that while on the job, snowmobiles are workhorses, not toys. Each year, hundreds of persons are seriously injured or killed in snowmobiling accidents. As with any other vehicle, there are "rules of the road" that must be followed in order to avoid such accidents.

When snowmobiles are to be used on a traverse, field crew supervisors should ensure that:

- all the machines are in good operating condition before setting out, and contain a tool kit, spare parts and emergency equipment;
- all drivers and passengers are wearing an approved helmet, a face mask and goggles;
- machines are used in pairs while on long traverses;
- new drivers are provided with operating and maintenance instructions;
- one person on each machine can troubleshoot minor problems and perform emergency repairs;
- all drivers should be aware of potential hazards of travelling across ice; it must be tested first and never crossed during freeze up or break up.

Because snowmobiles are often used in extremely adverse conditions, some additional equipment may be essential on a long traverse. This includes extra fuel, a map, compass, snowshoes or skis, knife, candles, extra clothing, block and tackle, axe, flashlights with extra batteries, flares and a first aid kit. A spare drive belt, sparkplugs, gas line antifreeze and tools should also be taken. Operators should carry a large space blanket for additional warmth in an emergency. Hypothermia is the greatest hazard encountered in snow vehicle travel. Everyone who uses a snowmobile should be made aware of the dangers of wind on exposed skin and learn the signs of hypothermia and its treatment.

All-Terrain Vehicles (ATVs)

Cautious driving, protective equipment and being prepared for emergencies are equally important here. However, there are some unique differences apart from the weather conditions in which they operate.

All-Terrain Vehicles are designed and manufactured for off-road use only. It is illegal to operate these vehicles on public roads. There are some special safety considerations:

- when going up, down or across a slope, always shift your weight towards the top of the slope;
- when turning, slow down to avoid overturning;
- when riding in shallow waters, slow down. Most ATVs can be operated in a river or creek with a maximum depth of 14 inches;
- do not park on a slope with soft ground - the ATV may overturn.

Trucks and Cars

Every operator of a vehicle must have a valid drivers licence. Operators driving on rugged bush and gravel roads should be aware of the hazards of gravel or bush road driving.

When driving on gravel or bush roads:

- keep your sights high and wide and keep your eyes moving.
- keep well back of other vehicles to ensure maximum visibility and reduce the chance of stone damage to your windshield, radiator or headlights;
- drive according to existing conditions, not the way you remember it. Bush roads can deteriorate rapidly due to washouts, floods, downed trees, ice, and whiteouts. Be aware of soft shoulders due to over blading.
- know your vehicle's and your own capabilities. Although a 1/2 ton truck is adequate for most conditions, you may have to resort to a 4-wheel drive, an ATV or even to walking.
- see and be seen. Reduce your speed, keep your headlights on and use the horn on blind corners or steep hill crests.

4-wheel drive should be engaged during the winter season when driving on un-paved surfaces. Above all, drive defensively and reduce speed according to the driving conditions.

All field vehicles will be equipped with emergency safety kits and,(2) spare tires, and a shovel in winter conditions.

Field supervisors shall ensure that:

- routine maintenance and safety checks are performed on all vehicles, prior to mobilization, each season;
- the emergency safety kit is present in each vehicle;
- heavy and bulky objects transported in truck boxes are anchored to ensure safe transport;
- hazardous materials are transported according to TDG regulations;
- standard field vehicles are not used as explosive carriers or tow trucks unless they are specifically equipped to do so;
- It is recommended that vehicle logbooks be kept, noting any problems with the vehicle such as, exhaust, tires, steering, headlights, brakes and windshield wipers.

Fixed-wing Aircraft

The pilot is the commander of the aircraft and his or her instructions **must** be followed. The Corporate Standards for Air Operators is a guidance document that provides a uniform standard for both Cameco and air operators providing air transportation of passengers and/or goods for Cameco. This document can be viewed at the following link: Notes://Mercury/85256FE4005834C0/C9980DACE00ECA9985256FD4005CEF8A/DCF9B4F4CBAC22D3852575C50071B1BD

The field crew supervisor must ensure that:

- personnel use safety equipment during flights;
- base camps are aware of flight plans and schedules;
- unsafe aircraft equipment is reported to the owner and the base manager;
- pilots are not pressured into trying to land or take off from too small an area or fly in unsafe weather;
- dock staff are supervised while unloading or loading float and ski planes;

Helicopters

There is an inherent risk in the use of helicopters for exploration activities. Instructions given by the pilot in command are to be adhered to at all times. The pilot is personally responsible for the safety of the flight and should never be unnecessarily distracted during the flight. Refer to previous link for Standards for Air Operator.

The helicopter crew shall ensure that:

- passengers are instructed as to the safest way to approach or leave a helicopter while the blades are rotating;
- personnel are trained to unload and load equipment safely;
- personal protective equipment such as safety glasses and hard hats are issued to personnel routinely working around the helicopter;
- there are no loose objects near the landing site that could be blown into the rotors;
- proper hand signals are used to give the pilot clearance for take-off after ensuring the skids are clear and personnel are a safe distance away.

Passengers shall:

- be aware of the location of the survival kit, the axe, first aid kit and Emergency Locator Transmitter (ELT). In case of an accident, the ELT provides a homing signal to pinpoint the location, which greatly reduces rescue time.
- carry all tools, skis and other long objects in a horizontal, rather than vertical fashion while boarding to prevent possible contact with the rotor blade;
- never throw or drop objects while the rotors are turning;
- ensure their hard hats are secure while approaching the helicopter;
- approach and leave the helicopter in a crouched position, always in the pilot's field of vision, **never toward the rear of the helicopter**;
- never place objects in the chin bubble or, in any other way, damage or scratch the windows or body of the helicopter. This could reduce the pilot's visibility.
- upon entering and exiting the helicopter, make sure that the doors are properly shut and that the seat belts are inside;
- field crews should be equipped with FM transceivers which have the same frequency as the helicopter. This minimizes confusion on pick-up and reduces flying time;

Remember: when you are dropped off by helicopter or fixed wing aircraft, there are no

guarantees you will get picked up later that day. Make sure you have your backpack and emergency rations with you at all times.

Boats and Canoes

As of September 15th, 2009, all operators of power boats will need to obtain a Pleasure Craft Operator Card. Federal Law requires all power craft operators, 19 years of age or younger, to have a "Pleasure Craft Operator" (PCO) Card. This requirement currently extends to all operators of power craft 4 m (13.1') in length or less as of Sept. 15th of 2002

When using any watercraft:

- each individual must wear a CSA/DOT approved lifejacket or personal flotation device that is suitable for their body weight and the conditions;
- each craft must have two paddles or oars and oarlocks, an anchor, rope, whistle or horn and bailing bucket and all other equipment in accord with all provincial and federal regulations.
- no watercraft shall be used by more occupants than the approved rating

The supervisor shall see that a suitable tool kit is provided for all boats and a spare motor is carried on large water bodies. All operators on an expedition shall make the supervisor aware of their traverse plans. Be aware of current weather conditions and do not boat in inclement weather.

When the distance to be traversed is not too great and intermittent bodies of water have to be crossed, the canoe is the simplest means of travel. If the operators think it is necessary, a small electric or gas-powered motor may be attached to the canoe for speed and convenience.

In loading the canoe, keep the weight centred and low by placing the heaviest articles on the bottom and the lighter things on top. The load should be arranged so it will not shift when the canoe rocks and so that passengers won't become entangled in the event of capsizing.

Equipment carried should include life jackets, bailing bucket and paddles. Where possible, an extra paddle should be carried in case one breaks or is lost overboard.

Equipment should be attached to the canoe in case of an upset. Should the craft upset some distance from shore, remain with the canoe.

During lake travel, it is advisable to stay as close to the shore as possible.

SECTION 14

Travel on Foot

Trip Preparation

Let people know what your destination is, when you intend to reach it, when you intend to return and what your route will be. When travelling on foot, a communication plan shall be in place. Careful planning is a key ingredient in a successful trip. Factors to be considered in preparing and outfitting yourself include your destination, the season, the number of travellers and the duration of the trip. Checklists are a useful aid in planning.

Backpack

Your backpack or pockets should contain:

- a compass, and topographic map or air photos. Know the area in which you are traversing;
- a pocket knife (preferably any army-style survival knife);
- wooden matches in a sealed bottle or film canister to keep them dry, and a candle;
- insect repellent;
- a whistle and small mirror (it can reflect a signal that can be seen up to 30 km away). ie: the mirror in a compass;
- a roll of electrical tape;
- some safety pins ;
- a couple of large, plastic garbage bags, which can be turned into a highly visible tarp with the help of the electrical tape, or used as emergency rainwear;
- a small first aid kit;

All these items should fit into a pocket or your backpack. If you are entering a remote area or are going to be away for more than a day or two, you should also include:

- a small flashlight;
- about 6 metres (20 feet) of thin nylon cord;
- footwear suitable for the terrain;

- extra clothes and a waterproof poncho;
- a nylon tarp;
- some bungee cords (they stretch easily and can be used to attach other items to your pack);
- additional food - high-energy foods like chocolate, granola bars, trail mix, raisins, dehydrated soups, bouillon cubes, salt;
- a large metal cup and pan (military mess kits can be fastened to the outside of your pack with the bungee cords);
- 12 metres (40 feet) of heavy-test fishing line, hooks and 6 metres (20 feet) of snare wire;
- a small axe
- bear spray (pepper spray)
- flare gun or pen flare.

General Travel Precautions

Travel in pairs, preferably with at least one person being experienced, or within communication distance (walkie-talkie).

- The less-experienced person should be learning, not just following.
- Travel at the speed of the slowest party member.
- If it is necessary to travel alone, use greater caution. Even a minor mishap may be fatal if there is no one to come to your assistance promptly.
- Avoid following too close to a person ahead of you to prevent branches from springing back into your face.

Inform others of your travel plan, or (if there is no one immediately available) leave a note and a map in camp, motel room etc. to be used if you cannot return, showing your planned route and any alternate routes that you might take. Include the expected time and date of your return.

- Be careful of cliffs and talus slopes.
- Do not smoke while travelling in the bush during the summer.

When travelling in winter, it is best to dress in layers so you can peel off a layer if you get too

hot - one wool layer and one nylon/polyester layer for wind breaking. Wear a toque or balaclava and wear sunglasses to avoid snow blindness. Wear lightweight snowmobile-style footwear with a spare pair of liners.

All field employees must be completely informed and familiar with any navigational device used. If a GPS instrument or compass fails or is lost, employees must still be capable of successfully finding their way back (i.e. be knowledgeable enough about their area or have a backup system of navigation).

Plotting and Executing Traverses

Plot your route carefully. Use the best information available such as air photos, maps and the comments of others familiar with the area. Be realistic in assessing what traverse can be made in the available time.

- Be thoroughly familiar with the use of your compass, and always use it carefully, it will be your chief navigational aid.
- Be aware of the local magnetic declination, know how to apply it to your particular compass, and always use it.
- Be sure that your compass is fastened to your body in such a way that it will not be lost.
- Avoid having iron objects near the compass when sighting (such as a ring, belt buckle, magnet or lanyard clip).
- Trust your compass, as it is usually right. However, the compass needle is aligned with the earth's magnetic field. Very rarely, in localities where there is iron formation or ultramafic rock present, the earth's magnetic field is significantly distorted or even reversed, producing an inaccurate reading relative to the north magnetic pole. Be aware of potential problems from the reference map used. If a compass reading seems wrong, check by taking a back bearing on your last compass checkpoint.
- If using a Global Positioning System (GPS) ensure that you have waypoints stored for your camp location and any sites that you will be frequently visiting.
- Be very cautious about using game trails or logging roads to make travel easier. These may gradually change direction, and take you considerably off course. Be aware that a normal pace will carry you almost twice the distance on a hard road surface compared to the usual bush surface.

- Be sure of where you step and avoid such dangers as slippery mud and logs, or unstable rocks.

- Be more careful as you become tired, because you will normally be less alert and less agile.

Avoid panic if lost or disabled, and above all stay put!

Slippery Surfaces

- Be very cautious about walking along logs (or avoid them entirely). When the inner bark begins to rot, it becomes very slippery when the surface is wet from dew or rain. If working extensively in this environment use cork boots.

- A fall of this nature can badly bruise or break a hip. Do not carry items in your hip pocket that may injure you if you fall.

- Lichen on rock outcrops is very slippery when wet.

- Do not travel in line up or down terrain where rocks may be dislodged. If it is impossible to avoid travelling in line, wait for each person to clear the danger area.

Crossing Creeks

Use extreme caution in crossing streams. The type of danger to be anticipated will vary with the characteristics of the stream being crossed.

- If possible, carry a staff on the downstream side leaning into it slightly to give better footing.

- In a fast stream, water depth above your mid-thighs can easily sweep you off your feet.

- It is preferable to use a light nylon rope and cross one person at a time, but the free end should be tied to a tree if possible.

SECTION 15

Water and Ice Safety

Water Safety

Water safety is particularly important in the northern region. Many lakes and rivers are perpetually cold - any exposure to these waters quickly results in hypothermia.

Winds can cause sudden storms resulting in rough water. Waves tend to build in the longitudinal direction of the lake, i.e., broadside to any small craft endeavoring to cross from one side to the other, the worst possible configuration. Supervisors must exercise discretion under such conditions and, if necessary, postpone the crossing until the wind has abated. If caught in such a situation, head into the waves at a 45° angle or greater.

Remember, in remote areas to capsize in cold water far from shore is to risk almost certain death due to hypothermia even if life jackets are worn. In the event of capsizing in cold water while wearing a life jacket, it is almost impossible to get back into a boat without assistance.

Once launched, a boater can reduce the chances of being involved in an accident. Major considerations include:

- Practicing proper navigation and safety skills. Enough emphasis cannot be placed on the use of proper boating safety techniques. It is important to learn these in a formal setting from professionals.
- Keep a constant watch on the wind and developing weather as squalls may build up in a matter of a few minutes, especially on northern lakes.

Ice Safety

When traveling on a frozen lake, beware of slushy areas and thin ice over up-welling springs. The latter will appear as dark, clear, round patches. If you can stay on clear ice, do so. Snow acts as an insulator and can prevent ice from freezing solid.

When crossing a frozen river or stream, avoid spots where a rock is protruding. There is usually an eddy where the water swirls around the rock and the ice will be thin.

When walking on unfamiliar ice, carry a pole. It can be used not only to test the ice before you, but as a support if you fall through. Be prepared to discard your pack in an instant.

If you do fall through and don't have a pole, extend your arms in front of you and kick your feet to the surface. Then, on your belly, wriggle your way out of the water in the same way that a seal does.

When you reach a place with solid footing, roll in powdery snow. It will absorb some of the

moisture and have an insulating effect while a fire is being built.

While traversing ice, snowshoes or skis will evenly distribute your weight over a larger area, making falling through the ice less likely. However, it is important to practice quickly removing your snowshoes in case you do break through the ice.

Thickness of ice required to carry the following loads:

Load	**Ice Thickness**
One man on foot	4 inches
Snowmobile	5 inches
¾ Ton truck	14 inches

SECTION 16

Wildlife: Encounters and Solutions

Regardless of where one sets up camp there is always some wildlife present and occasionally it can be a nuisance.

Bears rarely attack unless they feel threatened or are provoked. If a bear is encountered in the field there are several options:

- If the bear is unaware of you, stay downwind and move only when the bear's head is down. Stay calm and angle away or retreat;
- It is important, in an encounter, that the bear smells you first before making visual contact, if contact is unavoidable stay up wind. Then retreat or angle away;
- Climb a tree at least four meters, although this may not deter a black bear;
- If the bear is approaching or making threatening gestures, retreat and/or move to a tree talking with an authoritative voice dropping your pack to distract the bear if necessary, or
- Drop into the fetal position on your knees using your pack or clothing to protect your face and vital organs - keep still - the bear might prod, but people usually survive a mauling.

Bears may stand on their legs, retreat, move downwind or fake charges. Attacks are rare if the bear has been able to identify you and you are not making aggressive gestures. Bears with cubs and feeding bears should be avoided. The following lists of safety and control measures are from the Mineral Exploration in Western Canada Safety Manual.

Control Measures

- Avoid areas where previous bear problems have been noted.
- Food storage should conceal odours, and as far as possible, be in bear-proof containers, preferably away from high traffic and living quarters.
- Minimize food wastes.
- Incinerate garbage or bag it (double bagging preferred) and ship it out regularly.
- Bears may be attracted by scented cosmetics (hair spray, deodorant, etc.) and towards menstruating women. Good hygiene is important.
- Bears must never be fed.

- Inform wildlife authorities if there are bear problems.

Safety on Trails and Traverse

- Avoid or use caution in areas of high bear activity such as burns, old camps, dumps, fish spawning areas and berry patches.
- Look ahead for bears.
- Keep a mental note of climbable trees.
- Yell or make noise before entering dense bush. Make noise on the trail.
- Note unusual actions in other animals.
- Be alert for signs of activity such as droppings, footprints, uprooted logs, holes, scratch or bite marks on trees.
- Never approach a cub - retreat in the direction you've come from..
- Be alert for strange smells - bears smell strongly.

Bears in camp are a problem because they soon become used to attempts to scare them away. If possible, communicate with the local wildlife authority about a nuisance bear. If there is no alternative, a nuisance bear should be destroyed. Conservation officers should be notified in the event of a shooting. If a bear has to be destroyed, at a minimum, it must be buried and the coordinates recorded.

Caution and calmness are the two best defences in dealing with bears.

SECTION 17

Camp Management

Good camp management equally combines safety and concern for the environment, and common sense. It is extremely important for the field supervisor to be safety conscious as the supervisor's attitude and actions set the standards for the rest of the crew.

Before mobilizing camp, ensure all permits and authorizations are in hand from the appropriate regulatory bodies. Camp shall be set up according to permit requirements and conditions.

All garbage must be removed from the campsite, as per permit conditions, to a certified landfill site. In the meantime, reduce volume and avoid attracting bears and other nuisance animals, flatten all cans, and keep the garbage in sealed containers.

The field supervisor is responsible for ensuring that:

- campsites are located safely away from any potential hazards;
- flammable, hazardous materials such as propane/fuels are stored safely and fire extinguishers are located in every camp;
- open fires, when permitted, are kept small, are located in a safe site, and are thoroughly doused;
- appropriate first aid equipment is available at all times;
- food and water are stored and prepared properly;
- latrines / outhouses conform to permit conditions.

Camp Location

The following should be considered when selecting the camp location:

- open area close to safe drinking water
- away from potential slide or rock fall danger
- away from tall or dead trees and especially dead branches nearby that could fall into the campsite in a wind storm
- camp size - sufficient to carry out operations safely
- winter sites selected with regard to snow drifting problems

- access road (and helicopter pad where required) kept clear of snow for instant use in case of medivac.

Layout

Optimum conditions require

- decrease fire hazards by placing tents far apart, particularly kitchen and sleeping areas, at a minimum, 30 meters from a fuel cache or bulk tank storage area
- burn garbage, if permitted, in a safe open area away from camp
- store flammable liquids or hazardous substances in CSA approved, clearly marked containers far enough from the camp to avoid a potential fire
- locate helicopter pad away from camp.

Fire Hazards

There are two key elements of fire safety - prevention and early action with an established plan.

- Be aware of dangers from:
  - forest fires
  - propane tanks
  - gas lanterns
  - unattended stoves and fires
- Be aware of fire seasons in your jurisdiction, ie. In Saskatchewan, fire season is normally April 1st to October 31st
- Fire fighting equipment (required by regulation in your jurisdiction) should be kept in a separate cache and used only for fire fighting
- locate fire extinguishers in kitchen, office and sleeping quarters
- fire regulations may prohibit smoking while travelling in the bush
- a filled sand pail beside each tent may extinguish a fire in its early stage

Lightning

When a lightning storm approaches the camp

- disconnect the radio antennas

- move away from the radio

- ground the radio and antenna (if the antenna is struck, the charge will travel through the wire into the radio, damaging it and possibly setting the room on fire)

If outside

- avoid standing under tall trees or in open spaces, particularly on high ground

- get out of the water if you are boating

- seek the shelter of a vehicle if there is one nearby

Nuisance Animals

- Reduce the possibility of unwanted visitors with proper camp layout, food storage and garbage disposal

- Problem animals should be reported to local wildlife authorities

Communications

Dependable communications are absolutely essential in the event of an accident, a crew- member becoming sick, or lost or other emergencies such as a forest or camp fire.

- In remote areas, dependable communication, between camps and aircraft, as well as any other exploration activities based out of that camp, is essential.

- An Exploration Emergency Contacts call list should be kept at each project office.
- The written Emergency Response Plan shall be posted in the project office.

- All project team members at each location should know how to operate the communication device.

Fuels

Your camp may have various 45gallon drums of fuel. There may be several types of fuel which should be separated and stored in different locations as it is important not to mix them. Most drums are marked, however, the following distinguishing features should help in case drums have had their marking erased.

Fuels	Use	Distinguishing Features
Jet-B/Turbo B	Jet Helicopter, Twin Otter Turbo Beaver	Very pale straw colour, almost clear. Could be confused with Naphtha but has oilier smell
Avgas 100/130	Cessna 185, Beaver, Single Otter, DC-3	Yellowish, sticky with sweet smell
Regular Gas	Vehicles, some generators and the base for mixed fuels	Yellowish or dyed purple
Diesel P40, P50	Generators, drill motors, pumps, and oil stoves	Noticeably heavier than other fuels, bluish colour
Stove Oil	Oil Stoves	As for diesel
Naphtha	Colman Stove, heaters and lanterns	Clear, lighter fuel than Jet-B and evaporates more rapidly

Never store or use fuel near an open flame, and never smoke around fuel storage areas or when handling fuels. If in doubt about a fuel's identity, don't use it, and advise your supervisor.

SECTION 18

Abandoned Underground Workings

When exploration crews are required to investigate inactive or abandoned underground workings, the following procedures must be followed before and during entry.

Prior to Entry

- Before commencing any work on a project the owner shall give a notice in writing to the appropriate government agency containing such information as may be prescribed.

- An owner shall not begin any development, reconstruction or installation in inactive mine workings until the drawings and layout has been filed with the Department of Energy and Mines for review.

- In underground workings, a mechanical ventilation system shall be provided, maintained and used that will dilute and remove gases and contaminants to prevent exposure of workers to gaseous and oxygen deficient air.

- Energy and Mines may be able to provide mine plans and information concerning previous operations.

During Entry

- A competent person shall examine an underground area that is not ventilated, before any other person is permitted to enter the underground area.

- The examination prescribed above shall consist of an examination for;
  - oxygen deficiency
  - the presence of toxic gases
  - impounded water
  - forced ventilation
  - other dangerous conditions

- Before the competent person examines the underground area, he or she shall be provided instruction in writing setting out;

  - the hazards involved
  - the use of testing equipment required
  - the personal protective devices he or she is required to wear
  - any other precautions and procedures to be taken for his or her protection.

- Before work begins, the ground conditions shall be examined for dangers and hazards and, if required, made safe.

- Sampling and mapping of mineralized structures will take place only after determining that the workings are safe.

- If significant activity is deemed to be necessary, the services of a certified underground supervisor should be considered.

SECTION 19

Managing a Contractors Safety Performance

The work to be done by contractors providing services to the project should be assessed to determine the level of control required. Safety and health program requirements should be outlined in the bid documentation distributed to potential contractors.
As part of the selection procedure, the contractor should be required to provide information about past safety performance and operating procedures:

- injury rate
- WCB cost experience
- environmental incidents / accidents
- inspection and maintenance systems
- qualification of work crews and supervision
- properly trained employees
- property and liability insurance

Project Contractor Management System

A project contractor management system will provide the leadership and guidance to ensure that contractors work in compliance with legislated and company dictated standards.

Principles

- Contractor management on site will be proactive towards meeting or exceeding established standards.
- The project manager, or his designate, will be responsible for the contractor on site.
- Open and clear communication with the contractor.
- Before working on site the contractor and employees will undergo company and site induction processes to ensure their proper understanding of the work and the surrounding environment.

- Company personnel who deal directly with the contractor will have the same degree of responsibility, as the project manager, in the areas of health and safety.

- The contractor will be expected to monitor the quality of the work and services they provide.

Drill Crew Responsibilities

Diamond Driller

- Responsible for the safe operation of the drill and for the safety and direction of the helper

- Responsible for the progress of core recovery and care of the core during his shift

- Responsible for the protection of the environment and complying with all company safety rules and work procedures

- Report to his supervisor any dangerous conditions of work as well as any defective piece of equipment or tool that may be considered dangerous

- Have completed Diamond Driller Common Core and Runner Level Training Program

Foreman

- Responsible for the progress and efficiency of the job by performing the drilling at specified standards consistent with good core recovery, safety of the crew, care of the equipment and, in general, proper working conditions

- Should train Runners and Helpers in the proper care of equipment, as well as correct and safe procedures

- He is responsible to see that all company rules and legislated requirements pertaining to safety, health and the environment are observed

- Check all set-ups and storage sites to see that all equipment is removed from the site when the job is completed.

Fieldman

- Fieldman is responsible for the safety and efficiency of the projects assigned to him.
- ensure foremen are instructed in the safe organization of their work and care of equipment.
- insist on good housekeeping (i.e., neat and safe drill sites, neat camp, proper storage facilities, and clean sanitary facilities).
- ensure all rules and regulations are complied with.
- enforce compliance with standard job procedures and the meaning of personal protective equipment.

Operations Manager

The operations manager has the direct responsibility for the safety and efficiency of field operations.
This will include:

- The successful mobilization, completion and demobilization of contracts;
- responsibility of co-ordinating the overall emergency plan;
- selection, hiring and supervision of the required skilled personnel;
- ensure all government regulations and client policies are adhered to.

SECTION 20

Health & Safety Training Programs

Preface: Preventing of accidents and illnesses is a prerequisite to making workplaces healthier and safer. Training is required in the mineral exploration sector where a wide variety of hazards may be encountered.

Intent: Safety training programs are intended to be used as a guideline in establishing, prioritizing and recording employee health and safety training.

The first step should be to identify specific training programs and the employees who must receive training that is required by legislation. It is the employer's duty to provide this training in-house or through an outside agency. Six core areas have been identified for the training of exploration personnel:

- Fire Extinguisher and Fire awareness,
- First Aid,
- Transportation of Dangerous Goods,
- WHMIS,
- Spill Response,
- Radiation Awareness

Additional training may be required to ensure employees have the knowledge and skills required to conduct their assigned tasks in a safe manner.

Individual training records are maintained for each employee and periodic reviews are conducted to ensure that re-certification dates are met. The Training Attendance & Certification Form will be used as a record to document training for in house training. A copy of the form can be acquired through the following link or see Appendix VI.
Notes://Mercury/85256FE4005834C0/C9980DACE00ECA9985256FD4005CEF8A/EAD98398FB813353852575DF0055410F

SECTION 21

Exploration Code of Practice

Cameco Exploration supports the Mineral Exploration Guidelines for Saskatchewan
The Saskatchewan Mineral Exploration and Government Advisory Committee (SMEGAC) have developed the *Mineral Exploration Guideline's* to assist government and industry in the application and approval process for activities on land administered by Saskatchewan Environment.

This guide provides information to assist in the planning, permitting, initiation and completion of a mineral exploration program in a fashion that will help minimize environmental impacts and meet relevant legislative requirements.

SMEGAC consists of representatives from Saskatchewan Environment, Saskatchewan Industry and Resources, Saskatchewan Northern Affairs, Fisheries and Oceans Canada and various mineral exploration companies active in the province. This guideline was circulated and reviewed by various provincial and federal government agencies and the mineral exploration industry during the course of its development.

These guidelines offer practical methods and practices, which when applied, will ensure that our exploration projects are carried out with the lowest levels of disturbance to the natural environment.

References

The Exploration Safety Group would like to thank the following for their input, contribution and assistance in preparing this manual;

Ontario Natural Resources Safety Association
Ontario Prospectors Association
Ontario Ministry of Labour
Ministry of Northern Development and Mines
British Columbia and Yukon Chamber of Mines
Construction Safety Association of Ontario
St. John Ambulance
Prospectors and Developers Association of Canada
Canadian Occupational Health & Safety News
Falconbridge Ltd.
INCO Limited
Cyprus Canada Inc.
Barrick Gold Corporation
Outokumpu Mines Ltd.
Cominco Ltd.
Royal Oak Mines Inc.
Kinross Gold Corp.

BHP Minerals Canada Ltd.
WMC International Limited
Battle Mountain Canada Ltd.
Teck Explorations Limited
Boart Longyear
Major Drilling
Britton Bros. Diamond Drilling Ltd.
Saskatchewan Environment and Resource Management
Department of Fisheries and Oceans
Coast Guard

Note: If anyone reading this manual has any questions or suggestions, which would enhance this document, please contact Kelly Hanke in Saskatoon at (306) 956-8135 or by email at kelly_hanke@cameco.com.

Appendix I

Exploration Site Inspection Procedure

1.0 Purpose:

This document provides guidance for conducting Field Camp Site Inspections including frequency and any follow up or corrective action.

2.0 Scope:

This document is applicable to operations within Canada where a Cameco Exploration employee is present and Cameco is considered the lease or claim operator. If operations are being conducted from a mine site, inspection of the mine site camp will not be required as it would be considered outside the realm of Explorations control.

3.0 Responsibilities:

The Project Geologist or senior Exploration personnel on site is to ensure that the inspection is completed and forwarded to the SHEQ Coordinator, Exploration. Initial camp inspections will be done within seven (7) days of each re-starting of camp operations, with subsequent inspections monthly after the first inspection date, while the camp or program is operating in the field.

4.0 Records:

EXP-01-1 Exploration Site Inspection Report
Notes://Mercury/85256FE4005834C0/C9980DACE00ECA9985256FD4005CEF8A/C6F6173239AFB5DE852575DE007AB001

5.0 References:

Cameco Integrated Safety, Health, Environment and Quality Management System manual.
SHEQ Contractor Management Program.
Occupational Health and Safety Regulations, 1996
Exploration Health and Safety Manual (rev. March 2004)
Mineral Exploration Guideline for Saskatchewan (2005)
http://exploration.cameco.com/SHEQ/tabid/367/Default.aspx
Finding and Corrective Action Report 07-EXPL-01.

6.0 Procedure Steps:

Print off a copy of the Exploration Site Inspection Report EXP-01-1 found on Explorations intranet site with the SHEQ heading this inspection report will be found under Exploration Documentation. Complete inspection documenting any areas for improvement, any actions required, who would be responsible (this could be a contractor) and a timeline for

completion. Please include any observations that were addressed at the time of the inspection. Input data electronically and send to SHEQ Coordinator, Exploration, save this file. Print a copy and post in the camp office. As outstanding action items are addressed enter the date on the posted copy as well as your saved file. The SHEQ Coordinator will monitor to ensure that actions required are being addressed in a timely fashion.

7.0 Records:

The site inspection report and any follow up corrective actions that will be directly generated from this procedure and record will be kept by the SHEQ Coordinator, Exploration.

8.0 Document Control:

This procedure is a controlled document. The SHEQ Coordinator, Exploration must review this procedure at a minimum of once per year, and is responsible for the review and any amendments that may be required.

Cameco

Form EXP-01-1
Effective Oct 22/2008

Exploration Site Inspection Report

Print Form | Submit by Email

Done By: | Project | Contractor | Date

Item	SHEQ Inspection Checklist		Comments	Action Required	Responsibility	Follow Up
	General			Comments	&Timeline	Date Completed
1	Is the camp located on an existing site (historical)? If no, is it located 100 m from any watercourse or waterbody?					
2	Are copies of the SHEQ Policy, Emergency Response Plan and Emergency contacts list posted in the Camp office?					
3	Are the required permits and authorizations posted in the camp?					
4	Does the Contractor have copies of the SHEQ Policy, Emergency Response Plan and Emergency contacts list?					
5	Does the Contractor Foreman or Supervisor have a copy of all permits and authorizations?					
6	Are stoves and heaters being regularly inspected? At what frequency?					
7	Are gravity fed fuel drums being regularly inspected? At what frequency?					
8	Have there been any reportable spills?					
9	Have there been any non-reportable spills under 5 L.?					
10	Are pathways clearly lit and free of all tripping hazards?					
11	Is the camp potable water being inspected/tested if so by what means and how often?					
12	Is kitchen garbage being disposed of in containers that are protected from the elements and wildlife?					

Item	SHEQ Inspection Checklist		Comments	Action Required	Responsibility	Follow Up
	General			Comments	&Timeline	Date Completed
13	Is the dock safe, stable and able to handle boats and aircraft?					
14	Is food properly stored and prepared?					
15	Are fire extinguishers located in each camp structure? Are they properly charged and have their Inspections tag been kept up?					
16	Are there any issues with contractor camp management?					
17	Is everyone on site aware of the Exploration guidelines regarding alcohol consumption and drug usage while on site?					
18	Are no smoking signs posted at the fuel storage and lubricant storage areas?					
19	Is the condition of the drillers tool crib satisfactory?					
20	Is the camp generator being checked on a regular basis? At what frequency?					
21	If a backup generator is available, is it inspected and tested regularly?					
	Safety / First Aid					
22	Is proper Personal Protective Equipment available? Are all staff and contractors using the PPE?					
23	Have all employees received a formal site orientation? If yes, is this documented?					
24	Does Exploration staff on site have a valid First Aid Certificate?					
25	Does Exploration staff have a record of their training?					
26	Is the First Aid kit well marked and inspected monthly?					
27	Is a there a stretcher located on site near the first aid kit?					

Item	SHEQ Inspection Checklist		Comments	Action Required	Responsibility	Follow Up
	Safety / First Aid			Comments	&Timeline	Date Completed
28	Is there an adequate inventory of Personal Protective Equipment on site? ie: hard hats,safety glasses,gloves,hearing protection, and helmets					
29	Do staff have their personal first aid kits available for outings?					
30	Do you receive copies of safety meeting minutes from contractors?					
	Emergency Preparedness					
31	Is the Camp Safety Officer manual on site and easily accessible? Have all employees been notified?					
32	Have radio or phone procedures been posted? Are staff aware of the protocol?					
33	Have fire and emergency evacuation plans been established and are staff aware of these plans?					
34	Are camp to drill communications in place?					
35	Are camp to helicopter or field crew communications in place? By what means?					
36	Is there someone in camp with radio/phone communications at all times?					
37	Have the Exploration guidelines for locating a missing person been posted? Have all staff been notified?					
38	During fire season is there enough forest firefighting equipment both at the camp and drill site? Please see BMP-006 of the Mineral Exploration Guidelines for Saskatchewan, for these requirements.					
39	Is firefighting equipment in a dedicated area and used exclusively for fire prevention?					
40	Is the camp adequately fire guarded?					
41	If permitted to burn garbage, is there a grate or screen on the burning barrel?					

Item	SHEQ Inspection Checklist		Comments	Action Required	Responsibility	Follow Up
	Hazardous Materials / Environment			Comments	&Timeline	Date Completed
42	At camp is the fuel storage area 30m away from sleeping quarters and 6m from other buildings?					
43	Is a spill kit available at the fuel storage area?					
44	Are the required MSDS sheets in camp for controlled substances? If not are they accessible on line.					
45	Are hazardous substances properly labelled?					
46	Is there a list of the hazardous materials being used on the project site?					
47	Are no smoking signs posted at the camp fuel storage area and other areas where flammables are stored?					
48	Do all fuels and lubricants, including jerry cans, have secondary containment?					
49	Are secondary containment vessels free of water?					
50	Are procedures for the correct handling of radioactive materials available and or posted?					
51	Is a TDG certified employee charged with shipping samples?					
52	Are waste oils, filters and used spill matting being properly collected and stored?					
53	Are samples and contaminated materials/equipment being shipped through proper channels with proper labelling and paperwork?					
54	Are Propane tanks properly strapped or tied upright to a solid structure?					
	Drill Site and Water Supply Pump					
55	Are the contractors wearing proper PPE for their jobs?					
56	Do all fuels and lubricants have secondary containment?					
57	Are spill kits and enviro-matting available at the drill and water supply pump?					

Item	SHEQ Inspection Checklist		Comments	Action Required	Responsibility	Follow Up
	Drill Site and Water Supply Pump			Comments	&Timeline	Date Completed
58	Are fire extinguishers available at the drill and supply pump shack? Are they properly pressured?					
59	Is the drill set up 100m from a lake or watercourse? If not are the proper authorizations in place to conduct the drilling?					
60	Are MSDS sheets available at the drill?					
61	Are Emergency contact numbers posted at the drill?					
62	Do all mechanical water pumps have secondary containment?					
63	When in use, is a drip pan located under burner of drill stove?					
64	Is the drill housekeeping in order? Any issues?					
65	Is the water intake being screened, is it adequately secured and 30cm. off the bottom of the water body? Is there sufficient hose length to accommodate this?					
66	Do new access trails exceed 5 m in width?					
67	Is all refuse removed at the completion of drill holes? Was the slash re-spread over drill pads at completion of drilling?					
68	During fire season (April 1 to Oct. 31), does the drill have the prescribed firefighting equipment as outlined in the Mineral Explorations Guidelines for Sask., BMP-006?					
69	Does the drill have a first aid kit?					
	Radiation Protection					
70	Is everyone on site wearing his/her TLD badge at all times?					

Item	SHEQ Inspection Checklist		Comments	Action Required	Responsibility	Follow Up
	Radiation Protection			Comments	&Timeline	Date Completed
71	Is there adequate ventilation of core shack(s)?					
72	Are the logging shacks/tents being kept clean? Floors swept daily?					
73	Are Radiation Protection procedures being followed?					
	Vehicles					
74	Do drivers have a valid drivers license?					
75	Are trucks, being used by Exploration personnel, equipped with fire extinguishers?					
76	Do trucks have a spare tire(s)and the proper equipment for changing tires?					
77	Are defined speed limits for vehicles known to all employees?					
78	Are seat belts worn at at all times?					
79	Has vehicle maintenance been kept up?					
	Other Transportation					
80	Is a Helicopter used in camp?					
81	Is a windsock installed?					
82	Is the landing area clear of debris?					
83	If a Helicopter is being used, have staff been given a helicopter safety orientation?					

Item	SHEQ Inspection Checklist		Comments	Action Required	Responsibility	Follow Up
	Other Transportation			Comments	&Timeline	Date Completed
84	Is a boat used in camp?					
85	Do all operators possess a valid Pleasure Craft Operator Card?					
86	Are all boats equipped with paddles,bailer,toolkit and life jackets?					
87	Has the boat motor maintenance been kept up?					
88	Have all operators of ATV's and Snowmobiles been trained and deemed capable of appropriate use?					
89	Has maintenance of ATV's and Snowmobiles been kept up?					
	Wildlife					
90	Have there been any wildlife conflicts?					
91	Is there a firearm in camp?					
92	If there is a firearm in camp, is it being stored in accordance to Federal Firearm Regulations?					
93	Are designated users trained in the use of the firearm and are procedures posted?					

Appendix II

Incident / Accident Report Procedures

Accidents and incidents must be reported to the Exploration SHEQ Coordinator as soon as possible, after the occurrence.
Notes://Mercury/85256FE4005834C0/C9980DACE00ECA9985256FD4005CEF8A/40D589113E7771D1852575DE007B2B60
Copies of the **Incident /Accident Reports** shall be forwarded to the Exploration SHEQ Coordinator. Lost Time Incidents or Medical Aid occurrences, to either Cameco personnel or Contractors employed by Exploration, must be reported to the Exploration SHEQ Coordinator within 24 hours of the occurrence to meet corporate SHE-20 reporting requirements.

Cameco Exploration

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INSTRUCTIONS TO SUPERVISOR

GENERAL

1. Give positive feedback to the employee(s) reporting the accident or incident.
2. Recognise individual performance relating to the accident or incident whenever possible
3. Remember that this is not only a report of what happened, but also an analysis and evaluation of the accident or incident.
4. Investigations should be done as soon as possible after the accident/incident and must be done by the first line supervisor.
5. Attempt to get the overall picture first and interview the most knowledgeable persons first.
6. Take steps toward prevention immediately following your investigation.

TIPS ON HOW TO INTERVIEW

1. Put the person at ease.
2. Interview on the spot if possible.
3. Interview in private.
4. Get the individual's version.
5. Ask necessary questions to clarify.
6. Repeat the story back to the person.
7. End each interview with a positive note.
8. Record critical information quickly.
9. Make drawings if possible.
10. Keep the communication pipeline open.

ACCIDENT CAUSE CHART

UNSAFE ACTS	UNSAFE CONDITIONS
1. Operating equipment without authority 2. Failure to warn 3. Failure to secure 4. Operating at improper speed 5. Making safety devices inoperable 6. Using defective equipment 7. Failure to use PPE properly 8. Improper loading 9. Improper placement 10. Improper lifting 11. Improper position for task 12. Improper fitting 13. Servicing equipment in operation 14. Horseplay 15. Under the influence of alcohol and / or drugs 16. Using equipment improperly 17. Failure to follow procedure (Explain exactly in "Apparent Cause" section)	1. Inadequate guards or barriers 2. Inadequate or improper protective equipment or materials 3. Defective tools, equipment or material 4. Congestion or restricted action 5. Inadequate warning system 6. Fire and explosion hazards / ignition 7. Poor housekeeping / disorder 8. Noise exposure 9. Radiation exposure 10. Temperature extremes 11. Inadequate or excess illumination 12. Inadequate ventilation 13. Hazardous environmental conditions 14. Procedural or system development / implementation flaw (Explain exactly in "Apparent Cause" section)

Cameco Exploration

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SUPERVISOR'S REPORT FOR INCIDENT / ACCIDENT

Exact Location	Date of Occurrence	Time	Date Reported
Person Reporting the Incident	**Position**	**Supervisor**	**Company (if contractor)**

INCIDENT TYPE

More than one incident type may be selected

☐ Safety	☐ Environmental	☐ Radiation	☐ Capital Loss
			Property Damaged
Person(s) affected		Person(s) affected	Nature of Damage
Nature of injury / illness		Exposure Pathway	Estimated Cost

DESCRIPTION

Describe What Happened

Appendix III

TABLE 1 - PERSONAL CLOTHING SCHEDULE

Rates Effective: October 15, 2005

Item	Frequency	Maximum Reimbursement (not including taxes)
Sleeping Bag (winter)	Once every 5 yrs.	$425.00
Sleeping Bag (summer)	Once every 5 yrs.	$200.00
Parka	Once every 4 yrs.	$350.00
Insulated Pants/Coveralls	Once every 2 yrs.	$125.00
Skidoo Suit	Once every 4 yrs.	$275.00
Skidoo Mitts	Once every 2 yrs.	$100.00
Winter Hat	Once every 2 yrs.	$50.00
Summer Hat (wide brim)	Once every 2 yrs.	$60.00
Winter Boots	Once every 2 yrs.	$175.00
Leather Steel-Toed Safety Boots (x2)	Once every 2 yrs.	$200.00
Mountain Boots (x2) *(2nd pair at discretion of supervisor)	Once every 2 yrs.	$300.00

NOTE:

1. Employees are to do their own purchasing and make application for refund on a Travel Claim and Expense Report. Charge to **10001400.601000**. Direct to Andrea Sikorsky for handling.
2. All other personal protective equipment will be provided and charged to the project, as approved by your respective supervisor.
3. The above applies only to those employees who require these specific items in order to perform their duties.
4. Employees who normally wear glasses can get prescription safety lenses – application to be made through Rita Rediger.

October 5, 2005

Appendix IV

Exploration Emergency Contacts

Corporate Office	
Vice-President, Exploration Colin Macdonald	(306) 956-6341 (Office) (306) 668-4344 (Home) (306) 262-1927 (Cell)
Director Worldwide Projects Roger Lemaitre	(306) 956-6708 (Office) (306) 242-9475 (Home) (306) 261-6708 (Cell)
Regional Director Charles Roy	(306) 956-6358 (Office) (306) 242-3155 (Home) (306) 262-0101 (Cell)
District Geologist John Halaburda	(306) 956-6360 (Office) (306) 373-0651 (Home) (306) 281-6807 (Cell)
Safety Health Environment & Quality Coordinator Kelly Hanke	(306) 956-8135 (Office) (306) 652-9627 (Home) (306) 380-7608 (Cell)
RCMP	
La Ronge, SK	(306) 425-6730
La Loche, SK	(306) 822-2010
Buffalo Narrows, SK	(306) 235-6660
Pinehouse, SK	(306) 884-2400
Regina, SK	(306) 780-5560
Prince Albert, SK	(306) 765-5500
Saskatoon, SK	(306) 975-5173
Fort McMurray, AB	(403) 799-8888
Fort Chipewyan, AB	(780) 697-3665
Baker Lake, NU	(867) 793-0123
Otish, PQ	(800)-771-5401
Spill Control Center	
Saskatchewan	(800) 667-7525
Alberta	(800) 222-6514
Nunavut	(867) 920-8130
Quebec	(800) 363-4735
Fire	
Saskatchewan	(800) 667-9660
Alberta	310-3473 (no area code needed)
Nunavut RCMP (Baker Lake)	(867) 793-1111
Quebec	
Prince Albert - Curtis Lee, Senior Fire Manager	(306) 953-2265
Buffalo Narrows – Brian Morin, Forest Protection Officer	(306) 235-1747

Health Services	
Key Lake Nurse	(306) 884-2100 Ext. 4545
McArthur Nurse	(306) 633-2001 Ext. 8888
Rabbit Lake Nurse	(306) 633-2141 Ext. 2242
Cigar Lake Nurse	(306) 633-2072 Ext. 3206
Points North Emergency	(306) 633-2139
Nunavut Project Satellite Phone	(403) 927-6287
Public Health Centre – La Loche	(306) 822-3200
Public Health Office – Buffalo Narrows	(306) 235-5800
Hospital – Fort McMurray, Alberta	(780) 791-6161
Hospital – Ille la Cross	(306) 833-2016
Hospital – La Ronge	(306) 425-2422
Stony Rapids Hospital	(306) 439-2200
Air Services	
Osprey Wings Medivac	(306) 635-2112
Saskatchewan Air Ambulance	(888) 782-8247
Alberta Air Ambulance	310-0000 then 780-422-9654
Nunavut Air Ambulance (Rankin Inlet)	(867) 645-4455
Transwest Aviation Medivac	(306) 425-2382
Government Agencies	
Senior Ecological Protection Specialist, La Ronge – Andy Cook	(306) 425-6626 (Office) (306) 425-8884 (Cell) andy.cook@gov.sk.ca
Conservation Officer, La Ronge – Brock Lockhart	(306) 425-4674 (Office) brock.lockhart@gov.sk.ca
Senior Conservation Officer, Buffalo Narrows – Darrell Robson	(306) 235-1740 darrell.robson@gov.sk.ca
Conservation Officer, Pinehouse Lake – Tim Scrupps	(306) 884-2060 tim.scrupps@gov.sk.ca
Conservation Officer, Pinehouse Lake – Ted Glass	(306) 884-2060 ted.glass@gov.sk.ca
Conservation Officer, Pinehouse Lake – Jeri Bell	(306) 884-2060 jeri.bell@gov.sk.ca
Conservation Officer, Meadow Lake – James Quaal	(306) 236-9818 james.quaal@gov.sk.ca
Conservation Officer, Meadow Lake – Trent Rafuse	(306)236-7558 trent.rafuse@gov.sk.ca

Appendix V

TRAINING ATTENDANCE AND CERTIFICATION FORM

Training Course Title:		
Training Date:		
Training Course Duration (Time):		
Training Validity Period:		
Instructor(s) Name:		
Attendees		
Name (please print)	Signature	Company/Department