



**AKHM**  
ALEXCO KENO HILL  
MINING CORP.

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**SPILL CONTINGENCY PLAN**

**KENO HILL SILVER DISTRICT**

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September 2017



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## 1 INTRODUCTION

This guide sets out the response protocol in the event of a spill for all hazardous substances used throughout the course of the Keno Hill Silver District (KHSD) mining operations. Additional information pertaining to hazardous materials can be found in the Hazardous Materials Management Plan. Additional information pertaining more broadly to emergencies and incidents of all kinds are laid out in the Emergency Response Plan.

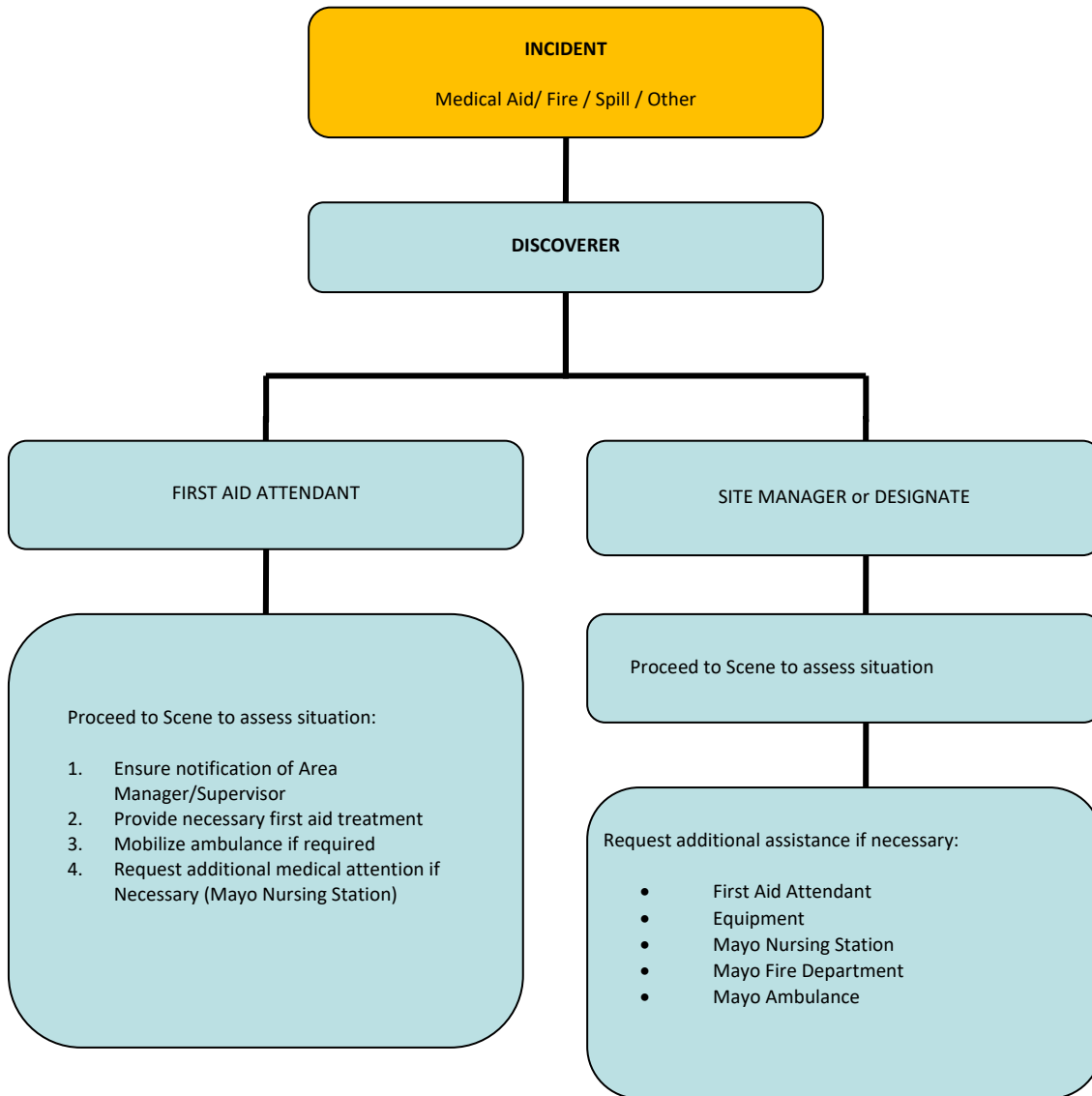
## 2 DEFINITIONS

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

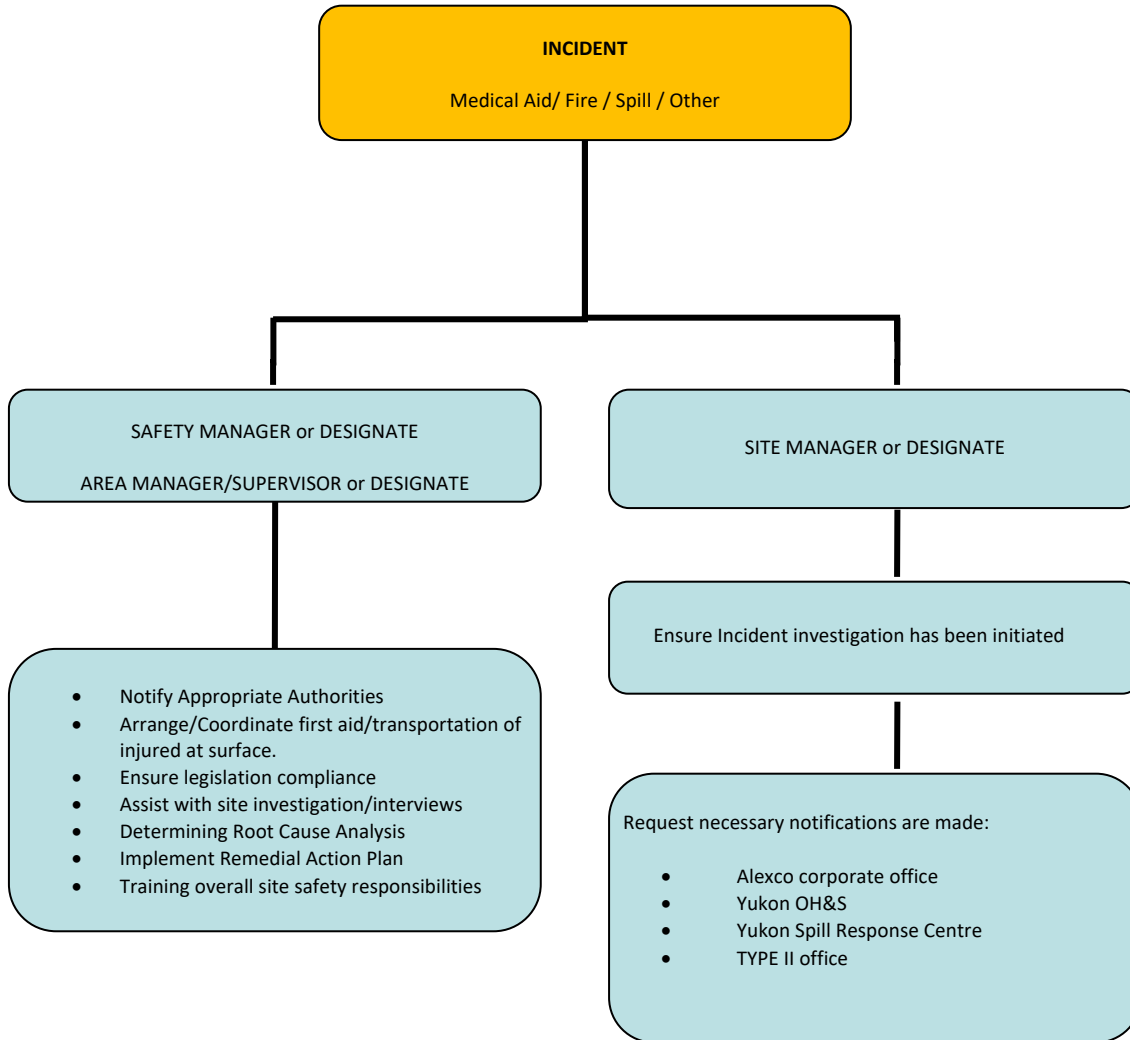
1. Any “serious injury” or “serious accident” as defined in OH&S 33(1) (see Section 2.2),
2. Any incident requiring first aid or rescue response to the scene,
3. Any fire requiring discharge of a fire extinguisher,
4. Any release of mill process solution outside of containment,
5. Any release of a hazardous product where there is potential for that product to enter a waterway,
6. Any hazardous product spill of reportable volume, as defined in Section 6.0.

Thus, as per OH&S 33(1) Section 2.2, spills as described above are to be treated as “serious incidents” and will be followed up as per the protocol as described below:

### 3 INITIAL RESPONSE TO SERIOUS INCIDENT – KENO HILL SILVER DISTRICT MINING OPERATIONS



## 4 FOLLOW-UP TO SERIOUS INCIDENT



## 5 SERIOUS INCIDENT RESPONSIBILITY MATRIX

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

## 6 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, Area Manager/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 Manager/Supervisor will immediately notify the Site Manager who will in turn ensure that spill reporting is completed by designated personnel.

### Reportable Spill Quantities

HAZARD Class	Typical Products On Site	Reportable Quantity
Explosives (1)	<ul style="list-style-type: none"> <li>• ANFO</li> </ul>	Any amount spilled outside of blast pattern
Flammable Gases (2.1)	<ul style="list-style-type: none"> <li>• Propane</li> <li>• Acetylene</li> </ul>	From a container larger than 100 Liters
Non-Flammable Gases (2.2)	<ul style="list-style-type: none"> <li>• Halon</li> </ul>	From a container larger than 100 Liters
Poisonous Gases (2.3)		Any Amount
Non-poisonous Gases (2.3)		>100 Liters
Corrosive Gases (2.4)		Any Amount
Non-corrosive Gases (2.2)		>100 Liters
Flammable Liquids (3.)	<ul style="list-style-type: none"> <li>• Diesel</li> <li>• Gasoline</li> </ul>	>200 Liters
Flammable Solids (4.)		>25 kg
Spontaneous Combustibles (4.)		>25 kg
Dangerous When Wet (4.)		>25 kg
Oxidizers (5.1)	<ul style="list-style-type: none"> <li>• Sodium Hydroxide / Caustic Soda</li> <li>• Lime Solution</li> <li>• Sodium Nitrate</li> <li>• Calcium Hypochlorite</li> <li>• Ammonium Nitrate</li> </ul>	>50 kg or 50 Liters
Toxic Substances (6.1)	<ul style="list-style-type: none"> <li>• Products or substances that are poisons of as defined in sections 3.19(a) to (e) and 3.20(a) of the Federal Regulations</li> </ul>	5 kg or 5 L
Infectious substances such as biomedical waste (6.2)	<ul style="list-style-type: none"> <li>• Organisms that are infectious or that are reasonably believed to be infectious and the toxins of these organisms as defined in sections 3.19(f) to 3.20(a) of the Federal Regulations</li> </ul>	Any Amount
Corrosive Materials (8.)	<ul style="list-style-type: none"> <li>• Hydrochloric / Muriatic</li> </ul>	>5 kg or 5 Liters
Miscellaneous Dangerous Goods (9.1)		>50 kg
Dangerous Waste (9.3)	<ul style="list-style-type: none"> <li>• Waste Oil</li> <li>• Hydraulic &amp;/or Engine Oil</li> <li>• Antifreeze</li> <li>• Glycol</li> </ul>	>500 mL



## 7 SPILL RESPONSE EQUIPMENT RESOURCE LIST

	Location	Contact
<b>Spill Response Kit</b>	<ul style="list-style-type: none"><li>• Bellekeno East Fuel Tank</li><li>• Bellekeno East Shop</li><li>• Bellekeno 625 Adit</li><li>• Keno District Mill</li><li>• Flame and Moth Adit</li><li>• Bermingham Fuel tank by portal</li><li>• All Vehicles Carrying Hazardous Materials</li><li>• Lucky Queen Fuel Tank on portal pad</li><li>• Onek Fuel Tank on portal pad</li></ul>	Area Manager/Supervisor
<b>Oil- Absorbent Pads</b>	<ul style="list-style-type: none"><li>• In Spill Kits</li></ul>	Area Manager/Supervisor
<b>Oil- Absorbent Booms</b>	<ul style="list-style-type: none"><li>• In Spill Kits</li></ul>	Area Manager/Supervisor

Any contaminated soils will be removed to location of the future land treatment facility in Elsa and stored covered on a liner until the permitting and construction of the facility is completed.

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





## 8 EMERGENCY EQUIPMENT AND EQUIPMENT LOCATIONS

Emergency Equipment	Location	Use is Authorized by:
<b>Ambulance</b> 4x4 Suburban with Stretchers	Elsa Town site Fire hall	Site Manager Area Manager/Supervisor First Aid Attendant
<b>(MMTU) Mobile Medical Treatment Unit</b> 4 x 4 Truck with Stretchers	Bellekeno Mine Site	Site Manager Area Manager/Supervisor First Aid Attendant
<b>AED</b> Automatic External Defibrillator Use when CPR is required	Admin First Aid Room Black and Neon ZOLL – AED Bellekeno E. First Aid Room Birmingham First Aid room Lucky Queen First Aid Room Onek First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor First Aid Attendant
<b>Oxygen</b> <b>Airway Adjuncts (OPA)</b>	MMTV First Aid Jump Kit Admin First Aid Room Bellekeno E. First Aid Room Birmingham First Aid room Lucky Queen First Aid Room Onek First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor First Aid Attendant
<b>Spinal Precautions</b> Spine Boards & Head Blocks Stiff Collars Spyder Straps KED – Vehicle extrication device	Ambulance MMTV Admin First Aid Room Bellekeno E. First Aid Room Birmingham First Aid room Lucky Queen First Aid Room Onek First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor First Aid Attendant
<b>Splints</b> Vacuum Splints – Extremity breaks	Admin First Aid Room Bellekeno E. First Aid Room Birmingham First Aid room Lucky Queen First Aid Room Onek First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor First Aid Attendant
<b>Wound Management</b> <b>Burn Dressings</b> Sterile Water Bandages & Dressings	Ambulance MMTV Admin First Aid Room First Aid Jump Kit Bellekeno E. First Aid Room Birmingham First Aid room Lucky Queen First Aid Room Onek First Aid Room Keno District Mill First Aid Room	Site Manager Area Manager/Supervisor First Aid Attendant
<b>EPI Pens</b> Anaphylactic Shock / allergies	Ambulance MMTV Admin First Aid Room	Site Manager Area Manager/Supervisor First Aid Attendant

Emergency Equipment	Location	Use is Authorized by:
	First Aid Jump Kit Bellekeno E. First Aid Room Bermingham First Aid room Lucky Queen First Aid Room Onek First Aid Room Keno District Mill First Aid Room	

## 9 MSDS INFORMATION AND PERSONNEL TRAINING

Type	Information
Hazardous Materials Storage	<ul style="list-style-type: none"> <li>• All hazardous materials will be stored safely and appropriately</li> <li>• All hazardous materials will be segregated and stored to ensure integrity of product containers, avoidance of accidental mixing, and safety from weather effects</li> <li>• Hazardous materials will be stored in locations with secondary containment measures in place in order to limit potential for spills</li> <li>• A complete listing of MSDS sheets for all hazardous materials and spill response strategy protocol will be made available to all employees and will be located at the following locations:               <ul style="list-style-type: none"> <li>○ Administration Office</li> <li>○ Bellekeno East, Bermingham, Lucky Queen and Onek Shifters Office</li> <li>○ Care &amp; Maintenance Shop</li> <li>○ First Aid Room(s)</li> <li>○ General/Site Managers Workspace</li> <li>○ Kitchen Medical Station</li> <li>○ Mine Rescue Shed – Bellekeno East</li> <li>○ Safety Coordinators Office</li> <li>○ Keno District Mill Office</li> <li>○ Explosives Magazines</li> </ul> </li> </ul>
Employee Training	<ul style="list-style-type: none"> <li>• All employees involved with handling hazardous materials will receive training in safe and appropriate use as per Workplace Hazardous Materials Information Systems Regulations (WHMIS) of the Occupational Health and Safety Act.</li> <li>• All employees will follow OH&amp;S and regulations and use appropriate Personal Protective Equipment (PPE) and handling procedures when using hazardous materials</li> </ul>
Spills and Emergencies	<ul style="list-style-type: none"> <li>• All spills will be dealt with as per measures described in the Emergency Response Plan</li> <li>• Should a spill of reportable quantity occur, the 24 hour Yukon Spill Report line (867-667-7244) will be immediately notified</li> </ul>
Signage and Monitoring	<ul style="list-style-type: none"> <li>• All areas which will be used to store hazardous materials will be clearly indicated with appropriate signage</li> <li>• Monitoring of areas which will be used to store hazardous materials will be monitored on a regular basis in order to ensure measures set out in this plan are complied with</li> </ul>