

SUBJECT: Underground Fire Procedure	DATE: April 2018	Page 1 of 19
DEPARTMENT: UG RLGM	Prepared by: W. McCleary	Replaces : Sept 2017
APPLIES TO: All RLGM Employees and Contract Personnel		
APPROVED BY		
Shawn Wyatt, Manager of Mining	DocuSigned by: <i>Shawn Wyatt</i>	
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Hazard Identification and Review	
<ul style="list-style-type: none"> • Fire • Gases: NO₂, CO, CH₄, H₂S, NH₃ 	<ul style="list-style-type: none"> • Smoke

Required Personal Protective Equipment	
<ul style="list-style-type: none"> • All standard PPE required UG 	<ul style="list-style-type: none"> •

Required Tools / Equipment	
<ul style="list-style-type: none"> • Telephone or Radio 	<ul style="list-style-type: none"> • Refuge Station Check list

Related SOPs / Permits Required	
<ul style="list-style-type: none"> • SEMS 	<ul style="list-style-type: none"> •

Responsibility	
It is the responsibility of anyone in a Supervisor/Lead Hand role or above to ensure all appropriate employees in their departments are trained in this procedure.	
It is the responsibility of every employee & contractor to comply with the OH&S Act regulations and this procedure.	




Related - Life Saving Rules - Golden Rules	
<ul style="list-style-type: none"> • Personal Protective Equipment  	<ul style="list-style-type: none"> • Hazardous Substances 
<ul style="list-style-type: none"> • Driving  	

Table Contents

APPROVED BY	1
Hazard Identification and Review	1
Required Personal Protective Equipment.....	1
• All standard PPE required UG	1
•	1
Required Tools / Equipment	1
Related SOPs / Permits Required	1
Responsibility.....	1
Related - Life Saving Rules - Golden Rules	1
PREAMBLE.....	3
EMERGENCY NUMBER.....	3
PERSON DISCOVERING A FIRE.....	4
PERSON ENCOUNTERING STENCH GAS/Lamp Notification	5
CONDUCT IN A REFUGE STATION.....	5
Procedure When Fire/Emergency is at Red Lake Gold Mines.....	7
DUTIES OF THE HOIST PERSON	8
DUTIES OF THE CAGETENDER AND/OR SKIPTENDER UPON BEING NOTIFIED.....	8
Duties of Shaft Deck Person	9
MILL COMPLEX/COCHENOUR COMPLEX – STENCH FOLLOW UP ACTION	9
OTHER UNDERGROUND EMERGENCIES:.....	10
Major Fall of Ground or Seismic Event	10
Major Shaft Incident.....	10
Major Power Failure.....	10
Run of Material	11
Critical injuries	11
GENERAL DUTIES OF THE EMERGENCY CONTROL GROUP	11
COMMUNICATIONS.....	13
Refuge Station Checklist.....	15
Underground Emergency Tag Board Call Sheet Log.....	15
LOG OF ACTIVITIES.....	16

PREAMBLE

This manual is intended as a guide in the event of a fire or emergency reported in the mine workings. The areas of responsibility of the various people who will be directly involved are outlined to prevent doubt as to what each person should be doing at the time of an emergency. It should be noted that not all conditions can be foreseen, thus this manual can only serve as a guide in establishing proper organization at the time of an emergency situation. The Control Group must consider the detailed response to any situation based on the information available at the time of the emergency.

This procedure will be reviewed yearly by the Joint Health and Safety Committee and Red Lake Gold Mines Management. The review date shall be recorded and kept on file. Engineering/Geology up-dates on development and production headings are presently being supplied on a monthly basis.

The Supervisors and Contractors on-site will review the fire/emergency procedure with all the crews on a regular basis.

EMERGENCY NUMBER

*Extension **88888** has been designated and is dedicated for Emergency Purposes. This extension will ring in the Security Gatehouse at the Campbell Complex, which is manned 24 hours per day.*

PERSON DISCOVERING A FIRE

In the event you discover a fire anywhere underground, the procedure is as follows:

- Assess the size of the fire and call to your partner(s) for help.
- Immediately try to extinguish the fire using a fire suppression system, fire extinguisher or fire hose.
- If the fire is put out, the incident must be reported immediately to your Supervisor & or security if Supervisor is unavailable so that appropriate action can be taken.
- If the fire cannot be put out, go to the nearest refuge station/phone/Radio alerting people along the way (follow any site specific procedures i.e.: closing garage doors, specific exit routes i.e.: from loading pockets, etc.). Call ext. **88888** and report the emergency. The person reporting must provide them with the following information:
 - Name
 - Location and nature of the fire or emergency
 - Type and size of the fire
 - Stay on the phone until told to hang up.
 - Note the emergency can be reported by leaky feeder radio.
- Proceed to the nearest refuge station
- If your passage to the nearest refuge station is blocked by smoke, fire or debris, proceed to the nearest emergency shelter and or to the nearest dead-end drift that has both compressed air and water available and barricade yourself in using available timber, fabrene or other material. Seal the barricade as best you can. Partly open the compressed air header and wait for help. If barricade material is not available, go to an air header and use your oiler jacket to make a tent over your head and the airline. Then crack open the compressed air and wait for help.
- If communication is available, let someone know where you are going to be located. Tapping on the walls can be detected by micro seismic systems.
- Workers should remain calm and stay where they are until rescued by Mine Rescue or given the all clear by the Supervisor.



PERSON ENCOUNTERING STENCH GAS/Lamp Notification

In the event you encounter or smell stench gas (rotten egg odour) or notified by New Lamps system anywhere in the mine workings, the procedure is as follows:

- Check your watch to see what time it is (remember the time).
- If you are equipped with New Lamp: Press Acknowledge Button Your New Lamp
- Proceed to the Refuge Station or other established fresh air base alerting fellow employees along the way.
- Upon arrival to the refuge station follow the instructions as laid out in this policy in the Emergency Box located in the refuge station.
- If you encounter anything unusual along the way to the refuge station, or fresh air area report the information to the person in charge of the refuge station.
- Before leaving your workplace crack air valves open slightly.

CONDUCT IN A REFUGE STATION

The following rules of conduct apply in all refuge stations:

- First Person in Refuge Station is in charge until relieved by a Supervisor, Lead hand or Mine Rescue Personnel.
- At no time will parking be allowed in front of a refuge station or anywhere that impedes the travel of the Emergency Vehicle. This includes where the Mine Rescue Vehicle Currently parks on a daily basis.
- If you have any information about the fire, explosion, smoke conditions or injury phone **#58540** or **#58541** or **#58542** (Control Room) and let them know.
- Person in charge to immediately start to fill out the Refuge Station Check List Form included in this Procedure. If more people enter the room put them on the list and ensures that all sections of the Check List are completed. Make note of any mine rescue team members.
- Have the list ready for when you are called.
- SEAL INSIDE DOOR AND OPENINGS USING CLAY WHEN TOLD TO DO SO BY CONTROL GROUP OR IF THERE IS SMOKE ENTERING THE REFUGE STATION. (Do not open the sealed door except to allow others to enter or instructed to by mine rescue to do so.)
- Turn on compressed air header to pressurize the refuge station. The compressed air header must be cracked after no more than one hour or advised by the control group to keep fresh air in the refuge station. Crack open the valve in the wall by the door to release pressure, if applicable.



- IF REFUGE IS EQUIPED WITH AN AIR SCRUBBER ONLY ACTIVATE WHEN DIRECTED BY CONTROL GROUP OR POWER AND COMPRESSED AIR HAVE FAILED IN REFUGE. (FOLLOW DIRECTIONS ON UNIT TO ACTIVATE SYSTEM)
- Once someone has entered the refuge station, (whether door is sealed or not) they are not permitted to leave until the Emergency has been resolved. No one is to stand outside the Refuge Station.

Communication Procedure:

- Stay off the phone or radio, as the control group will designate someone to phone you. They will ask for information on who is in your refuge station, phone and radio lines must be kept clear for emergency purposes.
- Person designated in charge of Refuge Station is to be the only one answering the phone/radio
- After the first call from surface and someone new comes to the refuge station take down their information and wait for another phone call from the control group.
- If no one has called you in 30 minutes of smelling stench you may phone/radio surface Tag Boards ext. **58064/58961/58739 (Coch)**. Do not leave message on an answering machine. You must talk to someone.
- Keep conversations short and precise.
IE:
 - ✓ Compressed air not working
 - ✓ Person in refuge station is sick or injured
 - ✓ Unusual condition (smoke entering, explosion heard)
- Have all the Refuge Station Check Lists completely filled out and report all information when you are called.
- On completion of the emergency, ensure extra Refuge Station Check Lists are available for use.
- Information will be given to occupants of refuge stations as updated by the Control Group.
- Do not call Security for updates.

Refuge Station Procedures

COMPRESSED AIR NOT WORKING

- If the compressed air stops blowing, close the valve immediately. Do not delay in sealing up the refuge station door. Carbon monoxide, which is the toxic gas associated with underground fires, is a colourless, odourless, tasteless gas and can contaminate a refuge station before any smoke is detected.
- Communicate this condition to the Tag board Teams



58064/58961/58739(Coch)

- Sit down and rest, a man at rest uses less oxygen than a man at work or moving.
- IF REFUGE IS EQUIPED WITH AN AIR SCRUBBER:
If communication has failed and cannot get direction by Tag board or Control Group. (FOLLOW DIRECTIONS ON UNIT TO ACTIVATE SYSTEM)
- Refuges without Air scrubbing capabilities:
Every thirty minutes, one of the persons must be delegated to walk back and forth in the refuge station to stir up the stagnant air and prevent layering of the oxygen and carbon dioxide.
- Turn off cap lamps until needed to evacuate the refuge station.

Water

- Water is available in sealed boxes in the Refuge Station.
- Conserve food and water because depending on the emergency you may have to stay in the Refuge Station for an extended period of time
- Shut off cap lamps. Only one cap lamp may be used at one time. The other cap lamps must be conserved in case the main electrical power is shut off.
- Once the Emergency is over crews will be informed, the Completed Refuge Checklist Form(s) are to be delivered to the Supervisors who will then hand them in to the Mine General Foreman. These will then be delivered to the Ventilation Department. Ensure Refuge Station air header is cracked open and all doors are closed at all times.

Procedure When Fire/Emergency is at Red Lake Gold Mines

- All complexes (Red Lake-Balmer- Campbell- Cochenour) will be stenchd.
- Control group will assemble at the:
The **Balmer Complex** in the Mercedes Room at ext. **58540/58541/58542**.
- Control group will consist of the following:
 - Mine General Manager
 - Mining Manager
 - Ventilation Technologist from respective complex of the emergency
 - Safety Manager
 - Operations Manager
 - Chief Engineer
 - Recorder
 - Cochenour Manager
 - Mine General Foreman (for the area where the emergency is occurring)
- Tag board team to be set up at the Red Lake/Balmer Complex, Campbell Complex, and Cochenour Complex to account for all underground employees.

- The Tag board team will consist of:
 - Personnel designated at each Complex
 - Tag Board Recorder
- A Briefing officer will be established at the site of the emergency:
 - Briefing officer is a part of the Control Group
 - The first briefing officer in the control room will get briefed from the control group and then proceed to the headframe where the emergency is taking place.
 - The briefing officer will brief the MR Team in the headframe deck-room and then set up in that location to be the contact point between the MR Team and the Control Group. The only exception to this is at #1 shaft (up cast ventilation) where the briefing officer would brief the team in the MR station and then set up in the MR Station office.
 - Remaining briefing officers will report to the Mine Rescue Room to assist in setting up the teams.

DUTIES OF THE HOIST PERSON

Upon receiving a phone call indicating an underground fire/emergency, the hoist person shall:

- Stop hoisting muck immediately.
- Take control of the pertinent hoist(s).
- When cage is in motion stop unit immediately, contact Cage tender and bring unit to deck.
- If cage has been released bring unit to deck.
- Inform Control Group at ext. **58540/58541/58542** when the cage is on surface Control Group to authorize any further travel in all shafts.

#2 Shaft: Note under care and Maintenance

DUTIES OF THE CAGETENDER AND/OR SKIPTENDER UPON BEING NOTIFIED

- If you encounter a fire follow the steps under "Person Discovering a Fire".
- If unable to put the fire out proceed up to surface and if skipping, send skip to surface and report to refuge station.
- If contacted by hoist man of a fire you will be taken to surface.
- When on surface release the cage.

- If the cage tender is UG and the cage is on surface, the deck man will release the cage (5 bells) and notify the cage tender that the mine has been stench and cage released. Cage Tender will report to the nearest refuge station.
- Report to person in charge at tag board area at Balmer, Campbell & Cochenour Complex's and await further instructions.

Duties of Shaft Deck Person

- The deck person will *report to the Surface tag board* until given further instructions by the Control Group.

MILL COMPLEX/COCHENOUR COMPLEX – STENCH FOLLOW UP ACTION

The mill complexes have been assigned duties and responsibilities to ensure the stench has been released at the Red Lake Complex, Campbell Complex, and Balmer Cochenour Complex.

Stench Recharging:

Maintenance will ensure that all bottles on surface are recharged as soon as possible, with direction from the control group. Winter green maybe used as per instructions from the control group.

- Upon receiving a call from the Security Guard the Mill Control Room Operator will record the time in his operating report. (On their respective Stench Gas Checklist Sheet)
- The Central Control Operator will notify the Field Operator of stench being activated.
- Control Room Operator will instruct the crusher operator and paste fill operators to shut down.
- The crusher operators to vacate the crusher and take appropriate action.
- The Field Operator will carry out duties assigned to them from their respective Stench Gas Checklist Sheet. Once the Field Operator has completed each action item the Field Operator will contact the CCR Operator and indicate the completed action. The CCR Operator will note and log the recorded time on the Checklist Sheet.
- Once the checklist has been completed (by action from both the CCR Operator and Field Operator), the CCR Operator will phone their respective control rooms to confirm the mill activities for the stench have been carried out.

OTHER UNDERGROUND EMERGENCIES:

In a mine there are a number of other emergencies that may occur. These incidents could have an impact on life and property and we will endeavor to ensure that employees if at all possible will not be put in danger. Listed below are a number of major incidents that could occur in the mine.

- Fall of Ground (rock burst)
- Major shaft incident
- Power failure/ Ventilation failure
- Run of material (muck or water)
- Employee being trapped.

Major Fall of Ground or Seismic Event

When a fall of ground or seismic event occurs the rock mechanic person will be called out as per call out list. Along with the person in charge of the mine a decision will be made as to whether or not the emergency plan needs to be activated and to what extent. If the plan is activated the same procedures will apply as for a mine fire.

Major Shaft Incident

When there is a major shaft incident the following must be considered:

- All work must cease immediately
- Workers must be contacted to stop work immediately. This may be by means of phones, radios or stenching if required.
- It must be determined how the employees can be removed safely from the mine.
- Control group must be formed to formulate a plan of action
- It is not necessary to call out the Mine rescue teams unless it is deemed necessary for their assistance in the operation.

Major Power Failure

When there is a major power failure to the mine site the following must be considered;

- What extent and length of power failure
- The Mining Manager will be called immediately. The Mining Manager, Mine Superintendent, Mine General Foreman and the Electrical Foreman will determine if the emergency plan needs to be activated and to what extent.
- The same procedures will apply as for mine fires for full evacuations.

Run of Material

When a run of material happens the Mining Manager, Safety & Training Manager will be called out and the Mine Superintendent for that Complex. A decision will be made as to whether or not the emergency plan needs to be activated and to what extent. If the plan is activated the same procedures will apply as for a mine fire.

Critical injuries

When there is a critical injury the Mining Manager, Safety & Training Manager will be called out and the Mine Superintendent for that Complex. A decision will be made as to whether or not the emergency plan needs to be activated and to what extent. If the plan is activated the same procedures will apply as for a mine fire.

GENERAL DUTIES OF THE EMERGENCY CONTROL GROUP

The Control Centre will be set up at the Mercedes Room at the Balmer Complex; the telephone extension is # **58540/58541/58542**. The Control Group will consist of key personnel as per list. The senior official or his designate will assume the role of Control Officer and be in charge of the Control Group and centre. In most cases, this will be the Mine General Manager or Mining Manager.

The Group will be responsible for co-ordinating specific segments of the emergency plan such as security, engineering, support and rescue, and to advise the Control Officer. The Control Group and Officer are responsible for formulating a strategy to control the emergency situation, schedule personnel and monitor continuous trends.

The group will endeavour to minimize the effect of the emergency. They will be prepared to authorize expenditure of material and financial resources required for rescue and preservation of life and health. The Control Group will provide support to all response teams involved.

Below is a list of questions to which the Control Group may refer to ensure that in the excitement of the emergency no information is neglected.

- Area affected, evacuated?
- Names of missing personnel?
- Initial and ongoing information re: air quality, ventilation, gases and damage?
- Location of missing personnel?
- Causes?
- Actions already taken by on-site personnel?
- Danger of explosion?

- Equipment in the area? (i.e. firefighting equipment, diesel equipment, charging station, air/water lines).
- Status of power, fans, doors?
- Storage sites in area (i.e. tools, materials, O₂ cylinders, acetylene, explosives)
- Location of fresh air base?
- Reports from refuge stations?
- Number of people and Mine Rescue teams required handling the emergency?
- Scheduling of team assignments depends on objective, difficulty of tasks, location, distance, limits of time and O₂, rest.
- Initial & ongoing information re: air quality, ventilation, conditions, gases, damage, missing personnel.
- Mine Rescue tasks may include, gas samples, airflow, building, explore, bring out survivors, check apparatus, and fight fire.
- Mine Rescue to be given priority in exiting mine to surface once stand-down is called.

Annex I

- Security Duties during Underground Fire Emergency – refer to Conveyor

Annex II

- Control Group Duties during Underground Fire Emergency – refer to Conveyor

Annex III

- Power Failure Checklist Balmer-Red Lake Complex – refer to Conveyor

Annex IV

- Power Failure Checklist Campbell Complex – refer to Conveyor

Annex V

- Fan or Heater Failure Checklist Campbell Complex – refer to Conveyor

COMMUNICATIONS

Telephones to communicate with the underground workings consist of the following:

- Bell telephones
- Leaky feeder radios
- Wireless Communications Devices

Revision#	Date of Revision	Explanation	Reviewed by
1.0	April 2018	Update, remove Cochenour Hoist Person duties, add Deck Persons location to report, Update Stench recharging instructions	William McCleary

FORMS

- Applicable Forms Below



Procedure

REFUGE STATION CHECKLIST

This form is to be completed by the individual who has taken charge of the Refuge Station. When returning to surface after all clear is given, return this form to the Mine General Foreman's office.

This document is to be submitted to Ventilation Department.

Person In Charge (Please Print):						Date:			
Refuge Station:						Time:			
Name	# No.	Injured Yes/No	Mine Rescue Trained	Workplace	Emergency Notification by (radio, stench, co-worker, Or Newtrax phone)	If Stench was smelled, time that it was smelled and location if different than Workplace	Stench Smell Was:		
							Light	Mild	Strong

PLEASE CHECK THE FOLLOWING

- | | | |
|---|---|--|
| <input type="checkbox"/> Air On
<input type="checkbox"/> Fire Location
<input type="checkbox"/> Contact with Control Centre
<input type="checkbox"/> Door Sealed | <input type="checkbox"/> Air Movement after 30 min.
<input type="checkbox"/> Potable Water Used
<input type="checkbox"/> Unusual Conditions
<input type="checkbox"/> First Aid Kit | <input type="checkbox"/> Plug Out Valve
<input type="checkbox"/> Cap Lamps
<input type="checkbox"/> No Smoking |
|---|---|--|

Condition of Clay:

Comments:

(updated: January 2016)



Procedure

Refuge Station Checklist Underground Emergency Tag Board Call Sheet Log

Tag Board Call Sheet Log		Underground Emergency									
		Refuge Phone #					Tag Board Officer(s):				
Refuge #	Name	Payroll # / Employer	First Contact Time	2nd Call	3rd Call	4th Call	5th Call	6th Call	7th Call	8th Call	Stand Down Call Time
1	(in-charge)										
2											
3											
4											
5											
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NOTES:

Caller Print Name

Caller Signature



Procedure

LOG OF ACTIVITIES

This form is to be used by any individual involved in activities during the emergency. It is important that all activities and events are documented. Copy as required and return completed logs to the Control Room.

DATE	TIME	ACTIONS/EVENTS/COMMENTS
Name:	Title:	
Signature:		