



AKHM
ALEXCO KENO HILL
MINING CORP.

EMERGENCY MANAGEMENT RESPONSE PLAN

KENO HILL DISTRICT OPERATIONS

September 2017

ALEXCO KENO HILL MINING CORP.



This controlled document will be regularly updated to reflect revisions.

- Updated Emergency Management Response Plan (EMRP) documents will be bound and distributed to all authorized personnel.
- All Keno Hill Project personnel must have EMRP training and know where to gain access to the document in the event of an emergency.

Authorized Distribution / Location List:

Alexco Resource Corp. - Keno Hill Property:

- Elsa Exploration Office
- Bellekeno East Shifters Office
- Flame and Moth Shifters Office
- Bermingham Shifters Office
- Maintenance Shop
- First Aid Room(s)
- General/Site/Department Managers Workspace
- Kitchen Medical Station
- Mine Rescue Trailer – Bellekeno East
- Safety Manager/Coordinators Office
- Keno District Mill Office
- Keno District Mine Office

Alexco Resource Corp. :

- Alexco Environmental Group Whitehorse Office
- Alexco Resource Corp. Vancouver Office
- Alexco Resource Corp. Whitehorse Office

Community:

- Mayo Nursing Station
- Mayo RCMP Detachment
- Mayo Fire Department

Government:

- Occupational Health & Safety - YWCHSB



Primary Partners On-site Contractors:

- First Nation of Na-Cho Nyak Dun – Mayo
- NND Summit Camps - Catering Contractor
- Boart Longyear – Surface Exploration Contractor



TABLE OF CONTENTS

1 PURPOSE.....	1
2 DEFINITIONS	2
2.1 “SERIOUS INCIDENT”	2
2.2 “SERIOUS INJURY” AND “SERIOUS ACCIDENT” UNDER OH&S ACT	2
3 INITIAL RESPONSE TO SERIOUS INCIDENT – KENO HILL SILVER DISTRICT	4
4 FOLLOW UP TO SERIOUS INCIDENT – KENO HILL SILVER DISTRICT	5
5 SERIOUS INCIDENT RESPONSIBILITY MATRIX	6
6 SERIOUS INCIDENT CONTACTS FOR SITE PERSONNEL	7
7 EXTERNAL RESOURCE CONTACTS.....	9
8 REPORTABLE SPILL QUANTITIES	10
8.1 SPILL RESPONSE EQUIPMENT RESOURCES LIST	11
9 MISSING PERSONS ACTION PLAN	13
10 EMERGENCY EQUIPMENT AND EQUIPMENT LOCATIONS.....	14
11 EMERGENCY FIRST AID PATIENT ASSESSMENT MODEL	15
12 EMERGENCY CONTACT INFORMATION	17
12.1 KENO HILL DISTRICT OPERATIONS – EMERGENCY CONTACT NUMBERS.....	17
12.2 CO-OPERATIVE MINE RESCUE (CMR) ASSISTANCE	19
12.3 TERRITORIAL AND FEDERAL CONTACT NUMBERS	19



1 PURPOSE

This guide sets out the response protocol in the event of a “Serious Incident” as defined in the following section.

It is intended for use as a quick reference handbook for managers and supervisors. Incident reporting and investigating is also outlined.

In an emergency situation it is imperative that due diligence is exercised as well as discretion. The priorities are the protection of LIFE, LIMB and PROPERTY – in that order.

2 DEFINITIONS

2.1 “SERIOUS INCIDENT”

A “Serious Incident” is defined as any occurrence meeting one or more of the following criteria:

1. Any “serious injury” or “serious accident” as defined in OH&S 33(1) (see Section 2.2),
2. Any incident requiring first aid or rescue response to the scene,
3. Any fire requiring discharge of a fire extinguisher,
4. Any release of a hazardous product where there is potential for that product to enter a waterway,
5. Any hazardous product spill of reportable volume, as defined in Section 11.0.

2.2 “SERIOUS INJURY” AND “SERIOUS ACCIDENT” UNDER OH&S ACT

(Excerpt from Occupational Health & Safety Act)

33. (1) *In this section,*

“Serious Injury” means:

- a. *an injury that results in death,*
- b. *fracture of a major bone, including the skull, the spine, the pelvis, or the thighbone,*
- c. *amputation other than of a finger or toe,*
- d. *loss of sight of an eye,*
- e. *internal bleeding,*
- f. *full thickness (third degree) burns,*
- g. *dysfunction that results from concussion, electrical contact, lack of oxygen, or poisoning, or*
- h. *an injury that results in paralysis (permanent loss of function).*

“Serious Accident” means:

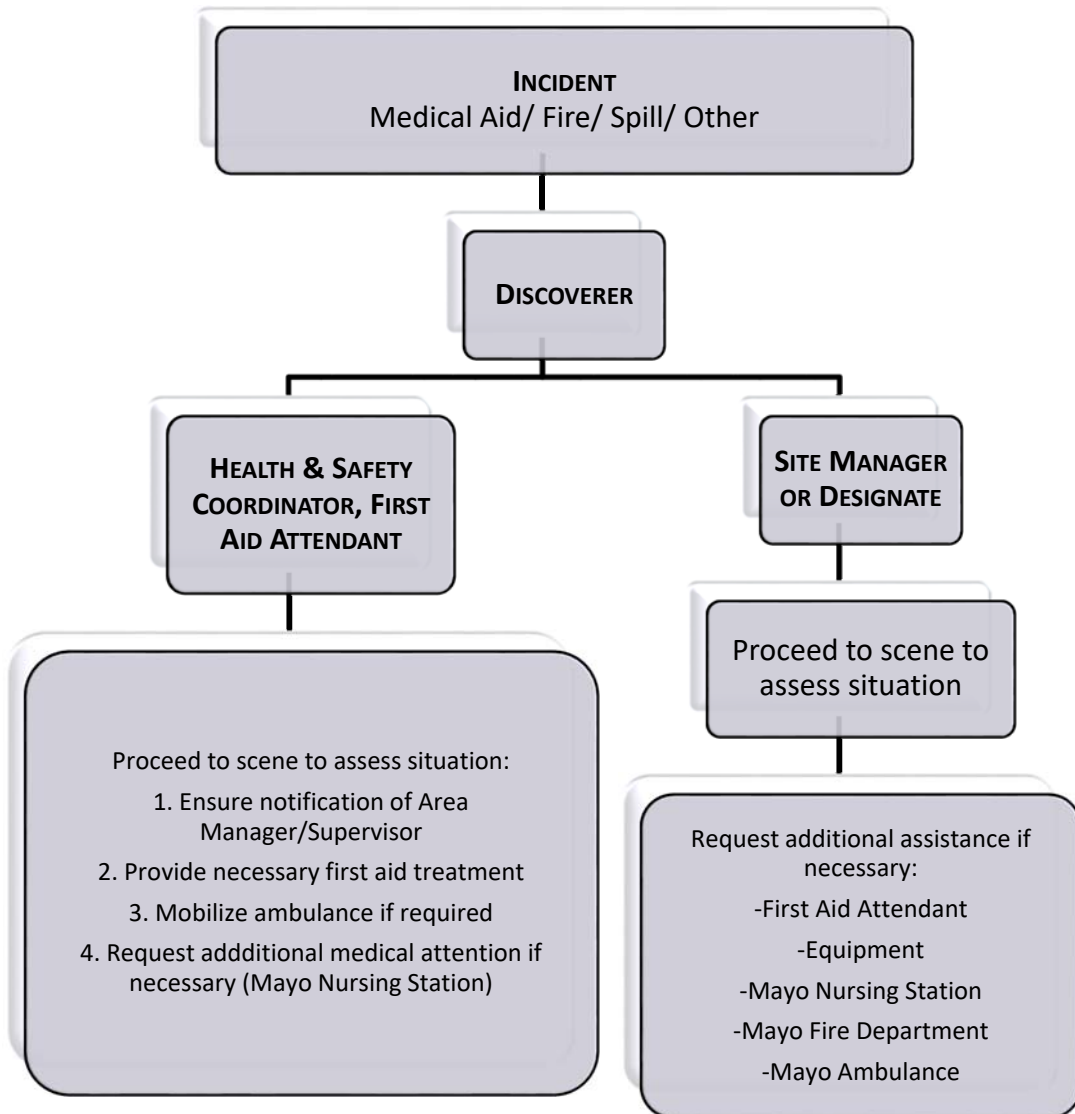
- a. *an uncontrolled explosion,*
- b. *failure of a safety device on a hoist, hoist mechanism, or hoist rope,*
- c. *collapse or upset of a crane*



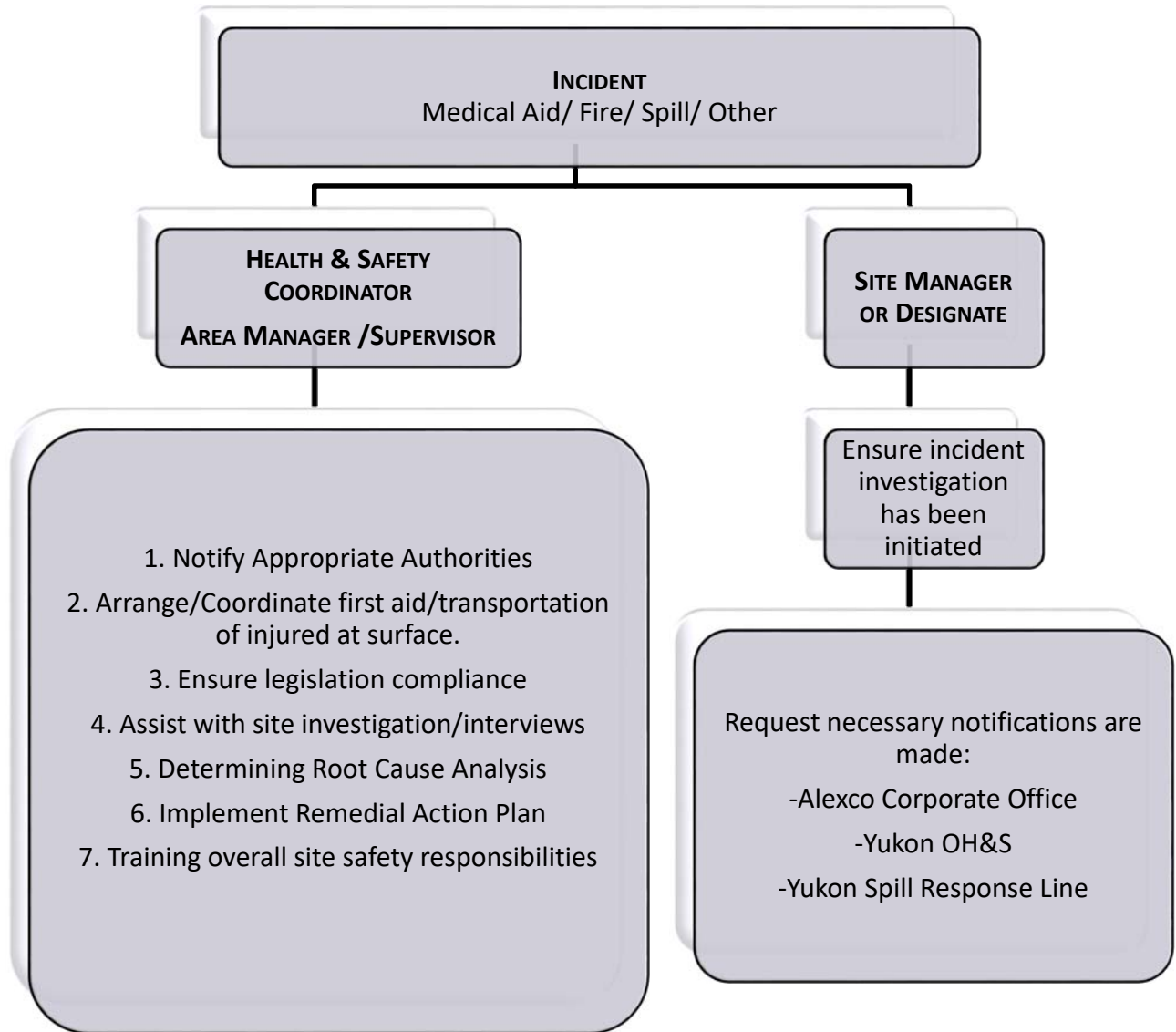
- d. collapse or failure of a load-bearing component of a building or structure regardless of whether the building or structure is complete or under construction,*
- e. collapse or failure of a temporary support structure,*
- f. an inrush of water in an underground working,*
- g. fire or explosion in an underground working,*
- h. collapse or cave-in, of a trench, excavation wall, underground working, or stockpile,*
- i. accidental release of a controlled product,*
- j. brake failure on mobile equipment that causes a runaway,*
- k. any accident that likely would have caused serious injury but for safety precautions, rescue measures, or chance. (As amended by SY 1988, c.22, s. 5; SY 1989, c. 19, s.6)*

**Reprinted from "Occupational Health and Safety with Mine Safety Regulations."
Yukon Workers' Compensation Health and Safety Board. Department of Justice, Government of the Yukon. 199**

3 INITIAL RESPONSE TO SERIOUS INCIDENT – KENO HILL SILVER DISTRICT



4 FOLLOW UP TO SERIOUS INCIDENT – KENO HILL SILVER DISTRICT



5 SERIOUS INCIDENT RESPONSIBILITY MATRIX

See ERP 006 Medical Emergencies On-site

Position	Responsibilities
Area Manager/Supervisor	<ul style="list-style-type: none"> • Coordinate initial response • E.R.T. and specialized resources mobilization & consultation • Attend and coordinate response for all incidents involving “serious injury” and “serious accident”, as defined in Sec. 33, OHS Act • Initial scene control • Responsible for investigation – determine contributing causes and take immediate proactive action • Request additional external resources as necessary • Coordinate recovery and investigative activity • Notify Site Manager • Ensure all government reporting has been completed • Organize and conduct post-incident debriefings • Prepare Incident Report and make recommendations
First Aid Attendant	<ul style="list-style-type: none"> • Ensure area supervisor has been notified of incident • Provide first aid treatment if necessary • Mobilize ambulance to scene, if required • Stand by to assist as required by scene coordinator
General, Site Manager	<ul style="list-style-type: none"> • Designate on-call senior personnel during weekends • Receive briefings on incident details • Provide direction as required • Notify regulatory agencies, government and Alexco corporate office of incident • Review Incident Reports • Attend at all incidents involving “serious injury” and “serious accident”, as defined in Sec. 33, OHS Act • Verify compliance with standards and government regulatory requirements • Forward necessary reports to regulatory agencies • Fire Chief – assume responsibility for fire investigation
Health & Safety Coordinator	<ul style="list-style-type: none"> • Notify appropriate authorities • Arrange/Coordinate first aid/transportation of injured at surface • Ensure legislation compliance • Assist with site investigation/interviews • Determining Root Cause Analysis • Implement Remedial Action Plan • Training overall site safety responsibilities



6 SERIOUS INCIDENT CONTACTS FOR SITE PERSONNEL

KEY POSITIONS –KENO HILL DISTRICT OPERATIONS - CONTACT LIST				
Release information only as instructed by the Incident Controller.				
Alexco Resource Corp - Keno Hill Project PO BOX #7, Elsa, YT.,Y0B 1J0 Lat 63.54 N Long 135.29 W (Elsa)			Phone: LANDLINE 867 995-3113	
Name	Position	Home Phone	Mobile Phone	Work Phone
Brad Thrall	President	360-332-6915	604-250-6501	604-631-4133
Peter Johnson	Site Manager	867-993-5911	867 335-7448	867-995-3113 ext. 5905
Ken Fedak	Mine Manager	250-428-4112	250-977-5143	867-995-3113 ext. 7002
Mike Kendall	Mine Manager		778-928-4704	867-995-3113 ext. 7002
Kai Woloshyn	Environmental Manager	867-334-3614	867-334-3614	867-668-6463 ext. 233
Donald Tibbo	Health & Safety Coordinator	250-463-1569		867-995-3113 ext. 5911
Terry Wilhelm	Health & Safety Coordinator		778-214-1720	867-995-3113 ext. 5911
Al McOnie	VP Exploration	+64 – 7 549-1194	604-340-5815	867-995-3113 ext. 5904
Rob Schneider	Care and Maintenance Supervisor	867-660-5544	867-332-5544	867-995-3113 ext. 5910
Grant Ewing	Care and Maintenance Supervisor			867-995-3113 ext. 5910
Clynt Nauman	Chief Executive Officer	360-371-0176	604-250-3293	604-631-4138
SITE AREA – KENO HILL DISTRICT OPERATIONS – CONTACT LIST				
Site numbers and extensions 867-995-3113				
Bunk A 5925	House #1 5915	Exploration Office 5900	Mine Office 5900	
Bunk B 5920	House #2 5902	Kitchen 5927	Mill Office 5900	
Bunk C 5923	House #3 5916	Mechanics 5914		
Bunk D 6000	House #4 5917	First Aid 5921		
RADIO FREQUENCIES – KENO HILL DISTRICT OPERATIONS				
Alexco Channel	Channel Name	Receive TX	Transmit RX	Tone
Channel 1	First Aid Emergency First Aid Channel	160.73	165.73	RX & TX = C131.8
Channel 3	Repeater Routine On-site Radio Traffic	157.61	151.97	No Tone
Channel 4	Ladd 1 Routine On-site Radio Traffic	154.1	154.1	No Tone



Channel 5	Ladd 2	158.94	151.94	No Tone
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7 EXTERNAL RESOURCE CONTACTS

With the exception of medical aid incidents, external resources will be authorized only by the Site Manager on site or his designate, or those with higher level of responsibility.

Key Persons – External Agency – Contact List			
Release information only as instructed by the Incident Controller.			
Alexco Whitehorse Office	867-633-4881	Roads Highways & Bridges	867-996-2232
Canutec	867-996-6666	Superior Propane	877-873-7467
Environment Spills	867-667-7224	Trans North Helicopter	867-668-2177
Fireweed Helicopter	867-668-5888	Whitehorse Hospital	867-393-8700
Forest Fire	888-798-3473	Wildlife Management	867-996-2162
Marine & Air Search & Rescue	800-567-5111	YEMS	867-667-3333
Mayo Fire Department	867-996-2222	Yukon Energy – Regular Hours	867-393-5355
Mayo Health Centre & Ambulance	867-996-4444	Yukon Energy – Emergency	800-676-2843
Minto Mine	604-759-0860	YK Chief Mines Safety Officer	867-667-8739
Poison Control	888-393-8700		
RCMP	867-996-5555		

8 REPORTABLE SPILL QUANTITIES

Should a spill of reportable quantity occur, under federal and territorial regulations, we are required to immediately notify the 24-hour Yukon Spill Report line: telephone number 867-667-7244.

For the purposes of the Water Use License:

1. Any quantity of spill is reportable.
2. The Site Manager, Environmental Manager, Care and Maintenance Supervisor or Manager On-Call are responsible for reporting spills.
3. Reportable spills require an Incident Investigation Report to be completed.

This guide will assist in determining what volume of product requires reporting to regulatory agencies.

If a spill is deemed to be of reportable quantity, the area supervisor will immediately notify the Site Manager or Environmental Manager who will in turn ensure that spill reporting is completed by designated personnel.

Reportable Spill Quantities			
TDG Class	Substance for 24-Hour Spill Line	Typical Products on Site	Immediately Reportable Quantities
1	Explosives	ANFO	Any amount spilled outside of blast pattern
2.3 2.3 2.4 6.2 7.0 None	Toxic gas (compressed/non-compressed) Poisonous Gases Corrosive gas (compressed/non-compressed) Infectious substances Radioactive Unknown substance		Any amount
2.3	Non-poisonous Gases		>100 Litres
2.1 2.2	Compressed gas (flammable) Compressed gas (non-corrosive, non-flammable)	Propane Acetylene	Any amount of gas from containers with a capacity from a container > 100L
3.1 3.2 3.3	Flammable liquids	Diesel Gasoline Glycol Hydraulic &/ Engine Oil	>200 Litres From a container larger than 100L
4.1 4.2 4.3	Flammable Solids Spontaneously combustible solids Water reactant (dangerous when wet)		>25 kg
5.1	Oxidizing substances	Sodium Hydroxide Lime Solution Sodium Nitrate	>50 kg or 50 Litres

9.1	Miscellaneous products or substances excluding PCB mixtures	Calcium Hypochlorite Ammonium Nitrate	
5.2	Organic Peroxides		>1 Litre or 1 kg
9.2	Environmentally hazardous		
6.1	Poisonous substances		>5 Litres or 5 kg
6.2	Infectious substances		Any Amount
8.0	Corrosive substances	Hydrochloric / Muriatic	
9.3	Dangerous wastes (waste oil)	Waste Oil	
9.1	PCB Mixtures of 5 or more ppm	Transformer oil	>0.5 Litre or 0.5 kg
9.1	Miscellaneous dangerous goods		>50 kg
None	Other contaminants (eg crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, waste water, etc.)		>100 Litres or 100 kg
None	Sour natural gas (eg contains H ₂ S) Sweet natural gas		Uncontrolled release or sustained flow of >10 min

8.1 SPILL RESPONSE EQUIPMENT RESOURCES LIST

	Location	Contact
Spill Response Kit	<ul style="list-style-type: none"> • Elsa Fuel Station • Bellekeno East Fuel Tank • Bellekeno East Shop • Bellekeno 625 Adit • Bermingham Portal • Bermingham fuel tank • Keno District Mill • Lucky Queen Portal Pad Shop • Onek 990 Portal Pad • Bellekeno Haul Road Mine Support Facilities Bench 	Area Manager/Supervisor
Oil – Absorbent Pads	<ul style="list-style-type: none"> • In Spill Kits 	Area Manager/Supervisor
Oil – Absorbent Booms	<ul style="list-style-type: none"> • In Spill Kits 	Area Manager/Supervisor

Any contaminated soils will be removed to the land treatment facility in Mayo or a suitable permitted facility within the Keno Project area.

All vehicles carrying hazardous materials will be equipped with a spill kit and personnel will be trained in spill response measures.

See ERP 014 AKHM Spill Report Form



9 MISSING PERSONS ACTION PLAN

Potential exists where persons may become lost on the property. Such incidents can occur under the following circumstance:

- Alexco or Contractor personnel engaged in surface exploration or any other activities (i.e. care and maintenance) are overdue and cannot be located or contacted.

Upon notification that Alexco personnel, or Contractors are unaccounted for on the property you should:

1. Immediately advise the Area Manager/Supervisor and Site Manager who will:
 - Assess and determine the level of response required.
 - Gather all available information about the missing persons including last known location.
 - Advise the RCMP of the circumstances and request further assistance
 - Designate Keno Hill Silver District project employees to stand-by and assist the RCMP in search efforts as directed
2. Stand-by to provide further information and assistance as required.



10 EMERGENCY EQUIPMENT AND EQUIPMENT LOCATIONS

Emergency Equipment	Location	Use is Authorized by:
(MMTU) Mobile Medical Treatment Unit 4 x 4 Truck with Stretchers	Flat Creek Camp Mill/Mine Office	Site Manager Area Manager/Supervisor Health & Safety Coordinator First Aid Attendant
AED Automatic External Defibrillator Use when CPR is required	Flat Creek Camp Kitchen MMTU Black and Neon ZOLL – AED Bellekeno E. First Aid Room Bermingham First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor Health & Safety Coordinator First Aid Attendant
Oxygen Airway Adjuncts (OPA)	MMTU First Aid Jump Kit Exploration First Aid Room Bellekeno E. First Aid Room Bermingham First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor Health & Safety Coordinator First Aid Attendant
Spinal Precautions Spine Boards & Head Blocks Stiff Collars Spyder Straps KED – Vehicle extrication device	MMTU Exploration First Aid Room Bellekeno E. First Aid Room Bermingham First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor Health & Safety Coordinator First Aid Attendant
Splints Vacuum Splints – Extremity breaks	Exploration First Aid Room Bellekeno E. First Aid Room Bermingham First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor Health & Safety Coordinator First Aid Attendant
Wound Management Burn Dressings Sterile Water Bandages & Dressings	MMTU Exploration First Aid Room First Aid Jump Kit Bellekeno E. First Aid Room Bermingham First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor Health & Safety Coordinator First Aid Attendant
EPI Pens Anaphylactic Shock / allergies	MMTU Exploration First Aid Room First Aid Jump Kit Bellekeno E. First Aid Room Bermingham First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor Health & Safety Coordinator First Aid Attendant

11 EMERGENCY FIRST AID PATIENT ASSESSMENT MODEL

See ERP 006 Medical Emergencies on Site

THE ROLE OF THE FIRST PERSON AT THE SCENE

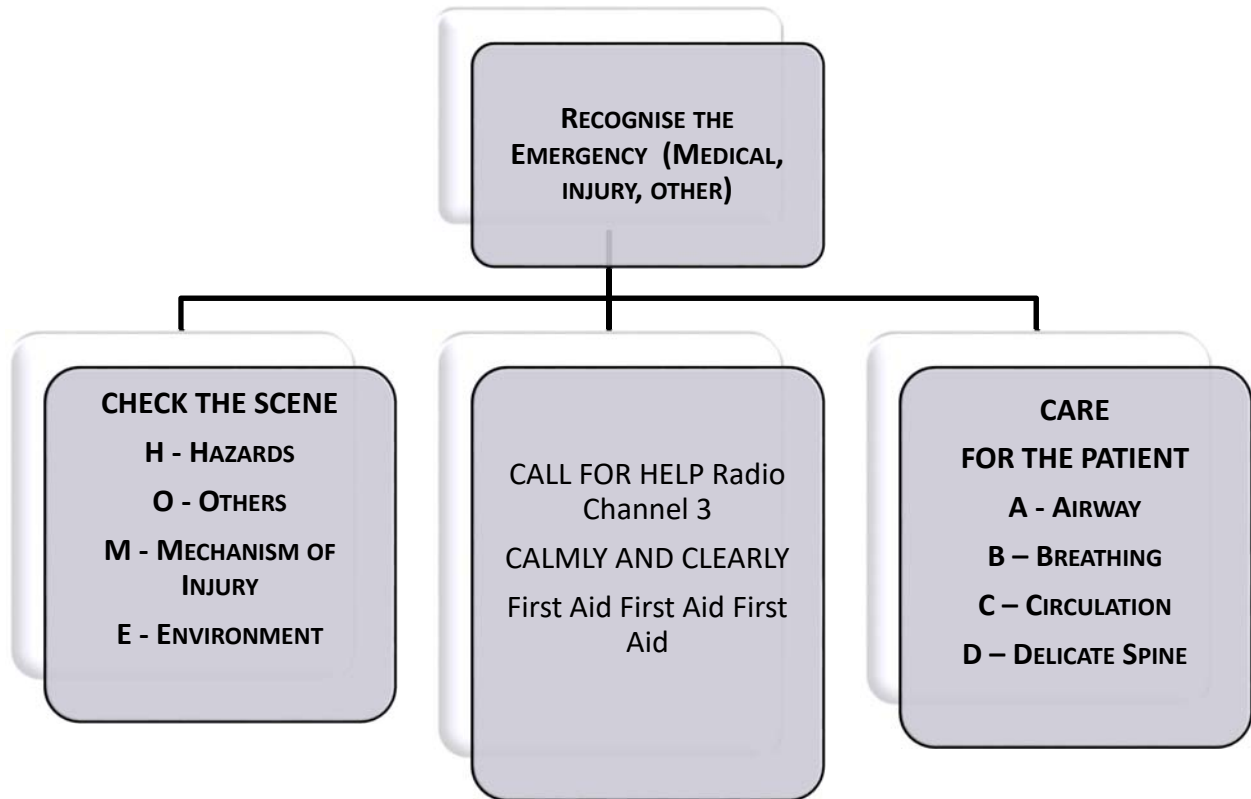
1. CHECK - Recognize the emergency
2. CALL – Activate medical services / first aid to attend the scene
3. CARE - Act according to your skills, knowledge and comfort level

A “medical emergency” is an illness or condition that needs immediate medical attention. For example:

- Anaphylactic shock
- Diabetic emergency
- Heart attack
- Others

An “injury” is damage to the body caused by external force. For example this damage can cause

- Broken bones
- Burns
- Wounds
- Others





12 EMERGENCY CONTACT INFORMATION

As this EMRP document is updated, only revised pages will be replaced.

In the event of a “SERIOUS” Incident, injury or accident you must notify:

1. Keno Hill District Operations Department Manager or Alternate
2. Member of the Health and Safety Department

12.1 KENO HILL DISTRICT OPERATIONS – EMERGENCY CONTACT NUMBERS

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Channel 4	Ladd 1 Routine On-site Radio Traffic	154.1	154.1	No Tone
Channel 5	Ladd 2	158.94	151.94	No Tone

12.2 CO-OPERATIVE MINE RESCUE (CMR) ASSISTANCE

Agency	Name	Home (other)	Other
YT OH&S Mine Inspector	1-800-661-0443		
Minto Mine	David Crottey	604-759-4641	davidc@mintomine.com
BHP Ekati Mine (NWT)	Rob MacLean or Richard Weishaupt	867-880-2201	867-880-2154

12.3 TERRITORIAL AND FEDERAL CONTACT NUMBERS

Name	Office	
Mayo Ambulance	867-996-4444	Mayo (Volunteer Responders)
Mayo Fire & Rescue	867-996-2222	Mayo (Volunteer Responders)
RCMP	867-996-5555	Mayo
Whitehorse Regional Hospital	867-393-8700	Emergency
Whitehorse Regional Hospital	867-393-8700	Admissions
Yukon Coroner	867-667-5317	Whitehorse
Yukon Dept. of Conservation	867-667-5317	Whitehorse
Yukon Dept. of Fish & Game	867-393-6722	Whitehorse
Yukon Energy	867-996-2387	Mayo
Yukon Energy	1-800-676-2843	After hours Whitehorse
Yukon Occupational Health & Safety	1-800-661-0443	Mine Inspector