HOPE BAY PROJECT
EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

MARCH 2019

Hope Bay Project Emergency Response Plan

Plain Language Overview:

This document provides information about required action to handle emergencies at the TMAC Hope Bay Project in compliance with Nunavut Mine Health and Safety Regulations 8.32. The goal is to ensure personnel are aware of emergency situations and response procedures in order to avoid and diminish adverse consequences from an emergency by:

- Preventing injury or fatality;
- Reducing or avoiding damage to equipment, systems and property;
- Ensuring well trained and coordinated management and response personnel; and
- Ensuring return to normal operations safely and efficiently.

Hope Bay, Nunavut

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Revisions

Revision #	Date	Section	Changes Summary	Author	Approver
0	December 2017	Initial Document		TMAC	TMAC
1	March 2019	Throughout	Combined previous Surface Emergency Response Plan and Underground Emergency Response Plan into one document. Updates to Plan Management and Roles & Responsibilities sections.		

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Glossary

Term	Definition
Assembly Point Coordinator	The most senior employee at an assembly point or muster location during an emergency who takes control of the assembly point during an evacuation to take roll-call and account for each person at the assembly point.
Briefing Officer (BO)	The Briefing Officer is the liaison between the ICG and the ERT/MRT teams. The BO provides instructional direction to the ERT/MRT teams and is responsible for their safety during an emergency.
Emergency	A serious, unexpected, and often dangerous situation requiring immediate action.
Emergency Response Guidebook (ERG)	The Emergency Response Guidebook is a guide to aid first responders in quickly identifying the specific or generic hazards of the material(s) involved in an incident for protection of first responders and the general public during the initial response phase of an incident.
Emergency Response Team (ERT)	A group of TMAC Hope Bay employee's and contractors who voluntarily prepare for and respond to any emergency incident.
Incident Command System	The Incident Command System (ICS) is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective.
Incident Command Group (ICG)	Members of TMAC management that assemble during an emergency to direct the response to the incident.
Mine Rescue	Mine rescue is a term used to refer to underground rescue operations performed by the Emergency Response Team.
Muster Station	A designated gathering area for the purpose of identifying and recording all occupants/evacuees present during an emergency and ensuring their safety until the emergency has ended.
Official-in-charge (OIC)	The Official-in-Charge is usually the General Manager, or most senior manager and oversees all decisions and emergency operations at Hope Bay.
Physician Assistant (PA)	Medical health care professional that provides overall site medical duties including critical care during emergency situations under the medical directive of a physician.
Stop Work	An instruction broadcast over the radio system by the Official-In-Charge instructing specific work to stop.
Stench Gas (Ethyl Mercaptan)	Stench Gas (Ethyl Mercaptan) is a colorless organic liquid (C_2H_5SH) that has a strong odor and is used as a warning agent to communicate an emergency in the underground mine.
WSCC	Workers' Safety and Compensation Commission

1 Introduction

This Hope Bay Project Emergency Response Plan (the Plan) for has been prepared by TMAC Resources Inc. (TMAC) in accordance with various water licences held by TMAC associated with developments throughout the Hope Bay region and in accordance with WSCC Nunavut Mine Health and Safety Regulations R-125-95 8.32.

1.1 Objectives

The Plan details emergency management principles to be used at TMAC Hope Bay project sites including the Incident Command System (ICS) for the Onsite Official-in-Charge, Incident Command Group, Emergency Response Teams, First Responders, Physician Assistants and site employees. This Plan also provides guidelines for handling various potential on-site emergencies and outlines the steps that should be taken to reduce the risk of loss to persons, environment and property.

1.2 Relevant Legislation and Guidance

Emergency response management at the Hope Bay site is governed by the Nunavut Mine Health and Safety Regulations (R-125-95 8.32).

1.3 Related Documents

The documents listed in Table 1.1 are expected to be referenced and utilized in conjunction with the Emergency Response Plan.

Table 1.1. List of documents related to the Hope Bay Project Emergency Response Plan

Document Title	Year	Relevance
Hope Bay Project Spill Contingency Plan	2019	Outlines spill response procedures and actions to be taken in the event an emergency incident involves a spill of hazardous materials
Hope Bay Project Hazardous Waste Management Plan	2019	Reference for management of hazardous waste that may be generated during an emergency response
Hope Bay Project Non-Hazardous Waste Management Plan	2017	Reference for management of non-hazardous waste that may be generated during an emergency response
Oil Pollution and Emergency Preparedness Plan	2018	Outlines specific spill response procedures and actions to be taken in the event an emergency incident involves a spill of fuel during the annual sealift fuel transfer
Hope Bay Project Explosives Management Plan	2017	Reference for management of explosives material handling

1.4 Plan Management

The Chief Operating Officer (COO) has the overall responsibility for implementing this management plan and will provide the on-site resources to respond to emergency events that occur in the Hope Bay Belt in accordance with this plan.

The General Manager (GM) is responsible for implementing this plan at the Hope Bay site, and providing on-site support and resources for emergency response management. The GM will act as the Official in Charge (OIC) in the event that an emergency occurs that requires activation of the Emergency Response Plan (ERP). As OIC, the GM will coordinate the emergency response efforts that protect the health and safety of all responders.

The Health and Safety Manager is responsible for reviewing and revising this Plan annually.

2 Emergency Response Structure

2.1 Incident Command System

The Incident Command System (ICS) is a standardized management system used to organize and manage a scalable response to emergency incidents of any magnitude. ICS includes procedures to select and form temporary management hierarchies to control funds, personnel, facilities, equipment, and communications during an emergency event. Personnel are assigned roles within the ICS according to established standards and procedures.

2.2 Incident Command Group

The Incident Command Group (ICG) is responsible for directing all work performed and managing all resources during an emergency incident. The ICG is typically formed by TMAC senior management or designates performing the various required functions to ensure the safety of all personnel involved. The ICG draws on resources from Safety, Operations, Technical Services, Environment and Maintenance personnel as necessary to complete emergency response tasks. Responsibilities of the ICG are outlined in Section 2.2.1 through 2.2.7 below. Depending on the nature of the emergency, additional managers and personnel may be added to the ICG.

2.2.1 Official-In-Charge

The General Manager or designate is considered the Official-In-Charge (OIC) of all emergency operations for TMAC Hope Bay. The Official-In-Charge is responsible for the overall safety of persons involved in the emergency response and has the primary goal of protecting personnel from injury or harm. Secondary priorities are to protect the environment, TMAC property and return to production. The OIC provides overall direction to the ICG during response to an emergency.

2.2.2 Health and Safety Manager

The Health and Safety Manager provides advice and technical knowledge to the OIC regarding safety processes and regulatory requirements during an emergency. When necessary the Health and Safety Manager will communicate with all of the appropriate external contacts and government officials in accordance with the NWT Mine Health and Safety Act and Regulations Section 16.07.

2.2.3 Maintenance Manager

The Maintenance Manager provides advice and technical knowledge to the OIC regarding surface operations. When necessary the Maintenance Manager will organize surface operational resources such as personnel and equipment to assist in the management of an emergency incident.

2.2.4 Mine Manager

The Mine Manager provides advice and technical knowledge to the OIC regarding the mining operations. When necessary the Mine Manager will organize underground operational resources such as personnel and equipment to assist in the management of an emergency incident.

2.2.5 Process Manager

The Process Manager provides advice and technical knowledge to the OIC regarding the Process Plant operations. When necessary the Process Manager will organize Process Plant operational resources such as personnel and equipment to assist in the management of an emergency incident.

2.2.6 Materials Manager

The Materials Manager provides advice and technical knowledge to the OIC on logistical processes and material supplies. When necessary the Materials Manager will organize logistical and warehouse resources such as personnel and equipment to assist in the management of an emergency incident.

2.2.7 Environmental Supervisor

The Environmental Supervisor provides advice and technical knowledge to the OIC regarding environmental resources at risk and reporting requirements in the event an emergency has impact or potential impact to the surrounding environment. When necessary the Environmental Supervisor will organize operational resources such as personnel and equipment to assist in the management of an emergency incident as outlined in the Hope Bay Project Spill Contingency Plan.

2.3 Physician Assistant

During an emergency the Physician Assistant (PA) advises the ICG and provides advanced medical support for injured persons. All patient care decisions are at the discretion of the PA with their primary focus being the well-being of the patient.

2.4 Emergency Response Team Coordinator

The Emergency Response Team (ERT) Coordinator is responsible for the implementation and training of the Emergency Response Team. During an emergency, the ERT Coordinator will initially direct the actions of the ERT. As the response progresses, the ERT Coordinator will be under the direction of the ICG and will act as the Briefing Officer.

The Briefing Officer will direct the ERT in rescue and recovery operations and is the only liaison to the active Emergency Response Team. At no time should the ICG communicate directly with the response

team. Direction from the ICG will be communicated to the active Emergency Response Team through the Briefing Officer.

2.5 Emergency Response / Mine Rescue Team

The Emergency Response Team / Mine Rescue Team (ERT/MRT) are the primary responders to an emergency incident. The fundamental principles of mine rescue training are:

1. Ensuring the safety of self and the rescue team
2. Endeavouring to rescue or ensuring the safety of trapped or injured workers
3. Protection of the mine property from further damage
4. Rehabilitation of the affected work area and salvage of equipment

ERT/MRT responders operate under the principles and training outlined in the Western Canada Mine Rescue Manual which can be found at the following link:

http://www.wscc.nt.ca/sites/default/files/documents/Western%20Canada%20Mine%20Rescue%20Manual_June2015.pdf

3 Emergency Response Steps

Although every emergency is different, the basic steps in responding to an emergency and the order of priority are often the same.

- Ensure medical aid and protect personnel – Supervisors and First Responders must immediately assess the situation and take care to ensure the safety and well-being of injured personnel.
- Take control – Unless a senior manager is present, Supervisors and/or First Responders need to take control of the situation. The priority is always the protection and rescue of people. The second is the environment, followed by TMAC property and then production.
- Control potential secondary events – Secondary incidents are possible at a scene because normal controls may have been critically weakened by the incident. Positive temporary actions to secure the scene need to be taken after quick, but careful, thought of the consequences.
- Preserve evidence – When there is significant loss, good investigation is more important than getting back to work. Preserve the site until the investigation is complete and the proper authorities have been notified. Secure, sign or rope off to prevent further access to a scene.

3.1 Incident Rating System

The following Incident Rating System is designed to be used as an aid when determining the severity of an incident and determine whether the event is an emergency requiring activation of the ICG and ERT/MRT response.

Incident Rating System		
Rating	**Description**	**Action Required**
Level 1 Low	The incident resulted or could result in minor Property/Equipment Damage, First Aid/Occupational Injury, or a Non-reportable Environmental Spill.	Injury: Provide immediate first aid if required. Report incident to Supervisor and Physician Assistant.
		Property Damage: Secure the scene to prevent any further damage or loss. Report Damage to Supervisor.
		Environmental Spill: Immediately perform remedial action to contain the spill as outlined in Hope Bay Spill Contingency Plan. Report spill to Supervisor and Environmental department.
Level 2 Medium	The incident resulted or could result in moderate Property/Equipment Damage, Medical Aid/ Lost Time/Occupational Injury, Reportable Environmental Spill. Controlled Fire that has been extinguished.	Injury: Provide immediate first aid if required. Report incident to Supervisor and Physician Assistant.
		Property Damage: Secure the scene to prevent any further damage or loss. Report damage to Supervisor. Notify Safety Department.
		Fire: If safe to do so and the fire is in its beginning stages, immediately try to extinguish the fire. Call Supervisor and report fire has been extinguished. Maintain fire watch to ensure fire does not re-ignite.
		Environmental Spill: Immediately perform remedial action to contain the spill as outlined in Hope Bay Spill Contingency Plan. Report spill to supervisor and Environmental department.
Level 3 High	The incident resulted or could result in significant Injury/Fatality, Uncontrolled Fire, Significant Property/Equipment Loss, Hazardous material release with risk to people or environment, Uncontrolled fire with risk of spreading.	Injury/Fatality: Immediately call Mill Control Room on radio channel #1 or Dial Phone extension 911 or 150. Inform them of emergency and request immediate medical assistance. Give your name, location, type of injury and number of injured persons.
		Uncontrolled Fire: Immediately call Mill Control Room on radio channel #1 or Dial Phone extension 911 or 150. Inform them of uncontrolled fire. Evacuate the area to a safe location and alert others of the emergency. Underground: Contact Mill Control on radio channel #1 or by Femco Phone. Inform them of fire underground and request stench release and Mine Rescue call-out.
		Hazardous Environmental Spill: Immediately Evacuate the area and call emergency on radio channel #1 or Dial Phone Extension 911 or 150. Inform Mill Control Room operator of emergency and request ERT call-out for Hazardous Spill.

3.2 Emergency Notification Process

If an emergency arises, immediately contact the Mill Control Room Operator via radio on the emergency channel # 1, or by phone at extension 911 or 150 and say “Emergency, Emergency, Emergency”.

The caller will provide the Control Room Operator with their name, their location and the nature of the emergency. (Example: This is John Doe, I have a man in the gym with a suspected heart attack; I need medical assistance.). See Appendix A for the Emergency Notification Process procedure.

Once an emergency notification has been received the Roles and Responsibilities outlined in Section 3.4 below will come into effect.

3.3 General Incident Procedures

Not all incidents will be classified as emergencies. If an incident is identified quickly it can often be isolated and controlled to prevent the escalation of the incident into a full-scale emergency. The following section outlines response actions to be taken in potential emergency scenarios.

3.3.1 Injury

In the event of an incident involving injury, evaluate the situation and provide First Aid to your level of training and ability if safe to do so. If the injury is not life threatening and there is no risk of further injury contact your immediate supervisor and report the injury.

If the injury is life threatening, (eg. heart attack, stroke, severe bleed, amputation, breathing distress) evaluate the extent of injuries and administer First Aid if qualified.

- Initiate the Emergency Notification Process.
- If worker is unconscious, check for:
    - Breathing: If worker is not breathing, provide CPR immediately.
    - Bleeding: Control external bleeding immediately (“Direct Pressure” “Elevation” “Rest”).
- Secure the location of the injured worker to prevent further injuries to others. Keep the patient as comfortable as possible until Emergency Response personnel arrive on the scene.
- Where serious injury is the result of a hazardous chemical exposure, ensure Emergency Response personnel are advised of the type of chemical the injured worker was exposed to. Refer to product SDS sheets as required.

3.3.2 Fire

In the event of an incident involving fire, and the fire is small, use nearby fire extinguishers or fire suppression system to extinguish the fire provided it is safe to do so. Do not expose yourself to unnecessary risk and keep a clear area of retreat behind you. When the fire is out, notify your Supervisor immediately.

If the fire is uncontrollable and beginning to spread, evacuate the area and initiate the Emergency Notification Process.

3.3.3 Spill

In the event of an unanticipated discharge or spill, immediately assess the scene and if safe to do so stop the flow of the spill. Contact your supervisor and initiate the actions outlined in the Hope Bay Project Spill Contingency Plan. If not safe to do so, evacuate the area and initiate the Emergency Notification Process.

3.3.4 Evacuation

Upon being notified of an emergency evacuation either by radio, phone, stench warning system, siren, alarm or any other means, stop work immediately, note the time you received the warning and calmly evacuate using the safest route possible. Maps of evacuation routes are presented in Appendix B of this document.

- Stay calm.
- Notify others in the affected area.
- Do not rush unnecessarily.
- Evacuate in an orderly manner.
- Evacuate by the shortest safe route possible.
- Never return to work or lunch areas to retrieve personal effects, lunches, etc.
- Underground: when smoke or toxic gases are encountered – do not hesitate – don a personal self-rescue device and proceed to the closest refuge station.

Once safely out of your work area, report immediately to the nearest Assembly Area and report to the Tag Board or Assembly Point Coordinator. Remain at the Assembly Point for further instructions. Examples of the Incident Command Group Tag Board Accounting Form and Refuge Station Accounting Form are provided in Appendix C and Appendix D of this Plan.

3.4 Roles and Responsibilities

3.4.1 Mill Control Room Operator

The Control Room Operator will use specific emergency check sheets to record the emergency details and response requirements for surface, mill (see Appendix E) and underground emergencies (see Appendix F). Duties of the Control Room Operator include:

- Responding to the emergency communication;
- Selecting the appropriate emergency check sheet;
- Documenting all relevant information about the emergency;
- Announcing an emergency on channel one;
- Announcing any stop work directive when directed by the Official-In-Charge;

- Initiating the Emergency Pager System;
- Initiating the stench gas system; and
- Any other duties assigned by the ICG.

3.4.2 Emergency Response Team

3.4.2.1 Surface Emergency

ERT members responding to the emergency will report to the Mine Rescue Room and will start preparing their standard equipment and SCBAs (if required) and wait for a briefing from the Briefing Officer.

3.4.2.2 Underground Emergency

ERT members responding to the emergency will report to the Mine Rescue Room and will start preparing their standard equipment and BG4s (if required) and wait for a briefing from the Briefing Officer.

3.4.3 Emergency Response Coordinator

The Emergency Response Coordinator will report to the Mine Rescue Room and will ensure the proper ERT members have been selected for the emergency. The ERT Coordinator will act as Briefing Officer to the team on their objectives. The Briefing Officer will document the progress of the active ERT team, and remain in contact with the ERT members and the ICG throughout the emergency.

3.4.4 Physician Assistant

Upon hearing the announcement of an emergency on the radio or pager the on-site Physician Assistant will immediately report to the Physician Assistant's Office.

3.4.4.1 Medical Evacuation

In the event that a patient requires a medical evacuation, the PA will follow procedure VII-0002 Medical Air Evacuation (see Appendix G) outlining the steps required to initiate a Medical Evacuation.

3.4.5 Incident Command Group

During a site emergency, the Incident Command Group will assemble in the main conference room. If this room is compromised, then the ICG will assemble in the Geo-Hub conference room. The ICG team will direct all work and control the frontline response during an emergency incident.

Appendix H outlines the ICG Duties for Mill/Surface Emergencies. Appendix I outlines the ICG Duties for an Underground Emergency.

3.4.5.1 Initiating Stop Work

The Official-In-Charge in consultation with the senior management team will determine what work is required to stop. The work stopped could range from high risk non-routine hazardous work to all work

at the site, on surface or in the underground. The decision could encompass one area, one department or the entire site. When the Stop Work order is initiated the relevant area personnel will Stop Work and report to their supervisor. Underground personnel will report to a refuge station and wait to be contacted. Radio silence must take effect, except to communicate emergency information.

3.4.5.2 All Clear / Stand Down

When the emergency is over the OIC will issue the "All Clear" instruction and normal site operations can resume.

4 Potential Surface Emergencies

4.1 Surface Fire

In the event of a surface fire that is uncontrolled, initiate the Emergency Notification Process.

During a surface fire the Emergency Response Team shall assemble in the Mine Rescue room. The Emergency Response Coordinator or ERT Captain shall provide instruction to the ERT members to proceed to the muster station and prepare bunker gear and SCBAs for a surface fire response.

If the assembly point is no longer a safe location due to fire, the Assembly Point Coordinator will evacuate all personnel to the nearest safe location and contact the ICG.

The Incident Command Group shall begin to assign duties as per the Incident Command Group Duties Mill/Surface Emergency Check sheet. (See Appendix H)

The Emergency Response Coordinator or ERT Captain shall coordinate with the Assembly Point Coordinator to ensure that all personnel in the affected area are accounted for. If all persons are not accounted for ERT shall perform a primary search of the location.

The primary focus of ERT shall be to protect personnel from injury, prevent to spread of fire, protect the environment and protect company property from loss.

4.2 Serious Injury

In the event of a serious injury, initiate the Emergency Notification Process.

If safe to do so, first responders must act to prevent further injury, suffering or loss of life. If possible, do not leave the injured person unattended.

Once the Emergency Response Team arrives at the scene, they will immediately assume control of the incident, secure the scene and provide any required life saving first aid. The ERT members will stabilize the patient and prepare for transport to the Physician Assistant.

The Physician Assistant will prepare the medical station for the arrival of the patient.

Once the patient has been transported to the medial station the ERT team shall provide any assistance required by the Physician Assistant.

The Incident Command Group shall ensure the scene has been frozen and begin preparations for an incident investigation.

Considerations should be given to initiating Employee Assistance depending upon the severity of the incident.

4.3 Fatality

In the event of a fatal accident/incident, the ERT will secure all material and equipment involved at the scene to preserve evidence until required investigations are complete and cleared by all regulatory agencies.

The Incident Command Group shall ensure the scene has been frozen and notify Corporate Management.

All media requests and public statements will be conducted by the TMAC Corporate Office.

The WSCC Mines Inspector and Cambridge Bay RCMP shall be immediately contacted in the event of a work-related fatal incident.

The Official-In-Charge in consultation with the senior management team will determine what work is required to stop.

The Official-In-Charge in consultation with the senior management team and Human Resources will ensure that Employee Assistance is available.

4.4 Missing Persons

In the event that an employee is missing or their whereabouts is unknown for an extended period of time, the supervisor of the worker shall contact Security personnel to conduct a preliminary search of the accommodations area of the missing worker, and the area surrounding. A person may be declared missing if they cannot be accounted for by their supervisor or fellow workers and cannot be located in other areas of the camp or worksite by Security personnel.

Once a person is declared missing, Security personnel will initiate the Emergency Notification Process. The ICG will assess the situation, and initiate and assign responsibility for the following actions, where required:

- Mobilize the ERT and security personnel to conduct a property-wide search.
- The ICG shall determine the requirement to conduct a ground search outside of the property footprint.
- The Cambridge Bay RCMP shall be notified as instructed by the ICG.
- The ERT shall formulate search patterns and assign priority areas based on information obtained from Security personnel.

To reduce the potential for missing persons, personnel will check-in regularly and execute proper remote work practices. Resources such as personnel, equipment, land vehicles, and aircraft will be mobilized to aid search and rescue operations.

When the ICG deems that local efforts to locate a missing person are unsuccessful or not possible, outside assistance will be requested through the RCMP. Additional resources and services from local communities will be drawn upon as needed and if available access external Search and Rescue (SAR).

4.5 Pandemic

In the event of large scale spread of influenza or similar virus / disease, it is critical to limit human exposure.

Isolate affected personnel and consider separation from the general population.

Use extra care to disinfect camp areas and prevent contamination of public areas.

Contact the Territorial Health Authority to notify them of the severity of the outbreak.

4.6 Suspended Worker

In the case where a worker has fallen and is suspended from his/her anchor point by means of their fall arrest harness; work in the area shall cease immediately and preparations to initiate the rescue plan shall begin immediately.

Regardless of whether a worker can self-rescue or must rely upon others, time is of the essence because a worker may lose consciousness in only a few minutes.

Workers must be trained to try to move their legs in the harness and try to push against any footholds or stirrups that are available on each TMAC Harness issued.

If the attempt at self-rescue or the rescue plan fails to retrieve the fallen worker. Initiate the Emergency Notification Process.

Immediately following the retrieval of a worker who has been suspended from height due to a fall, the worker will be escorted to the Medic Station.

Do not make the worker walk any distance. Bring transport directly to the worker.

The worker must then be transported to the Physician Assistant for evaluation and for transport to a medical facility to ensure there is no effects from suspension trauma.

Even if the worker was only suspended for a short time they will be required to be examined by a Physician.

4.7 Confined Space Rescue

4.7.1 Self Rescue

In the event that a rescue is required in a confined space, the worker in cooperation with the confined space attendant shall attempt a self-rescue. A detailed rescue plan shall be provided prior to entry into a confined space. Refer to TMAC IV-0003 Confined Space Entry Work Procedure prior to beginning any confined space work (Appendix J).

4.7.2 Non-Entry Rescue

If the rescue plan fails to extricate the worker in the confined space immediately begin the Emergency Notification Process.

A non-entry rescue involves attempting to extricate an incapacitated person without having anyone else enter the confined space. This can be done via a safety line attached to the personnel in the confined space or by grabbing the worker with a rope, strap or pole and pulling them to safety.

4.7.3 Entry Rescue

Entry rescue shall only be completed by trained and competent Mine Rescue / Emergency Response Team personnel. Due to the unique nature of confined space rescues, specialized equipment and training are required in order to perform a safe and successful rescue.

One of the initial pieces of equipment employed in a confined space is a method of ventilation to disperse collected hazardous gases and introduce fresh air into the environment.

In the event that an entry rescue must be performed, rescue personnel will wear protective clothing appropriate for the situation. This may include a self-contained breathing apparatus (SCBA), protective headgear and the use of explosion proof lighting (to prevent igniting any gases). The rescuer may also wear a full body harness with an attached safety line, especially if a vertical descent is required. To assist in vertical descents, a mechanical winch and tripod may be set up over the access point, if the bottom of the confined space is more than five feet from the entrance.

The rescuers may also carry monitoring equipment by which they can ascertain the quality of the air in the environment. Even if the air quality reading does not indicate any hazardous conditions, it is still recommended that rescuers wear SCBA.

4.8 Severe Weather

Severe weather events can come in a variety of forms including heavy snow, white out, rain, and wind events. Depending on the event, numerous aspects of the operation may be affected including but not limited to potential harm to people, site access, transportation methods, stability of facilities, and environmental aspects.

Determine the threat of the severe weather event. Supervisors will be required to follow the TMAC III-0009 Severe Weather Conditions Procedure (Appendix K) to ensure proper steps are taken in the event of a severe weather threat.

Where it has been determined that a severe weather event such as snow storm/whiteout conditions, heavy rain or high winds pose a threat to the safety and well being of personnel working on site, Supervision will initiate the Emergency Notification Process.

All personnel responding to the Emergency will stop work immediately and proceed to the Administration Building or Assembly Area and contact the Assembly Point Coordinator. Personnel will remain in the Administration Building or Assembly Area and await further instructions.

Supervision will ensure all personnel are accounted for.

A determination will be made on whether safe routine access and egress from the site to the Main Vent Fans can be maintained. If safe access to the Mine Vent Fans cannot be maintained, Supervision will evacuate the underground workings.

If safe egress from the underground cannot be maintained; advise all site employees to remain in refuge in the refuge stations until the severe weather event has passed or lessened to the point where safe egress from the site is assured for all employees.

If travel on site by Emergency Response teams is necessary, determine the hazards of traveling during the weather event and advise responders of the precautions to be taken to ensure safe travel.

4.9 Bomb Threat – Threat of Terrorism

Bomb threats can be received by telephone, note, letter or E-mail. Most bomb threats are made by persons wanting to create an atmosphere of general anxiety and panic. All such threats must be taken seriously and handled as though an explosive device is in the building.

In the event of a bomb threat or act of terrorism, workers must evacuate the work site and assemble at the Muster Point and remain together until receiving the All Clear communication from the Official-In-Charge or designate.

Employees must remain calm, survey and assess their work area. Should a suspect looking device or a foreign object be found do not touch it. Calmly move away for the foreign looking device, contact your Supervisor and Security.

Personnel must refrain from smoking while being in the Muster Point. The Assembly Point Coordinator will conduct a roll-call to account for all employees at the Muster Point and communicate the results of the roll-call to the ICG via radio communication.

4.10 Aircraft Emergency

Plane on fire on airstrip: Plane crew activates fire suppression system and uses hand handle fire extinguisher if safe to do so. If plane continues to burn move employees away from plane and set up spill control for fluids and burnt material.

Plane crash on airstrip: Move firefighting extinguishers as close as safe to do so. Remove crewmembers from plane following safe rescue practices. If the aircraft blocks the airstrip for incoming aircraft take pictures of the affected area and move parts that are blocking airstrip.

Plane crash off airstrip: If helicopters on site use them to access the crash site with onsite emergency crews. In winter months with a good snow pack use snowmobile or Tucker to access site up to an estimated maximum distance of 15 kilometers. Aerial drones may be utilized as a means to inspect the downed aircraft if physical access cannot be achieved.

5 Underground Emergencies

If an underground emergency arises, call the Mill Control Room Operator on radio channel #1 or by Femco phone and say you have an underground emergency.

Give your name, location, type of emergency, number of persons injured and if you need to have stench released.

5.1 Underground Fire

In the event of an underground emergency due to fire, initiate the Emergency Notification Process. Immediately don your MSA W65 self-rescuer and go to the nearest refuge station location and warn anyone on the way.

When you arrive at the refuge station wait to be contacted by surface. The most experienced person must take charge immediately and start filling out the Refuge Station Accounting form (Appendix D).

If you smell stench gas, then go to the nearest Refuge Station.

If workers are unable to make their way to a refuge station or fresh air source, they are to utilize the Ocenco EBA 6.5 SCSR which are located strategically throughout the mine and seek alternate means of refuge.

During an underground fire the Emergency Response Team shall assemble in the Mine Rescue room. The Emergency Response Coordinator or ERT Captain shall provide instruction to the ERT members to proceed and prepare standard equipment and BG4s for an underground fire response.

The Incident Command Group shall begin to assign duties as per the Incident Command Group Duties Underground Emergency Check sheet. (see Appendix I)

Efforts will be undertaken to ensure ventilation to the Mine is maintained. Operation of the Mine ventilation fans will be guarded and monitored to ensure continuous operation of the fans.

During a fire in the Mine, there will be no alteration to the operation of the surface fans without the authorization of the Incident Command Group. The effects of the alteration to the mine ventilation fans shall be clearly understood before any changes are made.

5.2 Ventilation Fan Failure

In the event of a surface fan failure due to a malfunction, incident, power failure, or other such unplanned or unscheduled event that affects ventilation to the Mine the following will apply:

All work will cease in all areas supplied by mechanical ventilation until the main ventilation system can be restored. Personnel who are underground will retreat to the underground refuge stations and will await the restoration of power and ventilation.

There will be no entry of persons into the mine until the ventilation is restored. Personnel will remain in the underground refuge stations until the all clear is given or the order has been given to evacuate to surface.

Upon restoration of ventilation, air quality testing will be performed in the active workings of the mine affected by the ventilation interruption before personnel are allowed to return to work.

6 Process Plant Emergencies

6.1 Reagent Release to Environment

Identify the reagent that has been spilled. Depending on type of product that has been spilled, activate the ERP accordingly. If the release is not contained to the Mill Building, activate the Hope Bay Spill Contingency Plan.

Evacuate the general area of the spill immediately. Only required personnel essential for containment and cleanup are required to be in the area.

Contact the Process Plant Supervisor, Safety Department and Environment Department once area has been evacuated.

Barricade the area and restrict entry into the area of the spill.

Ensure required PPE is utilized to contain or cleanup the area that is affected.

Ventilate the work area as necessary to eliminate any airborne contaminants.

6.2 High Hydrogen Cyanide Gas (HCN) Evacuation

A Process Plant evacuation due to cyanide gas (HCN) is not considered an emergency. However, this is an extremely dangerous situation and can quickly turn into an emergency. Hydrogen cyanide gas is produced through the decomposition of sodium cyanide solution.

Hydrogen cyanide gas will be created if the pH of the cyanide solution or process slurry containing sodium cyanide is not maintained above a pH of 10.8.

High concentrations of hydrogen cyanide gas will form very quickly if sodium cyanide were to be exposed to nitric acid.

Hydrogen cyanide gas is very poisonous. Inhalation of this gas can be fatal. HCN alarms are positioned throughout the Process Plant. When these alarms sound, personnel will evacuate to the Process Plant Tag In Board.

7 Training

The TMAC Hope Bay ERT Standard outlines the training and standards taken by our emergency response personnel (Appendix L). Emergency response training follows the Nunavut/Northwest Territory Mine Rescue Training Standards (Appendix M).

At least once every year, all persons who are employed at the Hope Bay site shall participate in scheduled evacuation drills and procedures including the fire warning signals in effect at the residence.

At least once every year, all persons who work in Mill and Surface Operations shall participate in the escape and evacuation drills and procedures including the fire warning signals in effect at the Mill.

At least once every year, all persons who work in the Underground Operations at Hope Bay shall participate in the escape and evacuation plans and procedures including the fire warning signals in effect at the mine. Underground evacuation drills shall be held to assess the ability of all persons in the underground operation to seek refuge and report into the ICG to account for personnel.

The underground evacuation drills shall:

- Be held for each shift at some time other than a shift change;
- Involve activation of all fire alarm systems;
- Include evacuation of all persons from their work areas to refuge station / surface.
- Whenever a change is made in escape/evacuation plans and procedures for any area of the mine site, all persons affected shall be instructed in the new plans or procedures.

8 Emergency Response Tools and Equipment

A list of emergency response tools and equipment available at the Hope Bay project site is presented in Table 8.1 below.

Table 8.1. Available Emergency Response Tools and Equipment

Emergency Equipment and Tools			
Location	**Category**	**Unit**	**Quantity**
Mine Rescue Room	SCBA	Drager Pss-5000	8

Emergency Equipment and Tools			
Location	**Category**	**Unit**	**Quantity**
		4500 Psi Composite Cylinders	16
	CCBA	Drager BG4	15
		Composite O2 Cylinder	30
		Dragersorb	500 lb.
		Ocenco	2
	Oxygen Therapy	CarEvent	2
		BVM	1
	Rope Rescue	Static Rope 300 Ft	2
		MPD	3
		Carabiner	20
		Large Carabiner	2
		Prussik Long	4
		Prussik Short	4
		Break Rack Bar	2
		Single Pulley	6
		Double Pulley	6
		Figure 8	2
		Rope Grab	2
		Rescue Harness	2
	Gas Monitors	Drager X-AM 5000	1
		Drager Pac-7000	1
	Extrication Tools	Power Hawk Extrication Set Jaws Cutter Spreader Power Pusher Rams	 1 1 1 3
	First Aid	Stretcher Basket	2
		Backboard	2
		Ferno Head Restraint	2
		First Aid Kits	8
		Arm Speed Splints	4
		Leg Speed Splints	2
		Blankets	9
	Confined Space	FAN8-12V Portable Ventilating Fan	1
		FAN-7004CL 25 Ft. Canister Duct	1
Winter Haven	Bunker Gear	Bunker Gear Set	12

Emergency Equipment and Tools			
Location	**Category**	**Unit**	**Quantity**
	Nozzles	VIPER X 2 30 to 125 GPM	1
		ELKHART X 2 60 TO 150 GPM	1
		Fire Caddy 12 foam inductor	1
		Gated Y's 2 inch to 1.5 inch	3
		Gated Y's 2.5 inch to 2.5 inch	2
	Lay Flat Hose	lengths 2.5" rubber lined 50ft	11
		lengths 1.5" rubber lined 50ft	8
		lengths 1.5" fiber 50ft	2
	Ventilation Fans	Electric air pusher on wheels 110volt	1
		Electric air pusher carry only 110volt	1
		Gas powered air pusher on wheels	1
	Ice Water Rescue Gear	Ice water rescue suits	2
		100ft ice water rescue rope	1
		20ft ice water rescue throw rope	1
		Life jackets	10
		Ice rescue flotation rescue back board	1
	Confined space	Sked rescue body wraps	2
	First Aid	Trauma kits with oxygen	2
Fire Truck	CABINET 1	2.5" inch to 1.5" adaptors	3
		2.5" to 2.5" male female couplers	3
		2.5" to 2.5" female to female couplers	2
		2.5 female cam-lock to 2.5" threaded male adaptor	1
		4" female y to 2.5" male ends	1
		2.5" threaded to 2.5" male cam-lock	1
		2.5" female to 1.5" female cam-lock	1
		6" female cam-lock to 4" male cam-lock adaptor	1
		4" female to 2.5" male cam-lock	1
		2.5" end cap cam-lock	1
		2.5" female gated y to 1.5" male ends	2
		Twist lock to a 2.5" threaded female end	1
		30-125 psi water flow 1.5" nozzles	3
		90-250 psi water flow 2.5" nozzle	1
		foam tube adapter to 1.5" nozzle	1

Emergency Equipment and Tools			
Location	**Category**	**Unit**	**Quantity**
		2.5” hose wrenches	2
		1.5” foam educator	1
		Small pry bars	2
		Flash light with spare battery	1
		Large pry bar on top cabinet	1
		1.5” hose wrenches on top of cabinet	2
	CABINET 2	1.5” ground mount 1.5” hose connection fan sprayer	1
		50FT 1.5” Fire hose	4
		10ft rubber lined 1.5” fire hose	1
		100ft 1.5” fire hose	1
		1.5” 20ft hard suction line with no connections	1
		Fire extinguishers	2
	CABINET 3	5 gallon can fuel	1
	TOP OF TRUCK	2.5” 50ft fire hose	1
		2.5” 100ft fire hose	1
		1.5” 50ft fire hose	1
		1.5” 100ft fire hose	1
	CROSS LAY	1.5” 100ft rubber fire hose	1
		1.5” 100ft fire hose	1
	CABINET 4	Tool Box	1
		Pail 2% foam	1
	CABINET 5	2.5” 50ft fire hose	3
		Tank / drum plug kit	1
		bolt cutter	1
		3/4” foam hose	2
		2.5” hose wrenches	3
		Cleaning brush	1
	TOP	Large Halogen Bar	1
		Broom	1
		Large pry bar	1
		Hockey stick electrical	1
		Pick pole	1
	INSIDE CAB	PFD	3

9 Mutual Aid

TMAC Resources has a signed Mutual Aid Agreement (Appendix N) with the following mines:

- Dominion Diamond Mines
- Diavik Diamond Mines
- Gahcho Kue – De Beers Canada
- Agnico Eagle Mines
- Giant Mine

Each mine recognizes that having Crisis and Emergency Response capability is essential in the event that extraordinary circumstances put human life, operational infrastructure or the environment in extreme danger.

Each operation also recognizes that, at times, the scale of an emergency or crisis may overwhelm their individual resources. It is both desirable and prudent to establish terms for a combined response should such circumstances arise.

9.1 Mutual Aid Contacts

Diavik Diamond Mines Inc.

Call (867) 669-6500 Ext. 5903. Phone number is monitored by Security Control 24 Hours a day.

State that the call is a mutual aid request for the Chief Operating Officer (or Duty Manager on the weekend). Security will transfer the call to the requested Manager. He or She will contact the ERT Advisor to coordinate the requested mutual aid.

DDMI ERT Advisors: Richard Kretzschmar and Dave Arthur (867) 669-6500 ext. 5462

Agnico Eagle Mines Limited (Nunavut Operations):

Call (819) 860-6258 or (819) 759-3555 ext. 6720 Meadowbank, or

Call (819) 759-3555 ext. 3911 Meliadine.

State that the call is a mutual aid request for the Mine Manager (or designate – Manager on Duty). Person will transfer the telephone call to the requested Mine Manager immediately and the ERT team will be paged, or the ERT Coordinators contacted.

Meadowbank ERT Coordinators are Andre Rouleau and Philippe Beaudoin. Office phone number is (819) 7593555 ext. 6809

Meliadine ERT Coordinators are Dave Loder and Ken Ludwig. Office phone number is

(819) 759-3555 ext. 3906

Deton'Cho / Nuna JV (Giant Mine Reclamation Project):

Call (867) 669-3702 or Cell (867) 446-2387. Mine Manager Joe Heimbach

Call (867) 669-3722 or Cell (867) 445-2884. Safety Coordinator Randy Thompson

State that the call is for a mutual aid request for the Mine Manager.

Mine Manager is Doug Hayes. Office (867) 669-3715, Cell (867) 444-0355

ERT Coordinator is Steve Millar, Office (867) 669-3717, Cell (867) 445-5620

De Beers Canada – Gahcho Kué:

Call (416) 645-1695 Ext. 6699. Phone number is monitored by Security Control 24 Hours a day.

State that the call is a mutual aid request for the President/COO (or Manager on the weekend). Security will transfer the call to the requested Manager. Security will contact the ERT Advisor to coordinate the requested mutual aid.

Gahcho Kué ERT Advisors: John Gale and Richard Church (416) 645 1695 extension 6701

Dominion Diamond Mines:

Call (867) 880-2201 or (867) 880-4444. Both phone numbers are answered and monitored by Dominion Diamond Mines Security Control 24 hours a day.

State that the call is a mutual aid request for the Mine Manager (or designate on the weekend). Security will transfer the telephone call to the requested Mine Manager immediately and the ERT team will be paged, or the ERT Coordinators contacted.

Dominion Diamond Mines ERT Coordinators are David English and Nathan Pitre. Office phone number is (867) 880-2394.

Yellowknife Fire Department (YKFD):

YFFD would be utilized for backfilling the ERT for surface emergencies. This allows Ekati ERT members to focus on an underground incident or for emergency assistance on large surface emergencies.

Call the 867-873-2222 (Yellowknife Fire Department Dispatch) and request that the on-call command officer call the BRT Team leader for a mutual aid request. If a message is taken for relay (after hours) to the designated person, provide a telephone number that is guaranteed to be answered by the Operations Manager (IMT).

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10 TMAC Contacts

A Telephone Record sheet (Appendix O) will be used to document all communications during the event of an emergency.

10.1 Internal Emergency Phone Numbers

Hope Bay Main Phone Number: 867-988-6882 February 17, 2019					
Health and Safety			**IT**		
Medics	Gabriel Bernard / Tracy Wanyama	105	IT HelpDesk	Francis Renaud/Scott Haner	118
Health & Safety Manager/Super	Doug Brown / Ken Cook	138	**Site Contractors**		
Health & Safety Coordinator	Steve Shortridge/Bruce Taylor	114	Nuna Supervisor	Rod Towers/Roland Jones	123
Health & Safety Trainer	Robert Pope / Mitch Bernier	166	Kitikmeot Catering Manager	Tony Price/Curtis Grymaloski	107/147
ERT Coordinator	Dave Elliott / Bradley Towle	103	Geotech Supervisor	Geotech Drilling	108
Medic's Room	After Hours **EMERGENCY ONLY**	115	Nuna Mechanics	Brian Little/Rob McMaster	110
Security Officer	Brent Cecchini / Bob Fogarty	165	BBG	Eric Blomberg	134
Surface Operations			Exploration	Site Office	135
Mine GM & AGM	Dan Gagnon / Jerome Girard	104	Geology		161
Maintenance Manager	Ron Bertrand	101	Construct Electrical & Gekko		142
Projects Superintendent	Murray Weddell	146	Exploration Core Shack Office		148
Maintenance Superintendent	Brad Dahl / Jason Lanoue	131	Innovative Steel	Site Office	
Electrical/Inst. Supervisors	Scott Pye / Brad St.Louis	117	**Public Phones**		
Site Services Supervisor	Scott Leslie / Tim	126	Outside Kitchen	Public #1	111
Powerhouse	Darren Greaves/Frank Lake	127	Outside Kitchen	Public #2	112
Warehouse Superintendent	Larry Geeraert	133	Camp	Public #3	120
Warehouse Supervisor	Dan Izzard / Paul Van Dine	124	Camp	Public #4	121
Warehouse General		158	D Wing	Public #5	136
Warehouse Buyer	Rob Forester / Dan Barrie	151	D Wing	Public #6	137
Mechanical Supervisor	Craig Little / Chris McMahon	140	E Wing	Public #7	181
Light Vehicle Shop	LV Mechanics	157	E Wing	Public #8	182
Mobile Maintenance Planner	Tracy Keeler / Jim Pope	122	G Wing	Public #9	183
Electrical Shop	Site Electricians	139	G Wing	Public #10	184
Logistics Coordinator	Dana Jackman / Wendy Parkes	154	G Wing	Public #11	185
Plumber's Shop		109			
Underground Maint. Supervisors	Andre Martin / Paul Robitaille	130			
Human Resources	Ginette Bisson / Tasha Robichaud	160			
Accounting / Finance	Mary McNeil	167			
Mine Dept.					
Manager of Mining / Chief Mine Engi	Jason Nickel / Rob Baldwin	125			
Chief Production Geologist	Dean Crick	162			
Senior Mining Engineer	Jian Yong Chen / Jag Patel	100			
Mine Superintendent	Vince Kapinus / Rick Anderson	155			
TMAC Shift Supers / Wicket	Derrick Moritz / Troy Lockhart JP Rioux / Jason Hole	163			
Mine Planning	Josh Fris / Mike Tanasa	116			
Mine Planning	Janelle Pousay	132			
Surveyor	Evan Gentile / Robert Pharand	129			
Senior Geology	Annette George / Eric Alexander	128			
Geology		164			
KCMD Superintendent	Rod Keats/Charlie Riley	113			
KCMD Safety/Trainer	Wayne Carey/Mike Martin	119			
Beat Geology	Scott Snider / Chris Annan	161			
Enviro Dept.					
Enviro Supervisors	Sarah Warnock/Kyle Conway	102			
Enviro Project Tech	Daniel Skinner	168			
Mill					
Process Plant Manager	Chad Parent	141			
Process Plant Superintendent	Shawn Pelechaty / Paul Simms	145			
Assay Lab Office		144			
Fixed Plant Maint Supervisor	Dave Heemskerk / Lloyd Sturge	143			
Fixed Plant Maint Planner	David Forster/Bill Gatenby/Greg Thorsteinson	149			
Mill Control Room		150			
Mill Shifters & Training		152			
Mill Metallurgy		153			
Mill Chief Metallurgist	Paul Grady	156			
Mill Instrumentation	Chris & Carl	170			
Mill Instrumentation	Tim Westgate / Mike Stafford	169			

10.2 TMAC Corporate Emergency Phone Numbers

TMAC Resources Toronto Telephone Extensions Updated January 9, 2019			
Main #: 416-628-0216			
USER	**USER(2)**	**EXTENSION**	
Brendan	Barron	140	Project Director
Ricky	Chen	122	Senior Buyer Contracts Administrator
Dean	Crick	121	Director of Geoscience
Natalie	Cormier	129	Human Resources
Oliver	Curran	124	Environmental
Marie	Devine	101	Office Manager
Kathy	Di	128	Accounts Payable
Ron	Gagel	103	Finance
Adam	Grzegorczyk	137	Environmental
Desarie	Hope	125	Human Resources
Gloria	Immel	114	Finance
Zarema	Junush	118	Finance
Dave	King	105	Exploration
Seymour	Korman	138	Sr. Operations Accountant
Gil	Lawson	111	COO
Terry	MacGibbon	106	Executive Chairman
Ashley	Mathai	139	Environmental
Julia	Micks	107	Human Resources
Jason	Neal	102	President & CEO
Nancy	Pavunkovic	115	HR
Dan	Pearson	123	Sr. Talent Acquisition Specialist
Nolan	Peterson	136	Finance
Shelley	Potter	131	Environmental
Manju	Rasanayagam	104	Accounts Payable
Dan	Redmond	127	Stratgegic Mine Planning
Matt	Rodgers	134	Finance
Mike	Samuels	108	Metallurgy
Moises	Santos	116	Finance
Maarten	Theunissen	110	Finance
James	Tolhurst	132	Exploration
Daphne	Voo	130	HR
Bianca	Zornada	119	Payroll

10.3 External Emergency Phone Numbers

WSCC Accident Reporting Line (24 hours) Use 1st	1-800-661-0792
WSCC General Mines Inspector	867-669-4412
WSCC General line (Yellowknife)	867-920-3888
WSCC General line (Iqaluit)	867-979-8500
Stanton Hospital (Emergency)	867-669-4100
Stanton 24-hour hot line	867-669-4115
Stanton Hospital (General Inquires)	867-669-4111
Cambridge Bay Health Center	867-983-4500
RCMP Cambridge Bay	867-983-0123 867-983-1111
RCMP Yellowknife	867-669-1111
RCMP Iqaluit	867-979-0123 867-979-1111
Nunavut Coroner's Office	867-975-7292 867-222-0393
Yellowknife Coroner's Office	867-920-8713
Adlair (Cambridge Bay)	867-983-2569 867-983-2247
Air Tindi	867-669-8218 (Ext. 8292)
Summit Air	867-669-9789 (Ext. 221)
Arctic Sunwest	867-873-4464
Great Slave Helicopters	867-873-2081
Nunavut Emergency Management "Medevac"	800-693-1666
Keewatin Air Medevac	1-867-9202400 1-867-920-2300

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix A: Emergency Notification Procedure

TMAC HOPE BAY STANDARD OPERATING PROCEDURE			
Title:	Emergency Notification Process		
Document #:	VII-0007		
Owner:	Health and Safety Manager	Effective Date:	February 15 2019
Revision:	B	Replaces:	February 02 2018

1. PURPOSE

1.1. To provide guidelines on how to initiate emergency procedures when an emergency situation occurs.

2. INTRODUCTION

2.1. During an emergency this procedure will outline what steps need to be taken to ensure that effective controls and emergency response measures are conducted.

3. SCOPE

3.1. This procedure describes activities that will be required to safely and effectively manage an emergency at site. It applies to all activities, facilities, equipment, processes, employees, contractors, and vendors at the Hope Bay site.

4. RESPONSIBILITIES

Mine General Manager:

a. Ensures the requirements of this procedure are applied and maintained.

Department Managers:

a. Communicate the requirements of this procedure to their employees; and
b. Manage activities in accordance with this procedure.

Supervisors:

a. Implement this procedure;
b. Ensure their employees have been adequately trained and are competent to identify changes requiring MOC Authorization;
c. Make sure this procedure is followed by workers under their supervision; and
d. Perform investigation of non-conformance with the requirements of this procedure.

Health & Safety Manager or designate:

a. Monitors the implementation of this procedure; and
b. Verifies this procedure is maintained.

Employees (including Contractors) involved in procuring, maintaining or operating UME:

a. Understand and practice this procedure; and
b. Ask their supervisor for clarification if they are unsure of any aspect of this procedure.

Emergency Response Team (ERT) Members are responsible for:

a. Understand and practice this procedure; and
b. Responding in an efficient manner to the ERT room.

Joint Occupational Health and Safety Committee (JOHSC)

a. Provides input during the periodic review of this procedure.

TMAC RESOURCES	**HOPE BAY** Emergency Notification Process	**DOCUMENT NO.** VII-0007

5. DEFENITIONS

Incident Command Group: During a site emergency, the Incident Command Group will assemble in the Main Conference Room. If this room is compromised then the ICG will assemble in the Geo Hub Conference Room. This team directs all work and controls the frontline response during an emergency incident. This is group is usually the Senior Management Team.

Official-In-Charge (OIC): Usually this person is the General Manager (GM) or his designate and will be in charge of the Incident Command Group during an emergency. The GM or his designate may at his discretion delegate the OIC role to the department manager or his designate where the incident is occurring if the situation so dictates based on area knowledge and experience.

Briefing Officer: Is the liaison between the Incident Command Group and the ERT members. The Briefing Officer provides technical assistance to the Incident Command Group and receives directives from the Official-In-Charge. The Briefing Officer is responsible for the safety of the ERT members and is the only person that provides directives to the ERT members.

Code One: Is a call over the radio system stating an emergency has occurred. The Emergency call is initiated by the Process Plant Control Room Operator. This is used as a communication tool to warn all other personnel onsite that a significant event has occurred. The site does not Stop Work when an Emergency is initiated.

ERT Coordinator / HS Coordinator: Upon hearing the announcement of an emergency on the radio or pager the ERT & HS Coordinator will immediately report to the Mine Rescue Room.

Senior Management: Upon hearing the announcement of an emergency on the radio or pager all senior management will immediately report to the Main Conference Room.

Emergency Response Team (ERT) Members: Upon hearing the announcement of an emergency on the radio or pager all ERT members will immediately report to the Mine Rescue Room

Physician Assistant: Upon hearing the announcement of an emergency on the radio or pager the on-site Physician Assistant will immediately report to the Physician Assistant's Office.

Stop Work: An instruction broadcast over the radio system by the Official-In-Charge instructing specific work to stop. The Official-In-Charge in consultation with the senior management team will determine what work is required to stop. The work stopped could range from high risk non-routine hazardous work to all work at the site, on surface or in the underground. The decision could encompass one area, one department or the entire site. When the Stop Work order is initiated the relevant area personnel will Stop Work and report to their supervisor. Underground personnel will report to a refuge station and wait to be contacted. Radio silence must take effect, except to communicate emergency information.

All Clear: An instruction broadcast over the radio system by the Official-In-Charge to alert personnel that the emergency is over and that normal operations can resume.

High Risk Work: Work that has the potential to require and additional emergency response in the event of an accident or failure.

6. REFERENCES AND RELATED DOCUMENTS

6.1. TMAC 2017 Emergency Response Plan

7. PREPARATION

N/A

TMAC RESOURCES	HOPE BAY Emergency Notification Process	DOCUMENT NO. VII-0007

8. TOOLS
   N/A

9. PROCEDURE

9.1. If an emergency arises, immediately contact the Process Plant Control Room Operator via radio on the emergency channel # 1, or by phone at extension 911 OR 150 and say "Emergency, Emergency, Emergency".
The caller will provide the Control Room Operator with their name, their location and the nature of the emergency. (Example: This is John Doe, I have a man in the gym with a suspected heart attack; I need medical assistance.)

9.2. The Control Room Operator will use specific emergency check sheet to direct the emergency response for surface, mill and underground emergencies. Duties of the Control Room Operator include; responding to the emergency communication, selecting the appropriate emergency check sheet, documenting all relevant information about the emergency, announcing an emergency on Channel one, announcing any stop work directive when directed by the Official-in-Charge, Initiating the Emergency Pager System, initiating the stench gas system, and any other duties assigned by the Incident Command Group.

9.3. Once alerted to the emergency, personnel on site must refrain from using the radio in the affected area unless it is directly related to the emergency, or a separate additional emergency. All high risk work must cease. Such as: confined space, working at heights or working alone.

9.4. ERT members responding to the Mine Rescue Room will start preparing their standard equipment and the appropriate breathing apparatus and wait for a briefing from the Briefing Officer.

9.5. The Incident Command Group will assemble and start filling out their Check Sheets and start gathering information regarding the emergency. Once the necessary information has been gathered and a plan established, the Official-In-Charge will provide directives to the Briefing Officer. The ICG will decide if a Stop Work directive is required. If a Stop Work directive is given by the Official-In-Charge then radio silence must take effect, except to communicate emergency information.

9.6. The Briefing Officer will leave the Incident Command Group and report to the Mine Rescue Room. The Briefing Officer will ensure the proper ERT members have been selected for the emergency and will provide a briefing to the team on their objectives. The Briefing Officer will document the team's progress and remain in contact with the ERT members throughout the emergency.

9.7. When the emergency is over the OIC will issue the "All Clear" instruction and normal site operations can resume.

TMAC RESOURCES	**HOPE BAY** Emergency Notification Process	**DOCUMENT NO.** VII-0007

9.8. Below are events some which constitute the initiation of an emergency and may require a Stop Work decision to be made by the OIC:

Serious Injury or Fatality

If a worker has sustained a serious or fatal injury or illness and requires immediate emergency response intervention; or the Physician Assistant is managing a Level 1 or Level 2 serious injury as defined in the "Canadian Triage & Acuity Scale" (CTAS).

Surface or Underground Fire

If a fire has initiated in the surface or underground operations.

Process Plant High Concentration Alarm

When a high concentration alarm has been activated in the process plant requiring personnel evacuation and all personnel have NOT been accounted.

Aircraft Emergency

An Aircraft is on fire on the airstrip, or has crashed on/off the airstrip.

Bomb Threat

When the site is notified of a bomb threat a Emergency call will be initiated to muster the senior management team to the main conference room; discussions will determine if a STOP Work order will be initiated.

Suspended Worker

While working at heights a situation whereby a worker has fallen and is suspended in their fall arrest harness and requires rescue.

Person Falling Through Ice

The first person at the scene shall call an emergency.

Severe Weather and/or Lightning

Where it has been determined that a severe weather event poses a threat to the safety and well-being of personnel working on site.

Watercraft Emergencies

In the event of a boat capsizing or other emergency during operation of a watercraft.

Wildlife Encounter

All wildlife encounters which threaten life or has the potential to threaten life.

10. ATTACHMENTS

TMAC RESOURCES	**HOPE BAY** Emergency Notification Process	**DOCUMENT NO.** VII-0007

11. TECHNICAL REVIEW

Name	Title	Date	Signature
Dan Gagnon	General Manager		
Jerome Girard	Assistant General Manager		
Jason Nickel	Mining Manager		
Chad Parent	Process Manager		
Ron Bertrand	Maintenance Manager		
Doug Brown	Health & Safety Manager		
Review Schedule: Every 3 years			

12. APPROVAL

Name	Title	Date	Signature
Doug Brown	Health & Safety Manager or designate		

13. REVISION HISTORY

Revision	Date	Comments
A		Initial Issue
B		TMAC Reviewer Comments incorporated
C		Approved for Use

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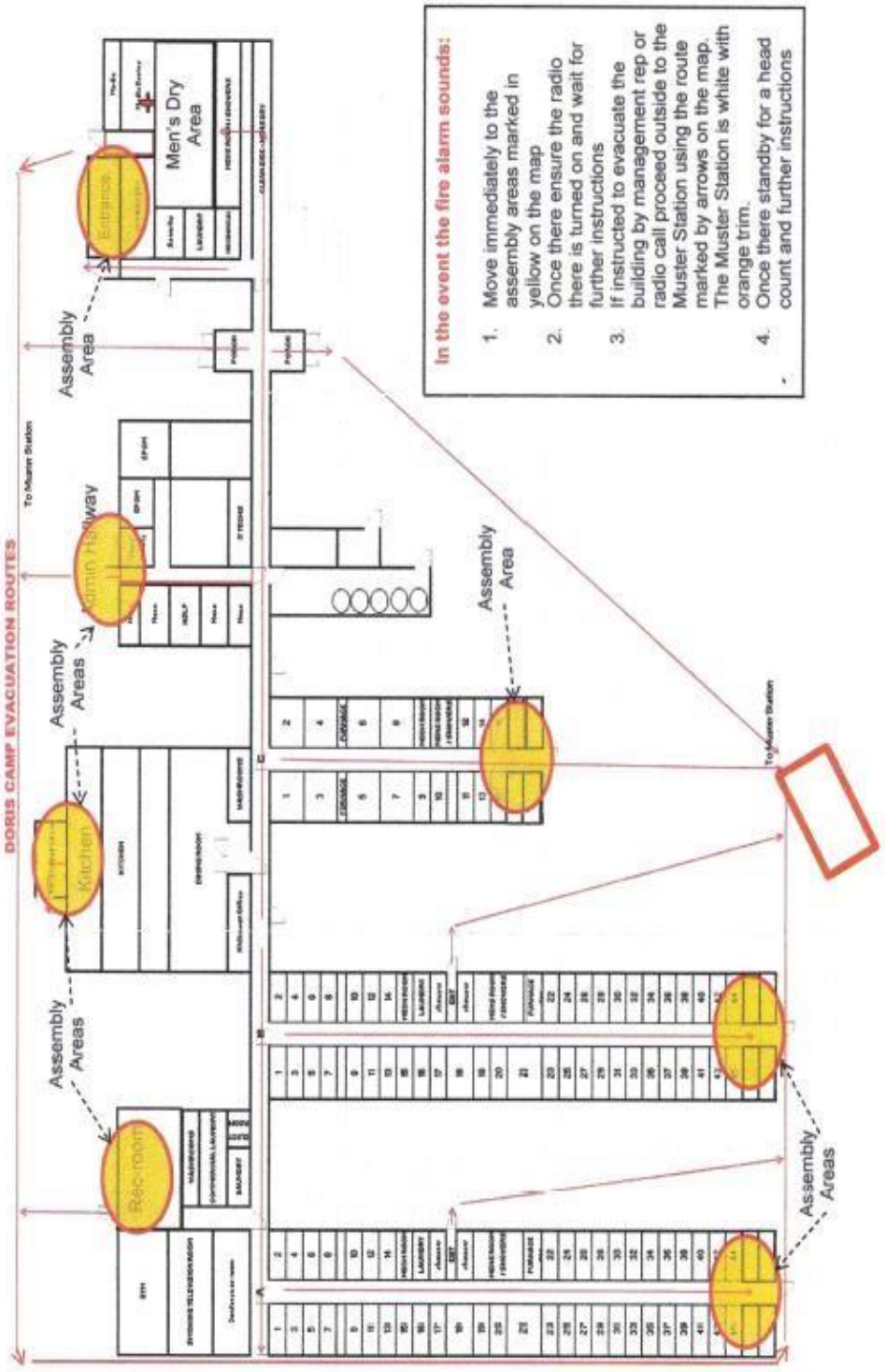
HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

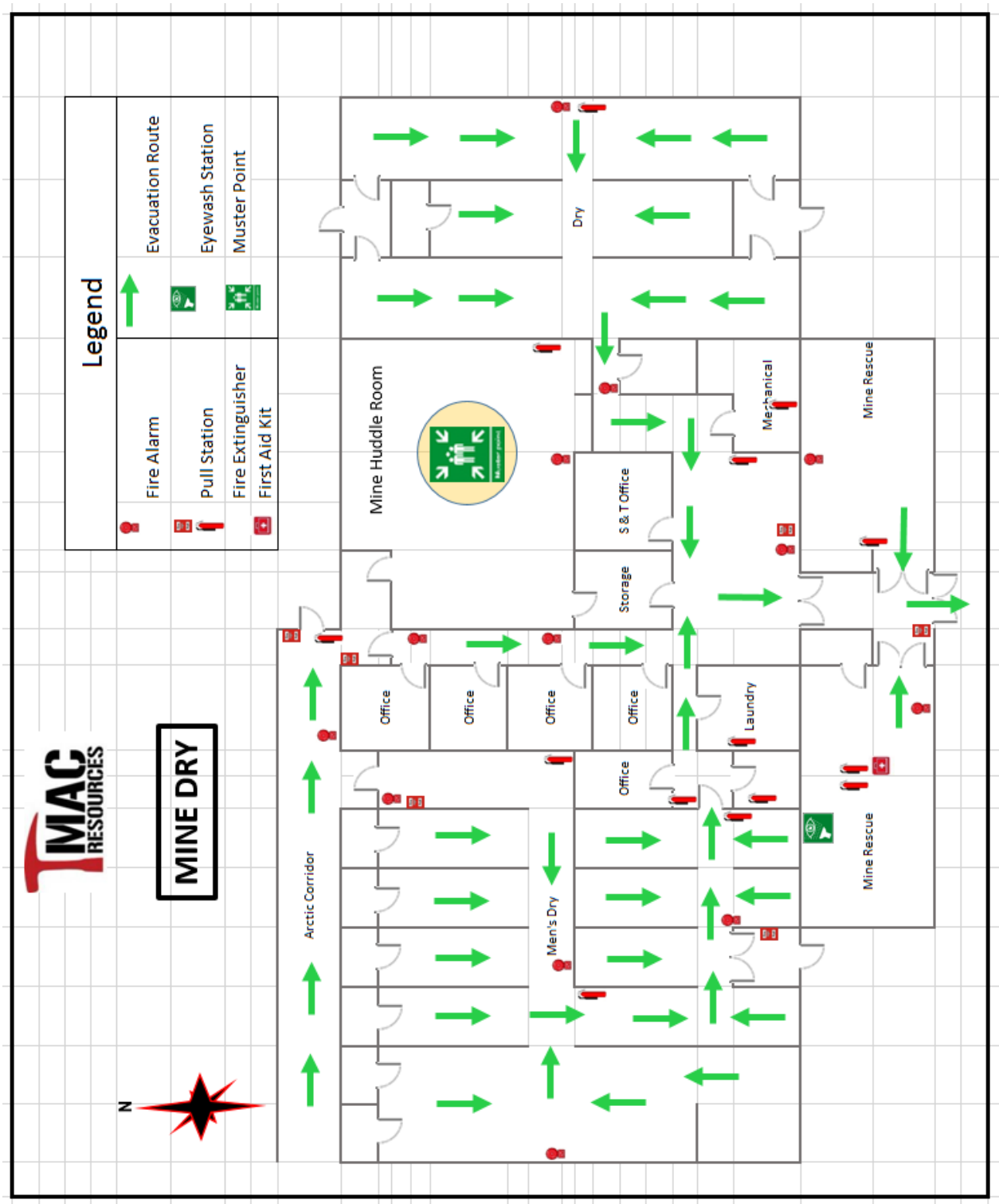
HOPE BAY, NUNAVUT

Appendix B: Evacuation Routes

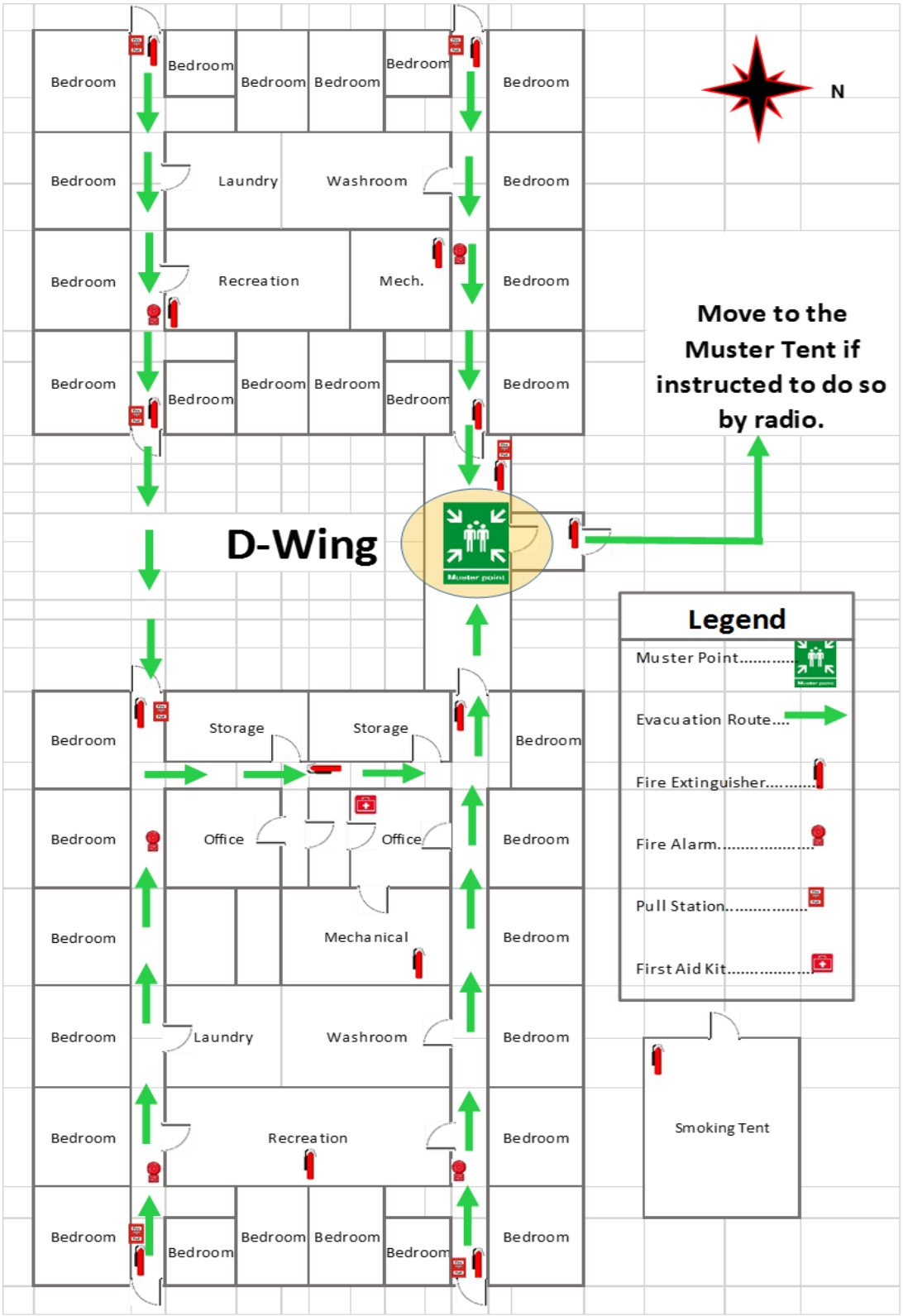
Doris Camp Evacuation Route



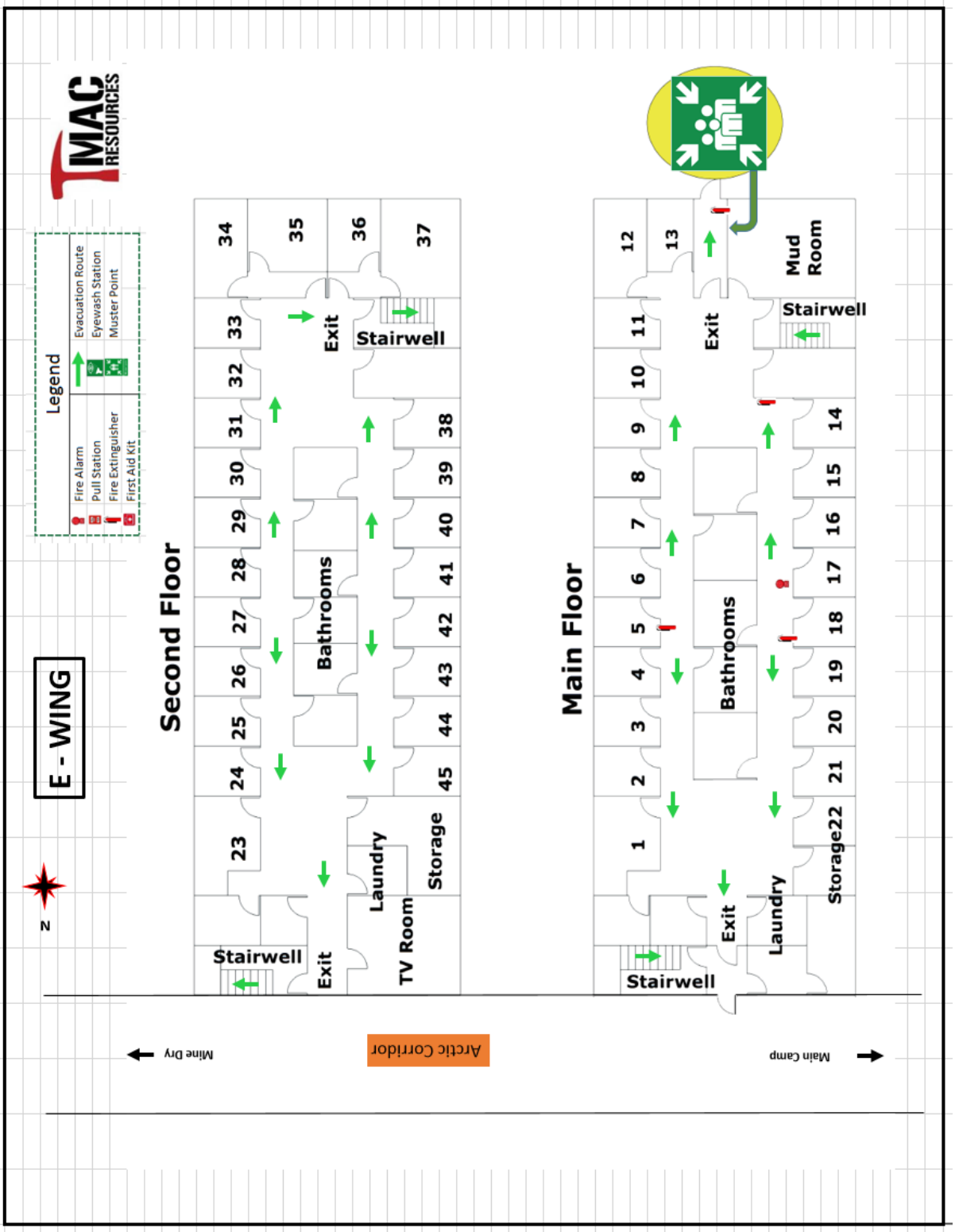
Mine Dry and Office Complex Evacuation Route



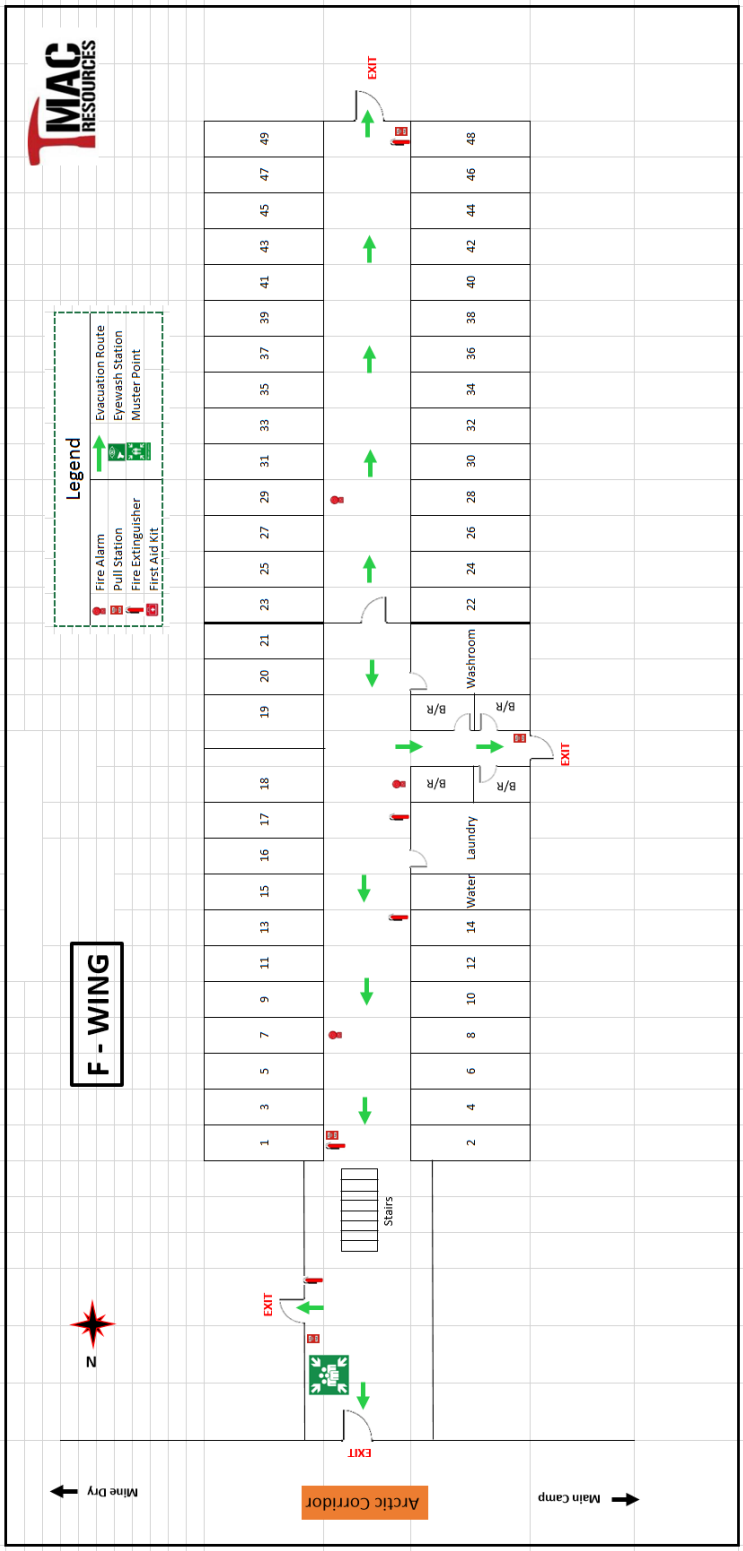
D-Wing Camp Facility Evacuation Route



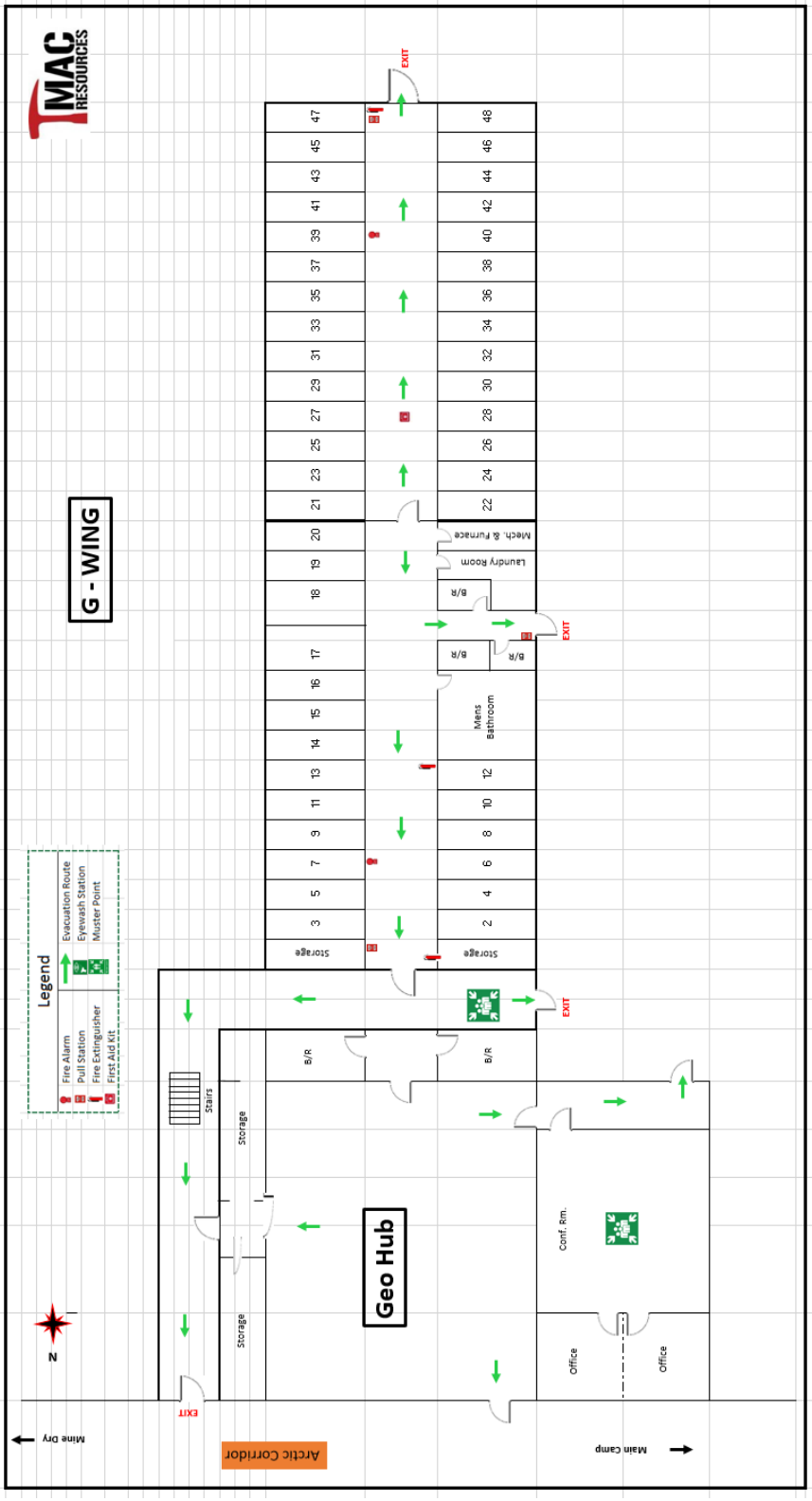
E-Wing Camp Facility Evacuation Route



F-Wing Camp Facility Evacuation Route



G-Wing Camp Facility Evacuation Route



HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix C: Incident Command Group Tag Board Accounting Form

TMAC - HOPE BAY MINE
UNDERGROUND EVACUATION PROCEDURE

INCIDENT COMMAND GROUP TAG BOARD R/S ACCOUNTING FORM

DATE:_____

NAME	PAYROLL NUMBER	MINE RESCUE TRAINED (Y - N)	STATUS OK	STATUS INJURED	NAME	PAYROLL NUMBER	MINE RESCUE TRAINED (Y - N)	STATUS OK	STATUS INJURED

THIS FORM MUST BE GIVEN TO SENIOR PERSON IN CHARGE.

PERSON ACCOUNTING FOR U/G PERSONNEL: _____

W:\Safety\Emergency Response\Emergency Checksheets\Control Group Tag Board Accounting Form

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix D: Refuge Station Accounting Form

TMAC - HOPE BAY MINE
UNDERGROUND EVACUATION PROCEDURE

STANDARD REFUGE STATION ACCOUNTING FORM

REFUGE STATION: 4946 DATE:_____

NAME	STENCH DETECTED		TIME IN REFUGE	MINE RESCUE TRAINED (Y - N)	STATUS		COMMENTS
	TIME	WORKPLACE			OK	INJURED	

THIS FORM MUST BE RETURNED TO SURFACE TO THE SENIOR PERSON IN CHARGE.

REFUGE STATION PERSON IN CHARGE: _____

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix E: Control Room Operator Duties - Mill/Surface Emergency

Incident Command: Ext. 198
Physician Assistant: Ext. 105

October 28, 2018

SURFACE EMERGENCY

MILL CONTROL ROOM OPERATOR'S DUTIES

DATE: _____

Control Room Operator: _____ (Print Name)

Emergency Call received at: _____ Test: Yes ☐ No ☐

Name of person who called: _____

Location and type of Emergency: _____

☐ Serious Injury	☐ Chemical Spill	☐ Cyanide Spill
☐ Fire	☐ Gas Leak	☐ HCN Release
☐ Vehicle Accident	☐ Tailing Spill	☐ SO2 Release

☐ Other

Any Injuries? YES NO DON'T KNOW

If Yes, How may? _____

Type of injuries, if known: _____

_____

Details of the Emergency: _____

_____

_____

_____

_____

_____

_____

_____

_____

1

IMMEDIATE ACTIONS

1) Initiate pertinent Emergency alarm.

   Time Initiated: _____

2) Announce Emergency, Emergency, Emergency, on radio channel #1 stating the type of emergency (Fire, Vehicle Accident, Gas Leak, etc.).

   Time Announced: _____

3) For a Mill Emergency request for an operator to provide assistance in the Control Room, the operator must be trained in the use of an SCBA-RIT.

   Name Contacted: _____ Time: _____

4) Each Control Room person must put on a Self-Contained Breathing Apparatus (SCBA - RIT), and record the bottle pressures.

   Bottle Pressure #1: _____ Time: _____

   Bottle Pressure #2: _____ Time: _____

5) Initiate the emergency pager system (On Computer) to inform all ERT, Security, Physician Assistant, and senior management of a site emergency. (If the pagers are in-active then rebroadcast the code 1 over the radio). ***Once the first page is sent then re-send a second page***!

   Time 1st Page Made: _____ Time 2nd Page Made: _____

6) Contact the medic (via radio or ext. 105) to ensure they are emergency ready and on stand-by in the Medic's Office. (If required)

   Name Contacted: _____ Time: _____

7) Notify the maintenance shop, to start up the ambulance and/or fire truck to ensure its emergency ready and on stand-by (ext. 140), or call maintenance shop on radio. (If Required)

   Person Contacted: _____ Time: _____

8) Contact Mill Muster Point (for a mill emergency) via radio (ask to speak with most senior mill supervisor) and check that all personnel are tagged off the tag in board.

   Name Contacted: _____ Time: _____

Number of people Unaccounted for: _____

9) Notify the Incident Command Ground (ext. 198 or ext. 199) of status of Muster Point tag board and confirm the name of the Official-In-Charge.

Official-In-Charge: _____ Time: _____

10) Any other duties as per instructions from the Incident Command Group – Keep a log of all activities.

11) Go through steps 1 – 9 above and ensure all items have been completed.

Time Confirmed: _____

12) Informed of the ALL CLEAR, and instructed to resume normal activities by the Official-In-Charge.

Contacted By: _____, Time: _____

*****Forward a copy of this report to the Safety Department*****

Sign: _____, Date: _____, Time: _____

CONTROL ROOM OPERATOR'S - GENERAL NOTES

(Use this space for general notations or problems encountered)

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W:\Safety\Emergency Response\Emergency Checksheets\Control Room Operator Duties Surface Emergency

3

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix F: Control Room Operator Duties - Underground Emergency

Incident Command: 198
Physician Assistant: Ext. 105

October 28, 2018

UNDERGROUND EMERGENCY

MILL CONTROL ROOM OPERATOR'S DUTIES

DATE: _____

Control Room Operator: _____ (Print Name)

Emergency Call received at: _____ Test: Yes ☐ No ☐

Name of person who called: _____

Where are they calling from: _____

Location of Emergency: _____

Type of Emergency: _____

Does Stench Gas need to be Released? YES NO

Is the caller aware of any Injuries? YES NO DON'T KNOW

If Yes, How may? _____

Type of injuries, if known:_____

_____

Details of the Emergency: _____

_____

_____

_____

_____

_____

_____

_____

_____

1

IMMEDIATE ACTIONS

1) If stench gas needs to be released then activate the Stench Gas Button on your computer screen.

   Time Stench Gas Released: _____

2) Announce a Emergency, Emergency, Emergency, on channel #1 stating that "stench gas has been released and that all underground personnel must report to the nearest refuge station immediately."

   Time Announced Made: _____

3) Broadcast over channel #1 for someone to travel to the surface vent raise building to verity that the Stench Gas systems released in the fresh air system. If no one replies then contact the maintenance shop (Ext. 140) to have someone go to confirm the pressure gauge inside the panel is at 0 psi.

   Person Contacted: _____ Time Contacted: _____

   Confirmation Time That Pressure Gauge reads 0 psi: _____

4) If the stench gas system in the fresh air failed to release, then have the person manually release the stench gas (following the procedure posted on the stench gas panel).

   Time Manually Released: _____

5) Initiate the emergency pager system (On Computer) to inform all ERT, Security, Physician Assistant, and senior management of a site emergency. (If the pagers are in-active then rebroadcast the code 1 over the radio). ***Once the first page is sent then re-send a second page***!

   Time 1st Page Made: _____ Time 2nd Page Made: _____

6) Request for another mill operator to provide assistance in the Control Room.

   Name Contacted: _____ Time: _____

7) When contacted by the Official-In-Charge document name.

   Official-In-Charge: _____ Time: _____

8) Contact the medic (via radio or ext. 105) to ensure they are emergency ready and on stand-by in the Medic's Office. (If required)

   Name Contacted: _____ Time: _____

9) Notify the maintenance shop, to start up the ambulance to ensure its emergency ready and on stand-by (ext. 140), or call maintenance shop on radio. (If Required)

Person Contacted: _____ Time: _____

10) Any other duties as per instructions from the Incident Command Group – Keep a log of all activities.

11) Go through steps 1 – 9 above and ensure all items have been completed.

Time Confirmed: _____

12) Informed of the ALL CLEAR, and instructed to resume normal activities by the Official-In-Charge.

Contacted By: _____, Time: _____

*****Forward a copy of this report to the Safety Department*****

Sign:_____, Date:_____, Time:_____

CONTROL ROOM OPERATOR'S - GENERAL NOTES

(Use this space for general notations or problems encountered)

_____

_____

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W:\Safety\Emergency Response\Emergency Checksheets\Control Room Operator Duties Underground Emergency

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix G: Medical Evacuation Procedure

TMAC HOPE BAY STANDARD OPERATING PROCEDURE			
Title:	**Medical Air Evacuation**		
Document #:	VII-0002		
Owner:	Health and Safety Manager	**Effective Date:**	December 2018
Revision:	C	**Replaces:**	November 2014

1. PURPOSE

To ensure detailed protocols are established and followed to ensure the timely and efficient transportation of an injured person can be effective executed.

2. INTRODUCTION

This procedure has been established to ensure a detailed process is in place should an injured person require medical air evacuation.

3. SCOPE

This procedure applies to all activities, facilities, equipment, processes, employees, contractors, and vendors at the Hope Bay site.

4. RESPONSIBILITIES

Mine General Manager:

a. Ensures the requirements of this procedure are applied and maintained.

Department Managers:

a. Communicate the requirements of this procedure to their employees; and

b. Manage activities in accordance with this procedure.

Health & Safety Manager or designate:

a. Monitors the implementation of this procedure; and

b. Verifies this procedure is maintained.

Physician Assistants and Logistics Coordinators:

a. Understand and practice this procedure; and

b. Ask their supervisor for clarification if they are unsure of any aspect of this procedure.

Joint Occupational Health and Safety Committee (JOHSC) provides input during the periodic review of this procedure.

TMAC RESOURCES	**HOPE BAY** Medical Air Evacuation	**DOCUMENT NO.** VII-0002

5. DEFINITIONS

5.1. Air Medical Evacuation

A timely and efficient transportation of an injured worker being evacuated from the scene of an accident/incident on a remote worksite to a receiving medical facility using medically equipped aircraft.

5.2. **Load & Go** - A situation where an employee is critically injured or ill and would not survive or would have a diminished prognosis if surgical or advanced medical intervention was delayed.

5.3. **Flight Weather Outage** - When the ceiling is less than 1000 feet this may suspend air travel and is at the discretion of the pilots and flight control. Low ceilings do not suspend departures unless weather and/or visibility become severely compromised. This also is at the discretion of the pilots and flight control.

5.4. **Medflight** - A plane designed solely for the purpose of continued life support and will not be considered the same as a charter or emergency charter flight.

5.5. **Medical Control** - A process of care and accountability of the injured worker. There is a professional "hand off" to further qualified personnel for the purposes of continued care. This practice will continue until the injured worker has received proper care for their injuries.

6. PROCEDURE

6.1. If a serious medical condition occurs at site, the Physician Assistant (P.A.) will consult with the AMS Medical Director and request for Medevac Approval.

6.2. If the Medical Director denies the Medevac request, then the P.A. continues with onsite patient care.

6.3. If the Medical Director agrees to the Medivac request, then the P.A. will contact Nunavut Emergency Management by phone at 1-800-693-16666 providing them with all the necessary patient information.

6.4. The P.A. will then notify the Health & Safety Manager or designate regarding the medevac request.

6.5. The Health & Safety Manager or designate will notify the Mine General Manager or designate and the Logistics Coordinator of the request for a medevac.

6.6. The P.A. will monitor patient and wait for a phone call from Stanton Hospital Medical Response and Emergency Physician. The P.A. will update the Emergency Physician on patient's condition.

6.7. When the Emergency Physician approves the medevac flight, the Stanton Hospital Medical Response will call Keewatin Air to arrange the Medevac.

6.8. Keewatin Air flight dispatcher and TMAC Logistics Coordinator will arrange flight details.

6.9. The Keewatin Air flight nurse/paramedic will call the P.A. for update information, and provide ETA to Hope Bay.

TMAC RESOURCES	HOPE BAY Medical Air Evacuation	DOCUMENT NO. VII-0002

6.10. The P.A. or Logistics Coordinator will update the Health & Safety Manager and Mine General Manager or designates on medevac ETA.

6.11. The Logistics Coordinator will establish all airstrip procedures to ensure the safe arrival of the Keewatin Air flight and keep the P.A. inform of flight ETA.

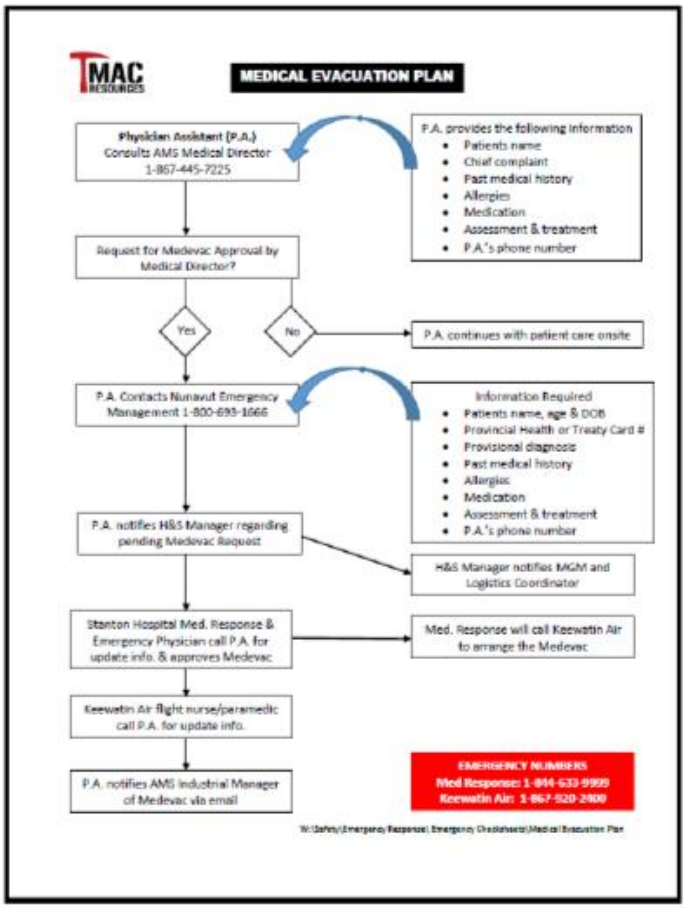
6.12. Prior to Keewatin Air Medevac flight arrival to Hope Bay, the P.A. with the assistance from the Emergency Response Coordinator or a trained First Aid Responder will prepare the patient and then transport the patient to the Hope Bay airstrip.

6.13. P.A. will hand over the patient to the Keewatin Air nurse/paramedic, and remain at the airstrip until the flight is airborne and confirmed on route to Yellowknife.

6.14. The P.A. will notify AMS Industrial Manager of medevac via email.

7. ATTACHMENTS

7.1.



TMAC RESOURCES	**HOPE BAY** Medical Air Evacuation	**DOCUMENT NO.** VII-0002

8. TECHNICAL REVIEW

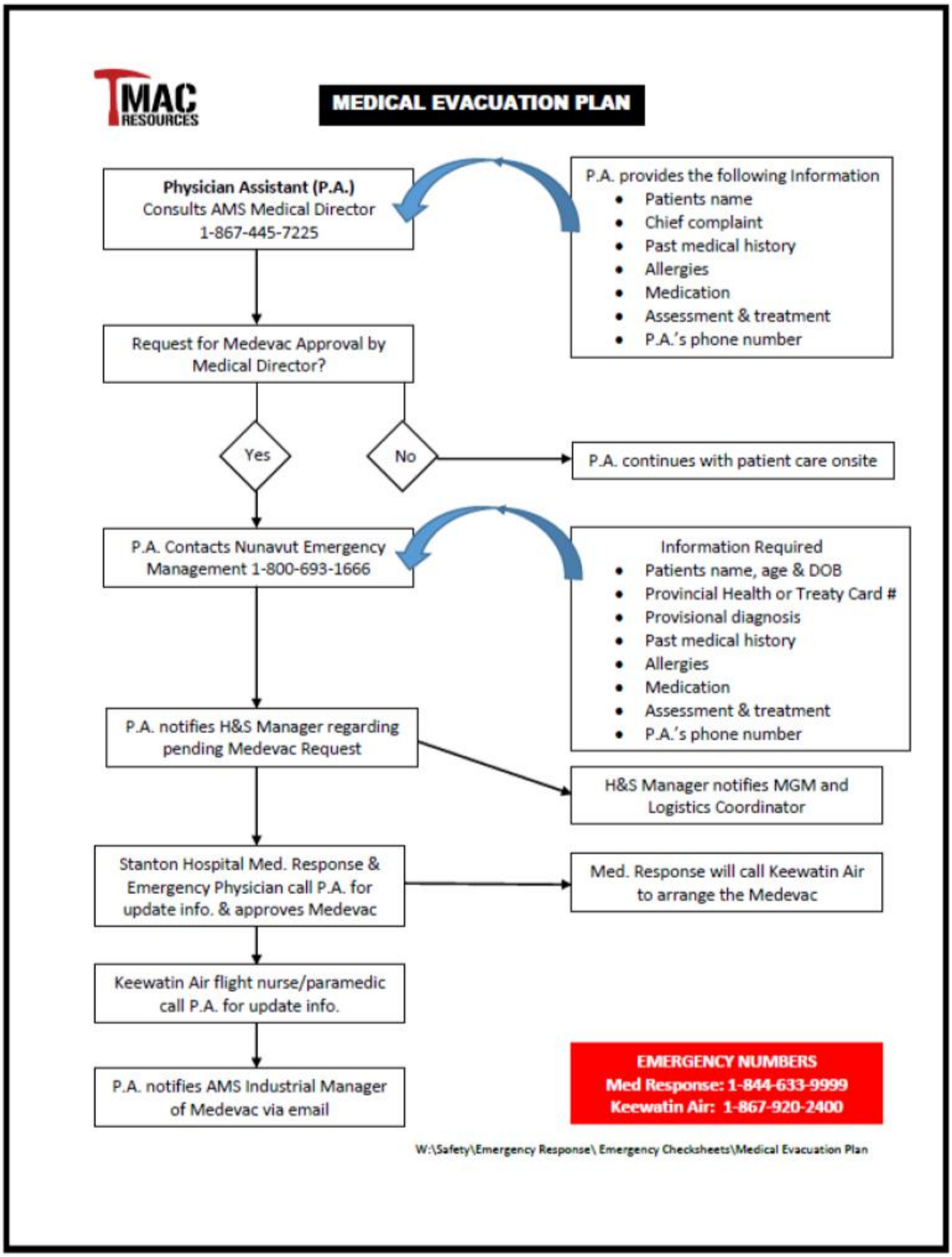
Name	Title	Date	Signature
Dan Gagnon	Mine General Manager		
Jerome Girard	Assistant MGM		
Ron Bertrand	Maintenance Manager		
Review Schedule: Every 3 years			

9. APPROVAL

Name	Title	Date	Signature
Doug Brown	Health & Safety Manager		

10. REVISION HISTORY

Revision	Date	Comments
A	November 2014	Initial Issue
B	December 2018	TMAC Reviewer Comments incorporated
C	January 11, 2019	Approved for Use


MEDICAL EVACUATION PLAN
Physician Assistant (P.A.)
Consults AMS Medical Director
1-867-445-7225
P.A. provides the following Information
Patients name
Chief complaint
Past medical history
Allergies
Medication
Assessment & treatment
P.A.'s phone number
Request for Medevac Approval by Medical Director?
Yes
No
P.A. continues with patient care onsite
P.A. Contacts Nunavut Emergency Management 1-800-693-1666
Information Required
Patients name, age & DOB
Provincial Health or Treaty Card #
Provisional diagnosis
Past medical history
Allergies
Medication
Assessment & treatment
P.A.'s phone number
P.A. notifies H&S Manager regarding pending Medevac Request
H&S Manager notifies MGM and Logistics Coordinator
Stanton Hospital Med. Response & Emergency Physician call P.A. for update info. & approves Medevac
Med. Response will call Keewatin Air to arrange the Medevac
Keewatin Air flight nurse/paramedic call P.A. for update info.
P.A. notifies AMS Industrial Manager of Medevac via email
EMERGENCY NUMBERS
Med Response: 1-844-633-9999
Keewatin Air: 1-867-920-2400
W:\Safety\Emergency Response\ Emergency Checksheets\Medical Evacuation Plan

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix H: Incident Command Group Duties - Mill/Surface Emergency

Mill Control Room: Ext. 150
Medic: Ext. 105

December 2, 2018

MILL/SURFACE EMERGENCY

INCIDENT COMMAND GROUP DUTIES: (General Manager or Designate)

DATE: _____ Time of Incident: _____ Location: _____

Note: The location of the incident command room will be the Geo Hub conference room (ext. 199)

1) Form the incident command group and appoint a scribe to take notes.

   Official-In-Charge: _____ Scribe: _____

   Time:_____

2) Inform the Mill Control Room Operator (ext. 150) that you are the Official-in-Charge. Verify with Mill Control Room Operator that full emergency procedures have been implemented. Ask for the following information.

a) Who called? _____

b) Where did they call from? _____

c) Location of emergency: _____

d) Type of emergency: _____

e) Time call was made: _____

f) Are both Control Room personnel wearing their SCBA-Rit (Time and Jumbo Bottle Pressure):
#1_____ #2_____

g) **Number of unaccounted for personnel:** _____

h) Include any other information: _____

_____

Name Contacted: _____, Time: _____

3) Ensure that ERT members are reporting to the Mine Rescue Room.
YES _____

Name Contacted: _____ Time: _____

1

4) Determine if a "STOP WORK" is required, if Yes then broadcast over radio:

Yes _____ No_____ Time Stop Work Broadcasted: _____

5) Designate two trained operators (or ERT members) as **S.C.B.A. Partners.**

Name Contacted: _____ Time: _____

Name Contacted: _____ Time: _____

6) Designate two other trained operators (ERT members) as an **S.C.B.A Back-Up Team for team #1.**

Name Contacted: _____ Time: _____

Name Contacted: _____ Time: _____

7) Appoint a Briefing Officer for both S.C.B.A. teams.

Person Assigned: _____ Time: _____

8) Contact the Control Room Operator to verify if all Mill personnel have been accounted for at Muster Point (Ext. 150)

Name Contacted: _____ Time: _____

9) Designate someone to notify the medic (ext. 105), to ensure they are emergency ready and on stand-by in the Medic Office. (If Required)

Person Assigned: _____ Time: _____

10) Designate someone to notify the maintenance shop, to start up the ambulance and/or fire truck and to ensure its emergency ready and on stand-by (ext. 140), or call maintenance shop on radio. (If Required)

Person Contacted: _____ Time: _____

11) Notify Corporate Officials and General Manager/Assistant General Manager if offsite.

Gil Lawson: [redacted] Time: _____

Dan Gagnon: Time: _____

Jerome Girard: Time: _____

12) Ensure availability of Mill & Surface Site plans for the Incident Command Group and emergency crews **(3 Complete Sets of Prints)**.

Plans Provided By: _____ Time: _____

13) Ensure an Engineer is available to assist.

Name Contacted: _____ Time: _____

14) Ensure a Maintenance person is available for information on equipment and electrical installations.

Name Contacted: _____ Time: _____

15) Appoint someone to call the WSCC Inspector; **1-800-661-0792**

Person Assigned: _____ Time: _____

WSCC Person Contacted: _____ Time: _____

Ensure notice in writing of the occurrence is provided to the MOL within 72 hours.

16) **Arrange for stench to be injected into the fresh air raise and / or the compressed air line if U/G employees will be affected by the mill/surface emergency. Then start using the Incident Command Group Duties "Underground Emergency Form".**

Required _____ **Not Required** _____

Name Contacted: _____ **Time:** _____

17) Broadcast the **ALL CLEAR** once the emergency is over! If a Stop Work was ordered then broadcast over the radio system for all site personnel to Stand Down and resume normal duties.

Time: _____

Notify the Control Room Operator of the all clear and to resume normal operations!

Note:
Incident Command to determine if site WIFI capabilities to be suspended to limit the chance of social media information leaving site (i.e. facebook, text etc)

Now

GO THROUGH STEPS 1 – 16 ABOVE INFORMING ALL APPROPRIATE PEOPLE THAT THE "ALL CLEAR" HAS BEEN GIVEN. Time: _____

Names of Incident Command Group Members:

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

Sign:_____ **Date:**_____ **Time:**_____

*****Forward this form to the Safety Department*****

In the event that there is a need to organize Critical Incident Stress Debriefing sessions, contact the Manager of Human Resources ([redacted]115) so that they can make the arrangements through our EAP provider VCARS.

Person Assigned to contact Human Resources: _____

Date and Time that HR was contacted: _____

W:\Safety\Emergency Response\Emergency Checksheets\Incident Command Group Duties Mill Emergency

4

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix I: Incident Command Group Duties - Underground Emergency

Mill Control Room: Ext. 150
Medic: Ext. 105
U/G Wicket: Ext. 163

November 4, 2018

UNDERGROUND EMERGENCY

INCIDENT COMMAND GROUP DUTIES: (General Manager or Designate)

DATE: _____Time of Incident: _____ Location: _____

Note: The location of the incident command room will be the Geo Hub conference room (ext. 199)

1) Form the incident command group and appoint a scribe to take notes.

   Official-In-Charge: _____ Scribe: _____

   Time: _____

2) Inform the Mill Control Room Operator (ext. 150) that you are the Official-In-Charge. Verify with the Mill Control Room Operator that the stench gas system has been released in the fresh air and compressed air systems. Ask for the following information.

a) Who called? _____

b) Where did they call from: _____

c) Location of emergency, fire or smoke: _____

d) Type of emergency or fire: _____

e) Time call was made: _____

f) Time Stench Gas was released: _____

g) Include any other information:

_____

_____

Mill Operator Name: _____, Time: _____

3) Ensure that ERT members are reporting to the Mine Rescue Room.

YES _____

Name Contacted: _____ Time: _____

1

4) Determine if a "STOP WORK" is required, if Yes then broadcast over radio:

Yes _____ No_____ Time Stop Work Broadcasted: _____

5) Assign a competent person(s) to verify that the fresh air raise stench system discharged and the pressure gauge inside the panel is at 0 psi.

Name Assigned: _____, Time: _____

6) Broadcast over the radio underground channel #20 **(EVERY 10 MINUTES)** that ***"stench gas has been release and that all underground personnel must report to the nearest refuge station or rescue tent immediately."***
Continue to broadcast until everyone is accounted for in Refuge Stations.

Name: _____, Time: _____

7) Assign a competent person to be positioned at the Fresh Air Raise to ensure the main ventilation fans remain operational, and to account for personnel that may use the emergency manway to surface.

Name Assigned: _____ Time: _____

8) Assign a competent person(s) to be positioned at the wicket to call U/G refuge stations and rescue tents.

Person Calling Refuges: _____ Time: _____

9) Ensure that the tag board is manned. If any U/G employees come to the wicket, allow them to shower but hold them on surface in the huddle room. The Incident Command Group will initiate the All Clear once the emergency is over.

Tag Board Manned By: _____ Time: _____

10) Total Number of People tagged in on the tag board: _____.

Number of People accounted for in Refuge Stations _____. Time: _____

Number of People Unaccounted for: _____.

Last known working location of unaccounted for personnel:

_____

_____

_____

_____

2

11) Appoint a competent person(s) to control access at the portal (vehicle & radio required). Anyone that exits the portal must report immediately to the Incident Command Group.

Name Assigned: _____, Time: _____

12) Appoint a Briefing Officer for the first Mine Rescue Team.

Name Assigned: _____, Time: _____

13) Arrange for transportation for the Mine Rescue team. Vehicle should be taken to Mine Rescue room. Secure a seconded vehicle for team #2.

Name Assigned: _____, Time: _____

14) Ensure an Engineer / Vent Tech. is available to assist in determining ventilation installations and ensure level plans are available for the Incident Command Group and Mine Rescue Teams **(3 Complete Sets of Prints)**.

Name Assigned: _____, Time: _____

15) Ensure a Mechanical/Electrical person is available for information on equipment and electrical installations and to check surface ventilation fans ensuring their operation.

Name Assigned: _____, Time: _____

16) Document the number of ERT members that have assembled in the Mine Rescue room.

Number of MR Personnel	Time
_____	_____
_____	_____
_____	_____

17) Contact neighboring mines and advise that Mine Rescue mutual aid assistance is required if we do not have 15 mine rescue personnel onsite. (# Required)

Name & Site Contacted: _____

Time: _____

18) Once you have sufficient information to develop a plan of rescue and recovery, call the Mine Rescue room and ask the ERT Coordinator/Briefing Officer to come to the Incident Command Center for briefing.

Name Assigned: _____, Time: _____

19) Arrange for additional stench to be injected into the fresh air raise if U/G employees are not responding to the stench. **(Under the direction of the Official in Charge or designate ONLY).**

Required _____ Not Required _____

Name Assigned: _____ Time: _____

20) Notify Corporate Officials and General Manager/Assistant General Manager if offsite.

Gil Lawson: [redacted] Time: _____

Dan Gagnon: Time: _____

Jerome Girard: Time: _____

21) Designate someone to notify the medic, to ensure they are emergency ready and on stand-by. (If Required)

Person Assigned: _____ Time: _____

22) Designate someone to notify the maintenance shop, to start up the ambulance to ensure its emergency ready and on stand-by (ext. 140), or call maintenance shop on radio. (If Required)

Person Contacted: _____ Time: _____

23) Appoint someone to call the WSCC Inspector; (1-800-661-0792)

Person Assigned: _____ Time: _____

WSCC Person Contacted: _____ Time: _____

Ensure notice in writing of the occurrence is provided to the MOL within 72 hours.

24) Once the emergency is over then confirm with the Briefing Officer(s) that all Mine Rescue Personnel are cleared from underground.

Time: _____

25) Advise the Electricians or surface Mechanics to release Winter Green into the fresh air system (Follow Procedure VII-0005 Underground Stench Gas Procedure).

Name Contacted: _____ Time: _____

26) Advise the Electricians or surface Mechanics to reload both the surface fresh air system and the underground compressed air system with stench.
(Follow Procedure VII-0005 Underground Stench Gas Procedure)

Name Contacted: _____

Time Fresh Air System Recharge: _____

Time Compressed Air System Recharge: _____

27) In the event this was a drill, instruct personnel in Refuge Stations to return to their heading to blow the air headers for a few moments and then to proceed to surface.

In the event this was a real fire, instruct personnel in Refuge Stations to proceed to surface.

Person Informing Workers: _____ Time: _____

If this was a real fire and it is deemed necessary by the Incident Control Group, Mine Rescue personnel could be assigned to blow air lines after stench has been dumped to help clear stench from the system. This can be done at the same time people are being evacuated from Refuge Stations and making their way to surface.

28) Broadcast the **ALL CLEAR** once the emergency is over! If a Stop Work was ordered then broadcast over the radio system for all site personnel to Stand Down and resume normal duties.

Time: _____

Notify the Control Room Operator of the all clear and to resume normal operations!

29) **Time the Tag Board is cleared and all personnel are on surface.**

Time: _____

30) Leave instructions in the Shift log for the oncoming shift to be notified of the stench that was dumped as well as the wintergreen, as well as any headings that may have compressed air blowing. Crews will be instructed to open their air header in their heading to clear any stench residue from the lines.

Instructions Left By: _____ Time: _____

Now

GO THROUGH STEPS 1 – 27 ABOVE INFORMING ALL APPROPRIATE PEOPLE THAT THE "ALL CLEAR" HAS BEEN GIVEN.

Time: _____

Names of Incident Command Group Members:

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

Sign: _____ Date: _____ Time: _____

*****Forward this form to the Safety Department*****

Note:

- **Incident Command to determine if site WIFI capabilities to be suspended to limit the chance of social media information leaving site (i.e. facebook, text etc)**

In the event that there is a need to organize Critical Incident Stress Debriefing sessions, contact the Manager of Human Resources ([redacted] ext. 115) so that they can make the arrangements through our EAP provider VCARS.

Person Assigned to contact Human Resources: _____

Date and Time that HR was contacted: _____

W:\Safety\Emergency Response\Emergency Checksheets\Incident Command Group Duties Underground Emergency

6

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix J: Confined Space Entry Procedure

TMAC HOPE BAY SAFE WORKING PROCEDURES			
Division:	Operations		
Section:	IV-0003		
Subject:	Confined Space Entry & Work		
Owner:	Safety Manager	Effective Date:	March 2018
Revision:	March 9, 2018	Replaces:	November 2014

1 OBJECTIVE

1.01 To provide a safe working procedure, equipment, monitoring and training to ensure all employees are safeguarded against the hazards associated with Confined Space Entry.

2 SCOPE

2.01 N/A

3 INTRODUCTION

3.01 NWT and NU Mine Health and Safety Act and Regulations: require all personnel be adequately trained to do their jobs safely, inspect their worksite or machinery and understand the lock out procedure and fire prevention apparatus and use.

4 RESPONSIBILITY

4.01 See procedure.

5 DEFINITIONS

5.01 **Acceptable Environmental Conditions**: The conditions which must exist from the employee to safely enter and perform work within a confined space.

5.02 **ACGIH**: American Conference of Governmental Industrial Hygienists devoted to the administrative and technical aspects of occupational and environmental health.

5.03 **Air Quality Tester**: A trained person that performs the requisite pre-entry and ongoing atmospheric testing and monitoring for safe confined space entries.

5.04 **Asphyxiation**: Suffocation from insufficient oxygen in the air, airway obstruction, or loss of pulmonary functions.

5.05 **Atmosphere**: Refers to the gases, vapors, mists, fumes and dusts within a confined space.

5.06 **Atmospheric Testing**: Pre-entry testing by a competent person using a calibrated direct-reading instrument to measure (in sequence) oxygen content, flammable gases and vapors, and toxic air components. As contaminants can stratify at different levels, the entire confined space must be evaluated remotely. If measurements indicate that the atmosphere is within acceptable limits, the entry may proceed. If not, ventilation or respiratory protective equipment must be provided, or entry is prohibited.

5.10 **Atmospheric Monitoring**: Continuous using a calibrated direct-reading instrument to verify acceptable atmospheric conditions for entrants. Alarm conditions pre-empt an entry. Re-entry is not permitted until the cause of the alarm is identified and corrected, and the confined space has been re-evaluated and the entry permit is re-issued.

5.11 **Available Rescue**: The emergency services team for rescue assistance which is available to respond immediately upon request.

5.12 **Blanking**: The absolute closure of adjacent piping by fastening across its bore, a solid plate or cap that completely covers the bore and that is capable of withstanding the maximum pressure of the adjacent piping.

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5.13 **CS Attendant**: A worker trained and competent in the recognition of confined space hazards and exposure symptoms. Stationed at the entrance of the confined space to monitor and record the entry and exit of permitted workers, and initiate the emergency response when required.

5.14 **Cold Work**: Work that is capable of produce heat and a source of ignition which may be performed provided the atmospheric concentration of flammable gases and vapor is less than 10% of the lower explosive limit (LEL).

5.15 **Confined Space:** Any tank, process vessel, underground vault, tunnel or other enclosure that is not designed or intended for human occupancy and that a person would only enter if there were work to be done. It may contain potential or known hazards including oxygen deficiency/enrichments and toxins such as carbon monoxide, hydrogen sulfide.

5.16 **Contaminant**: Toxic material found as a residue in or on a person, or on an object where it is not wanted.

5.17 **Emergency Plan**: A plan that establishes guidelines for handling foreseeable confined space incidents or accidents; a prerequisite for safe confined space entry.

5.18 **Engulfment**: The surrounding and effective capture of a person by liquid or finely divided solid which could be aspirated to cause death by filing or plugging the respiratory system or which could exert enough force on the body to cause death by strangulation, constriction or crushing.

5.19 **Entrant**: A trained person authorized by the Supervisor of confined space to enter a confined space.

5.20 **Entry**: A confined space that is deemed to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

5.21 **Entry Permit**: The written authorization from an entry supervisor for entry into a confined space for a stated purpose during a given time, which certifies that all potential hazards have been evaluated and are controlled. The Supervisor and the entrants shall review and sign the entry permit prior to the confined space entry. A competent person who performs atmospheric testing shall also sign the entry permit.

5.22 **General Ventilation**: A system that introduces fresh air into a confined space and relies on its movement to mix with, dilute, and displace air contaminants.

5.23 **Hazardous Atmosphere**: An atmosphere presenting a potential for death, disablement, injury or acute illness from one or more of the following:

a. The presence of less than 19~~.5~~% or more than 23% oxygen by volume.
b. The presences of a flammable gas, vapor, and/or mist in excess of 10% of its lower explosive limit (LEL).
c. A concentration of airborne combustible dust that obscures vision at a distance of 5 feet or less.
d. A concentration of any, corrosive, or asphyxiate substance above the permissible exposure limit (PEL) or above the numerical limit given for the substance in the current ACGIH TLV booklet.
e. Any condition that is known to present a safety or acute health hazard or is immediately dangerous life or health (IDLH).

5.24 **Hot Work:** Welding, oxy-fuel gas cutting, burning, heating, grinding, or the use of live electrical devices or operations involving actions or materials that can provide a source of ignition in a

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confined space. Hot work shall proceed only under acceptable environmental conditions (i.e. 0 % LEL) and competition of hot work permit.

5.25 **Inerting**: Rendering an atmosphere in a confined space non-flammable, non-explosive or otherwise chemically non-reactive by displacing or diluting the original atmosphere with an inter gas such as argon or nitrogen.

5.26 **Isolation**: A process whereby a confined space is removed from service and completely protected from inadvertent release of material or startup of any power source.

5.27 **Lower Explosive Limit**: The lowest concentration of a flammable gas or vapor which will ignite and burn in the presence of an ignition source.

5.28 **Purging**: A method by which gases, vapors or other air contaminants are displaced from a confine space.

5.29 **Rescue**: Moving an incapacitated person from a location inside the confined space to a safe location outside the confined space.

5.30 **Rescue Team**: Rescue professionals or a designated team of employees who have current qualifications in standard first aid, CPR, the use of SCBA's and are trained and equipped to perform external and internal confined space rescue work.

5.31 **SCBA**: Positive pressure supplied air respiratory protection required for entry into atmospheres that are immediately dangerous to life (IDLH). Positive pressure SCBA's provide the highest level of protection against airborne contaminants and oxygen deficiency.

5.32 **Threshold Limit Value (TLV)**: refers to airborne concentrations of chemical substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse health effects.

5.33 **Toxic Atmosphere**: Any atmosphere where the level of air contaminants exceeds OHSA permissible exposure limits (PEL) ACGIH threshold limit values (TLV) or NIOSH recommended exposure limits.

6 REFERENCES AND RELATED DOCUMENTS

6.01 NWT Safety Act and Regulations:

6.02 TMAC Hope Bay Contracting Safe Welding, Burning and Cutting procedure

6.03 TMAC Hope Bay Lock-Out Removal procedure

6.04 TMAC Hope Bay Managing Control of Hazardous Energy Lock-Out Program

6.05 TMAC Hope Bay Respiratory Protection Program

6.06 TMAC Hope Bay Working Alone procedure

7 PREPARATION

7.01 **TOOLS:** PPE, Rescue Equipment, Communications Equipment, Gas Tester, Oxygen Tester

7.02 **HAZARDS:** Injury, Fatality, Slips, Trips, Falls.

7.03 **REQUIREMENTS:** THA Training, Safe Working Procedure, Confined Space Permit, Atmospheric Testing

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8 PROCEDURE

8.01 General

- Confined space entry is not permitted until the confined space permit has been completed and posted at the work site.
- Prior to allowing any work or entry into a confined space air quality in the confined space must be tested by a qualified person. Results of these tests will be recorded on the **Confined Space Permit**. The result will be reviewed with all employees involved and the supervisor in charge.
- Testing will include, but not be limited to, tests for harmful vapors, gases, fumes, dusts and oxygen content. Evaluations for heat stress potential will be performed when required.
- No entry into any Confined Space is permitted until:
  - A Confined Space Permit is completed.
  - All Employees have reviewed all the hazards associated with the particular task.
  - All atmospheric testing has been completed.
  - Ventilation is in place when required.
  - The flammable limit does not exceed 20% of the lower flammable limit.
  - All ignition sources have been eliminated where necessary.
  - All protective equipment is available and being worn by workers.
  - The permit is posted at the job sit.

8.02 The Health and Safety Manager Shall Ensure That:

- All confined spaces are identified.
- All employees use lifelines and safety belts for all work performed in a confined space that are IDLH (immediately dangerous to life and health).
- Guards / safety watch are positioned outside the confined space as required.
- Where the use of lifelines is not feasible, two guards will be positioned and be fully equipped with self-contained breathing apparatus or an air supplied system equipped with an emergency escape air bottle.
- Effective means of communications/contact between workers is made available.
- All pipes are blanked, sealed or secured in such a way as to prevent any harmful substances from entering the confined space.
- All relevant electrical equipment has been properly locked out.
- All employees are fully trained in confined space work and fully competent for the tasks at hand.
- Appropriate SCBA's and persons trained in use of the equipment must be available for when persons are working in a confined space.

8.03 Prerequisites

- All personnel, workers and contractors must be familiar with all chemical safety information associated with completion of this procedure.
- Must have proper and adequate training for entry into confined spaces

Note: Additional chemical information may be found in the MSDS.

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8.04 **Precautions**

- All personnel, workers and contractors are cautioned that at no time should they proceed with or continue a confined space entry if they believe that any unsafe condition exists.
- Air ventilation, forced-air ventilation used to control hazardous atmosphere may actually create an explosive atmosphere by changing the air-to-fuel ration.
- Entry into a confined space occurs when any part of a person's body breaks the plane of the opening into the confined space.
- All access points to confined spaced shall be posted with signage that states "Danger Permit Required Confined Space Do Not Enter".
- Unauthorized entry into any confined space is prohibited. Prevention of unauthorized entry will be made through training and posting of signs. Any person observing unauthorized entry or unsafe work in or around a confined space shall warn the workers performing the work of the perceived hazards and immediately notify their supervisor.
- In the event of a main power failure. All entrants must evacuate the confined space until alternate power is provided, or the main power is restored.

8.05 **Hazardous Atmosphere**

- To reflect the relative hazards, and to ensure a consistent approach, confined space entries have been classified into Class A, B and C. The classifications of the entry shall be based on the conditions present at the time of entry with consideration for potential changes of conditions ad identified in the hazard assessment.

Note: As per OH & S Code, a person must not enter or work at a work area if more than twenty (20) percent of the lower explosive limit of a flammable or explosive substance is present in the atmosphere.

Class A (High Hazard)

- A confined space will be considered Class A if the hazards in the confined space or in its proximity are either not known or have not been determined.
- The hazards in the confined space included on or all of the following:
  - Oxygen concentration is less than 19~~.5~~% or more than 23% by volume,
  - Explosive or flammable atmosphere between 10% and 20% Lower Explosives Limit (LEL), and
  - The area atmosphere exceeds the protective limits of air purifier respiratory equipment.
- The following controls must be put in place for a Class A classified area:
  - All entrants and monitors must be trained in the use of supplied breathing air equipment,
  - Supplied breathing air available and worn,
  - A confined space monitor in attendance at all times,
  - Two attendants shall be stationed outside the confined space and visually check on those persons inside the confined space at frequent intervals, and shall be equipped for and capable of performing a rescue.
  - A specific rescue plan which has been reviewed and approved,
  - A valid confined space entry permit,
  - A valid Class A entry tag hung at each entrance, and
  - An evacuation plan.

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Class B (Medium Hazard)

- A confined space will be considered Class B if all hazards are controlled and the oxygen concentrations are between 19.5% and 23% volume.
- Either of the following exists or is likely to exist:
  - Explosive or flammable atmosphere, less than 1% of the Lower Explosive Limit (of 10% LEL), or
  - The concentration of toxic substances exceeds 50% of the Occupational Exposure Limit (OEL)
- The following controls must be put in place for a Class B classified area:
  - An approved hazards assessment
  - A confined space monitor in attendance at all times
  - Two attendants shall be stationed outside the confined space and visually check on those persons inside the confined space at frequent intervals, and shall be equipped for and capable of performing a rescue.
  - A valid confined space entry permit
  - A valid Safe Entry Tag hung at each entrance
  - An evacuation procedure
  - A valid rescue plan

Class C (Low Hazard)

- A confined space will be considered Class C if all identified hazards if all identified hazards are controlled, the potential for change is unlikely, and all of the following apply:
  - Oxygen concentration is between 19.5% and 23% by volume.
  - Concentration of explosive gases are 0% LEL.
  - Airborne concentrations of toxic substances are less than 50% of OEL.
- The following controls must be put in place for a Class C classified area:
  - Will require an approved hazard assessment,
  - A confined space monitor may be required,
  - A valid confined space entry permit,
  - A valid safe entry tag hung at each entrance,
  - An evacuation procedure, and
  - A valid rescue plan.

8.06 **Forced Air Ventilation**

- If feasible, continuous forced air ventilation shall be used to inert or eliminate the hazardous atmosphere in the confined space during occupancy, until all personnel have vacated the confined space.
- The air supply for the forced air ventilation shall be from a clean source equivalent to clean breathable air. Clean breathable air is equivalent to clean outdoor air and contains 20.9% oxygen, 0% LEL or LFL and air contaminants if present is less than 10% of the regulatory occupational exposure limits.

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8.07 **Atmospheric Testing**

- Atmospheric testing shall be performed only be personnel trained in the use of testing equipment.
- The entrant(s) or representatives must be allowed to observe the testing if requested.
- Testing equipment shall be direct-reading and calibrated according to manufacturer's recommendation.
- Testing equipment shall be fresh-air tested prior to use.
- When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope should be tested a distance of approximately 4 feet in the direction of travel and to each side.
- If sampling probes are used, the entrant's rate of progress should be slowed to accommodate the sampling speed detector response.
- Pre-entry testing shall be conducted no longer than 20 minutes before initial entry, and when confined space has been vacated longer than 20 minutes.
- If a confined space is known, or shown by pre-entry testing to contain other than clean breathable air, the hazard must be controlled by cleaning, purging, or venting the space and the atmosphere must be retested before a worker enters the space.
- During occupancy of the confined space, testing shall be repeated periodically where there is potential for accumulation of the hazardous atmosphere. Testing frequency shall be determined by the CS team.
- Pre-entry testing is not required in "low hazard atmospheres" when the location and the control of the space ensure that a more hazardous atmosphere could not in-advertently develop.

8.08 **Confined Space Entry**

- Prior to into a confined space, a CS permit must be prepared for that confined space and reviewed by the CS team assembled for that entry.
- All of the items contained in the CS entry permit will be fulfilled; the written permit completed and signed by the appropriate personnel prior to any entry.
- After the confined space entrance covers are removed, the opening shall be promptly guarded by railing, temporary cover or other barriers to prevent accidental fall through the opening.
- The confined space is prepared as per requirements of the permit (prepared by the confined space team for the job).
- The confined space is prepared as per requirements of the permit (prepared by the confined space team for the job).
- The confined space atmosphere is pre-tested and re-tested as pre the previous section.

8.09 **Restrictions**

- No entry is permitted into a confined space with LEL more than 10% per volume of air.
- Entry into Immediately Dangerous to Life and Health (IDLH) atmosphere is prohibited unless approved by the Project Manager or their designate. Authorized personnel, workers and contractors must be properly trained, certified and deemed competent working in IDLH atmospheres.

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- If hazardous atmosphere is detected during occupancy, the confined space must be evacuated immediately, the source of the hazard identified and measures implemented to protect personnel, workers and contractors before any subsequent re-entry.
- A new permit will be required if the entry purpose changes or entry duration is exceeded.
- The completed Confined Space Entry Permit shall be made available to all entrants and posted at the entry point. Once work is completed, the confined space will be vacated, sealed and the lock out will be removed, the confined space team will initial the permit and return it to the Supervisor to keep in the office for a minimum of two years.

8.10 Lock-Out and Isolation

- Before a worker enters a confined space, any material conveyance equipment that transports material to or from the space must be free of material if the materials could present a hazard.
- Before a workers enters a confined space, adjacent piping which contains or has contained a harmful substance must be controlled by the following means:
  - Disconnecting, blanking, blinding or equivalent engineering system,
  - If the adjacent piping contains a harmful substances that is not gas or a vapor, nor a liquid of sufficient volatility to produce a hazardous concentration of an air contaminant in the discharge of the piping, double block and bleed system is needed.
  - If the adjacent piping contains or has contained a substance that is hazardous only because of its pressure, temperature or quantity, before a worker enters the space, the pressure must be controlled by de-energizing and locking out the pressure source and depressurizing the line.
  - Isolation of a confined space from gases found in a gravity-flow municipal or domestic sanitary or storm sewer system may be accomplished by a p-trap provided that the integrity of the trap is ensure immediately upon entry and the atmosphere is continuously monitored and shown to contain clean breathable air.

8.11 Training

- Confined space training shall address the following:
  - The Confined Space Entry course including responsibilities of all involved with the confined space entry.
  - Confined Space Identification and Hazards Recognition.
  - Atmospheric Testing.
  - Communication, including the use of equipment available at the site.
  - Permit System, Confined Space Permit, Equipment Isolation, Hot Work Permit, etc.
  - PPE, including respiratory protection.
  - Equipment Isolation Standard.
  - Rescue Awareness.
- Confined Space Rescue training shall consist of the following:
  - Understanding of rescue duties and entrant duties.
  - Proper use of rescue equipment.
  - First Aid and CPR.
  - Rescue personnel shall practice rescue at least once every twelve (12) months.

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8.12 **Rescue and Emergency Services**

- The employer must provide for the services of rescue persons when a worker enters a confined space. If these rescue persons are employees of another firm, or an agency such as a fire department, there must be a written agreement detailing the services that are to be provided.
- Before a worker enters a confined space, the Supervisor of confined space of the confined space or the CS Attendant must notify the safety department of work in the space.
- The Supervisor of confined space of the CS Attendant must notify rescue personnel when all workers have completed their work and exited from the space.
- The employer must ensure rescue personnel monitor the signaling system that will be used to summon the rescue persons in the event of an emergency whenever they have been informed by the Supervisor of confined space or CS Attendants that a confined space entry is in progress.
- Rescue or evacuation from a confined space must be directed by a supervisor who is adequately trained in such procedures or a qualified rescue person.
- If an equipment isolation permit is used in conjunction with a confined space permit, the rescue team shall place their locks on the lock box or the individual isolation per the equipment isolation procedure. The team must survey the scene to determine what hazards are present and take all necessary precautions to render the confined space prior to entry.
- Effective voice communication must be maintained at all times between workers engaged in the rescue of the evacuation and the persons directing the rescue persons.
- A rescue worker must not enter a confined space unless there is at least 1 additional worker located outside to render assistance.
- A self-contained breathing apparatus (SCBA) or air supplied respirator with escape bottle must be used during rescue operations in an unknown IDLH atmosphere.

8.11 **Non-Entry Rescue**

- Non-entry rescue by means of retrieval shall be used whenever an authorized entrant enters a confined space, unless the retrieval equipment would increase the overall risk of entry, and there is possibility that the retrieval line may become entangled or broken in the course of rescue.
- Retrieval system shall meet the following requirements:
  - Each authorized entrant shall use a full body harness, with a retrieval line attached at the centre of the entrant's back near shoulder lever, above the entrants head, or at another point which presents a profile small enough for removal.
  - The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the confined space.
  - A mechanical device shall be available to retrieve personnel, workers and contractors from a vertical type confined spaces more than 5 feet deep.
  - Rescue procedures shall comply will all Work Safe Fall Protection Standards, HRN Standards and Provincial/Territorial Standards.

Note: Rescue procedures must apply every possible effort to eliminate, control or reduce the risk to emergency personnel responding to emergency situations including the use of mechanical ventilation.

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9 ATTACHMENTS

CONFINED SPACE PERMIT SIGN-IN/OUT SHEET FOR EMERGENCY RESPONSE

ATTACH TO THE CONFINED SPACE PERMIT

By my signature, I verify that I understand and will comply with the practices, procedures, and requirements of the Confined Space Program.

Date	Name (Printed)	Signature	Time In	Time Out

The purpose of this for is to provide a standardized method for maintaining an accurate, real time tracking of entrants in a confined space. Maintaining an accurate log will enable emergency response/rescue personnel to know precisely who and how many entrants are in a confined space at a given time. The use of this form only becomes necessary when different entrants other than those initially identified on the permit are involved at the entry activity.

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix K: Severe Weather Conditions Procedure

TMAC HOPE BAY STANDARD OPERATING PROCEDURE			
Title:	**Severe Weather Conditions Procedure**		
Document #:	III-0009		
Owner:	Health and Safety Manager	**Effective Date:**	November 25, 2018
Revision:	A	**Replaces:**	February 4, 2018

1. PURPOSE

Ensuring the safety of all employees and contractors by limiting or curtailing employee movement and activity during extreme weather conditions.

2. INTRODUCTION

This procedure was created to ensure the safety of all employees and contractors during periods of extreme weather conditions.

3. SCOPE

This procedure applies to all activities, facilities, equipment, processes, employees, contractors, and vendors at the Hope Bay site. As weather conditions change, it is the responsibility of all employees to be aware, monitor these changes, and report the conditions to their direct supervisor. When the General Manager or Designate deems conditions unsafe, a "White-Out" will be declared.

4. RESPONSIBILITIES

Mine General Manager:

a. Ensures the requirements of this procedure are applied and maintained.

Department Managers, Superintendents and Supervisors:

a. Ensure their employees are familiarized with this procedure.
b. Ensure that all mobile equipment traveling between the accommodation complex and the work locations are equipped with radio communications compatible with the site receivers/transmitters.
c. Install compatible base-radio communication at each work site,
d. Supply food and water rations to sustain each crew for a forty-eight (48) hour period at camp.
e. Provide sufficient fuel to maintain heat for personnel and run auxiliary equipment for a forty-eight (48) hour period at camp.
f. Install survival packs in all mobile equipment.
g. Install survival packs at remote work sites.
h. Providing equipment and manpower to assist on the rescue or movement of personnel when required

Employees (including Contractors):

a. Understand and practice this procedure; and

b. Ask their supervisor for clarification if they are unsure of any aspect of this procedure.

TMAC RESOURCES	**HOPE BAY** Severe Weather Conditions Procedure	**DOCUMENT NO.** III-0009

Joint Occupational Health and Safety Committee (JOHSC) provides input during the periodic review of this procedure.

5. DEFINITIONS

5.1 **White-Out**: A weather condition in which the features of snow-covered land are indistinguishable due to uniform light diffusion. An atmospheric condition in which clouds over snow produce a uniform whiteness reducing the visibilities to near zero.

5.2 **FWO (Flight Weather Outage):** Where weather conditions are below established flight standards.

5.3 **GWO (Ground Weather Outage):** Where weather conditions are of a nature that reduces visibility (elevated winds, fog, blowing snow, blizzard conditions). Decreasing temperatures that compromise equipment effectiveness, and expose field workers to extreme cold temperatures (example: <-50°C).

5.4 **SWO (Site Weather Outage):** To be called when weather extremes prevent the ability to Safety manage a medevac event (example: aircraft unable to land or take off).

5.5 **GWA (Ground Weather Advisory) Level 1:** A weather advisory where visibility is less than 100 feet (30 meters) and/or decreasing ambient temperatures are being observed. Proceed with normal work with extreme caution.

5.6 **GWA (Ground Weather Advisory) Level 2:** A weather advisory where visibility is less than 50 feet (15 meters) and/or decreasing ambient temperatures are being observed. Proceed with **ESSENTIAL** work with extreme caution.

5.7 **GWA (Ground Weather Advisory) Level 3:** A weather advisory where visibility is less than 10 feet (3 meters) and/or outside ambient temperatures may compromise equipment effectiveness and unnecessarily expose field workers to extreme temperatures. All outside work is suspended and essential services work to proceed under a plan review by the site weather advisory team. Underground operations proceed with caution.

5.8 **Blizzard:** Blizzard is a weather condition characterized by low temperatures and strong winds bearing large amounts of dry snow particles, which can reduce visibility to only a few meters. Storm systems powerful enough to cause blizzards usually form when the jet stream dips far to the south, allowing cold air from the north to clash with warm air from the south.

5.9 **Freezing Rain:** Freezing rain occurs when rain droplets fall into an above freezing layer of atmosphere and then into a shallow layer of cold air near the earth's surface. Upon striking a cold object, these super cooled droplets form a thin layer of ice. Lower elevations are more vulnerable to damaging accumulation of ice since cold air naturally settles into them. Freezing rain has the potential of causing hazardous weather conditions for travelers. Rain can freeze on any object it contacts, that is below freezing (example: rocks, aircraft, walkways etc.)

5.10 **Fog:** Fog is simply a cloud that touches the ground. A cloud is composed of millions of tiny, liquid water droplets. In order for fog to form, there has to be the presence of a moist air mass, a cooling process, and light winds. Fog is usually associated with fair and calm weather, but the reduced visibility may prevent flights from arriving or departing from site. Meteorologists report thick fog when the visibility is less than one kilometer.

5.11 **Snow Squalls:** Snow squalls or Lake effect snow is the result of cold air blowing over a relatively warm body of water. As the air moves over the water, it picks up heat and moisture. When it gets to the colder land, it is forced to drop this moisture in the form of snow. The

TMAC RESOURCES	**HOPE BAY** Severe Weather Conditions Procedure	**DOCUMENT NO.** III-0009

squalls can carry strong winds and produce significant accumulations of snow, reducing visibility and making roads slippery.

5.12 **Coastal Fog:** Fog will be expected to form near the shoreline, and may cause reduced visibility on/near the shore.

5.13 **Visibility Parameters:** The distance at which a given object can be seen and identified with the unaided eye in certain conditions (heavy precipitation, fog, blowing snow, etc.).

6. REFERENCES AND RELATED DOCUMENTS

6.1. NWT Safety Act and Regulations

7. PREPARATION

7.1. **TOOLS:** PPE, Radio, Survival Kit

7.2. **HAZARDS:** Cold Stress, Collision, Frost Bite, Slips, Trips, Falls, Death

7.3 **REQUIREMENTS:** Proper Extreme Weather Training

8. PROCEDURE

8.1 When the employees observe weather conditions to be changing, they will report the condition to their supervisor.

8.2 The supervisor will relay the information of the employee concerns of deteriorating weather conditions to the Site Services Supervisor who will assess the situation and provide feedback to the employees.

8.3 The Site Services Supervisor will inform the General Manager or Designate of the deteriorating weather conditions that it is unsafe to continue working or traveling, the General Manager or Designate will determine the declaration of a "White-Out".

8.4 The Site Services Supervisor will broadcast the "White-Out" on all radio channels.

8.5 All movement of mobile equipment or people during the "White-Out" condition must be approved by the Site Services Supervisor.

8.6 All camps, worksites, vehicles and stranded mobile equipment operators must report to their supervisor if they are unable to muster to a safe location during the white out event.

8.7 A logbook will be kept by the Health and Safety Department recording the dates and times of all "White-Outs", and record any events, situations or remedial actions taken.

8.8 The General Manager or Designate will be responsible for organizing manpower and support vehicles, which may be required during the "White-Out" period.

8.9 As time passes, employees will keep the Site Services Supervisor informed and he/she will give updates to the General Manager or Designate every hour as well as broadcast the updates on all radio channels.

8.10 When the white out conditions have ceased the Site Services Supervisor will broadcast a message to all channels indicating that "White-Out" conditions have ceased.

TMAC RESOURCES	HOPE BAY Severe Weather Conditions Procedure	DOCUMENT NO. III-0009

9. ATTACHMENTS

9.1. N/A

10. TECHNICAL REVIEW

Name	Title	Date	Signature
Dan Gagnon	General Manager		
Jerome Girard	Assistant General Manager		
Jason Nickel	Mining Manager		
Chad Parent	Process Manager		
Ron Bertrand	Maintenance Manager		
Doug Brown	Health & Safety Manager		
Review Schedule: Every 3 years			

11. APPROVAL

Name	Title	Date	Signature
Doug Brown	Health & Safety Manager		

12. REVISION HISTORY

Revision	Date	Comments
A		Initial Issue
B		TMAC Reviewer Comments incorporated
C		Approved for Use

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix L: TMAC Emergency Response Team Standard

Emergency Response Team Standard

TMAC Resources Inc. ("**TMAC**") in an effort to ensure the health and safety of all personnel on site, has set the following standards that shall be in effect before an individual will be considered for acceptance into TMAC Hope Bay Emergency Response Team (ERT) Membership. Adherence to this standard will provide a concrete framework that ensure consistent methods and requirements for emergency response, training and membership.

MEMBERSHIP REQUIREMENTS

All individuals seeking membership whether through introductory training or inter-provincial/territorial transfer shall have been in continuous employment with TMAC, or KCMD no less than 90 days.

Candidates must have the potential for developing into a competent member of a mine rescue team and have both the mental and physical qualifications. Members of mine rescue teams should be:

- not younger than 18 years of age;
- in good health and physically fit;
- clean-shaven daily, with no facial hair to interfere with the facemask seal;
- calm and self-controlled in emergency and danger;
- of good judgement and initiative;
- capable of performing long and arduous physical labour;
- familiar with working environment;
- a holder of a valid Standard First Aid Certificate from a recognized training provider;
- able to follow directions and communicate in the language of the operation.

All individuals seeking membership whether through introductory training or inter-provincial/territorial transfer shall have completed a Medical Assessment by the TMAC Physician Assistant within 90 days of registration or transfer.

All individuals seeking membership through inter-provincial/territorial transfer that possess a current Northwest Territories Surface or Underground Mine Rescue Certificate with no more than one (1) year between training periods, a current Standard First Aid Certificate and has completed a TMAC Medical Assessment may attend regular scheduled ERT training.

All individuals seeking membership through inter-provincial/territorial transfer that possess a current Surface or Underground Mine Rescue Certificate with no more than one (1) year between training periods. May apply to take the Nunavut Surface / Underground Mine Rescue Exam. After successful completion of the Nunavut Surface / Underground Mine Rescue Exam. The Individual will be issued a Nunavut Surface / Underground Mine Rescue Certificate.

All individuals seeking membership through inter-provincial/territorial transfer that possess an expired Surface or Underground Mine Rescue Certificate with more than five (5) years between training periods. Must apply for retraining through the TMAC Introductory Nunavut Surface / Underground Mine Rescue Training Program. After successful completion the individual will be issued a Nunavut Mine Rescue Certificate.

TRAINING STANDARDS

ERT training will consist of six (6) individual eleven (11) hour training sessions that shall be scheduled each Saturday from 07:00 – 18:00 hours. The TMAC Emergency Response (ERT) Coordinator with the approval of the Health & Safety Manager or designate may modify this schedule based on site or team needs.

All ERT members must complete a minimum of fifty-five (55) training hours annually to maintain active membership. If an ERT member receives less than fifty-five (55) training hours annually the ERT member will be removed from Active Status and moved to Current Status as per the WSCC Mine Rescue Training Standards.

All individuals attending ERT training shall be clean shaven. Any exceptions must be approved by the TMAC Physician Assistant and TMAC ERT Coordinator.

All ERT members must complete the following training that is not included in regularly scheduled mine rescue training.

- Annual Medical Assessment
- Basic / Introductory Mine Rescue Training
- Mill Orientation
- U/G Orientation
- Respirator/Facepiece Fit Testing
- WHIMIS
- Fall Protection Training (Every Two Years)
- Confined Space Training (Every Two Years
- Site Driver's Training
- Annual Audiometric Testing
- First Aid Training (Every Three Years)
- Lock-out Tag-out (LOTO) Training

Specialty training that may occur for some ERT members will not be included as regular training hours.

- Firefighter 1
- Firefighter 2
- Spill Response
- Hazmat
- Ice Water Rescue
- Nunavut/NWT Mine Rescue Competition

REGULAR SESSION SCHEDULING

Regular mine rescue training shall be scheduled quarterly. Each ninety (90) day schedule shall be posted in advance of the first scheduled training date. The ERT Coordinator shall be responsible to ensure the accuracy of the training schedule taking into account member rotations, shifts, vacation and external training.

Each quarterly schedule shall be approved by each department manager or designate. Once approved, any personnel changes to the schedule must be made in advance via

the Training Exemption Form and a suitable replacement must be provided to take the vacant trainee's place.

Each ERT member shall receive a copy of the quarterly training schedule for their reference If an ERT member wishes to change the date of their regular training, it is the responsibility of the ERT member to find an alternate trainee to switch training dates with.

ERT MEMBER RESPONSIBILITES

Each ERT member shall be responsible to attend the training date which they have been scheduled.

Each ERT member is responsible to tag-in on the ERT board in the main hallway at the start of each rotation, and tag-out on the last day of each rotation.

Each ERT member shall maintain and have access to the required PPE for both an underground and surface emergency response. If PPE is not available then the ERT Coordinator shall be notified to provide assistance in obtaining the appropriate PPE.

Each ERT member shall be responsible for the monitoring and maintenance of their personal emergency pager. Including the following;

- charge of the battery;
- physical condition/cleanliness;
- reporting of damage or malfunction to the TMAC ERT Coordinator in a timely manner;
- Monitoring at all time as is practical for the initiation of emergency codes;
- Responding to emergency codes in a responsible and timely manner.

Each ERT member shall respond to the following code as descried.

- 911 - Site emergency, report to the Mine Rescue Room.
- 111 - Test page, no additional response is required.
- 103 - Test page, call phone ext. #103 to confirm that the test page was received.
- 222 – Test page, this is a timed drill. Respond to the mine rescue room and prepare emergency equipment as directed by the ERT Coordinator.

When an ERT member is unable to perform their responsibilities they must communicate with the ERT Coordinator that they require assistance in the application, understanding or interpretation of their responsibilities.

ON SITE ERT REQUIRMENTS

TMAC management shall maintain a minimum of ten (10) ERT personnel on site to respond to a site emergency at all times. With the ability to provide additional mine rescue teams through a mutual aid agreement with neighbouring mines.

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix M: WSCC Mine Rescue Training Standards

WSCC Workers' Safety & Compensation Commission

Mine Rescue Training Standards

Every mine has to maintain a mine rescue team to help ensure the safety of workers and property on mine sites. The objectives of mine rescue are to find and rescue trapped miners, find and extinguish fires and examine mines for noxious gases.

This standard applies to all mines where employees are expected to conduct work and includes areas where mining is to take place including exploration drilling/sampling activities, open pit operations, tunnels, adits, ramps and shafts as well as structures at remote areas.

This standard is based on the legislative authority of the *Mine Health and Safety Act and Regulations for the Northwest Territories/ Nunavut (NT/NU).*

PART 5 MINE EMERGENCIES

Mine Rescue Stations and Equipment

8.52. Mine rescue stations shall be established, equipped, operated and maintained at every operating mine as directed by the chief inspector.

8.53. (1) The manager shall appoint a person who is qualified in mine rescue instruction to be responsible to maintain the mine rescue equipment in good and serviceable condition at all times and to train mine rescue teams.

(2) The manager shall appoint a person under subsection (1) who holds a valid mine rescue instructor's certificate issued by the chief inspector.

8.56. The manager shall ensure that

(a) a sufficient number of qualified persons are trained as mine rescue team members;

(b) a sufficient number of qualified persons who are trained as mine rescue team members are readily available at the mine when persons are normally at work in the mine; and

(c) at least two teams, or such other number of teams as may be required by the chief inspector, are readily available to get to the mine when persons are normally at work in the mine.

Survival Rescue Procedures

8.73. The manager shall ensure that all persons who are required to work underground are

(a) trained in survival rescue procedures, including the use of self-rescue apparatus acceptable to the chief inspector; and

(b) retrained annually.

Instructor Emergency Procedures

8.74. The manager of an open pit mine shall appoint a qualified person to instruct and train personnel in emergency rescue techniques.

Surface Emergency Situations

8.75. The manager of a surface mine shall ensure that properly maintained equipment and trained personnel are available to respond to a fire, explosion, or dangerous incident while the mine is in operation.

PART XII FIRE PROTECTION

Fire Fighting

12.01. (1) The manager shall ensure that a fire risk assessment is carried out not later than March 31 in each calendar year for all parts of the mine, both underground and surface, and the assessment shall

(c) identify the need for fire protection and the type of fire protection that should be provided; and

(d) set out measures to be taken to reduce the hazard from fire, including

(i) equipment design,

(ii) adequate maintenance of equipment,

(iii) proper training,

(iv) evacuation procedures,

(v) use of detection and early fire warning devices,

(vi) type of fire suppression equipment, and

(vii) means of egress from a worksite.

12.03. (1) The manager shall ensure that the following training in firefighting is carried out under the direction of a qualified person:

(a) all persons newly employed at a mine shall be given instruction in the use of firefighting equipment during the first week of employment;

(b) all persons regularly employed underground shall receive a refresher course in the use of firefighting equipment;

(c) the manager shall ensure that a suitable number of employees are trained in firefighting techniques and those employees shall attend at least 20 hours of training annually.

(2) The qualified person appointed by the manager to carry out the training required under subsection (1) shall record all drills and practices and the name of each person in attendance.

PART XV EXPLORATION

15.02. (1) Before any exploration activity is commenced, the owner shall submit to the chief inspector

(b) a safety program concerning the health and safety of persons employed in the exploration activities that includes

(ii) procedures for first aid and prevention of hypothermia,

(iii) procedures for dealing with fire hazards,

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Minimum Standards

There are incidents and emergencies where Mine Rescue teams must respond. This may include rescue of trapped miners, extinguishment of fires, examination of mines for noxious gases, electrical fires, gas leaks, avalanches, and motor vehicle accidents. Mine Rescue can be dangerous work, especially if it is not performed properly. Some responses will require that Emergency Response Teams attend to casualties in need of assistance however; the rescuer's first responsibility is for personal safety and the safety of their team.

The minimum standards for Mine Rescue Certification Training which mining operations must meet are:

1. Mine Managers will have qualified trainers that are certified to deliver Mine Rescue Certification Training.
2. Mine Managers will ensure the delivery of Mine Rescue Training meets the Standard for Mine Rescue Certification Training.
3. Mine Managers are responsible for the testing of trainee competencies and maintenance of training records after all components of training are completed. These records must be maintained on site for as long as the workers are employed.
4. The WSCC will issue certificates of competency to each person successfully completing an approved course in the use and maintenance of mine rescue equipment delivered by qualified trainers.
5. Mine Managers shall ensure that required Mine Rescue Training is provided.
6. The WSCC will conduct audits periodically to ensure the Mine Rescue Training Standard for Mine Rescue is being followed. The audit will include the equipment and maintenance of mine rescue equipment at the site.
7. Mine Managers for underground mines will ensure as a minimum, three fully-outfitted, five-person teams (15 people) for each property. There must be a minimum of 10 trained mine rescue people on surface when a team is underground.
8. Mine Managers for surface mines will ensure a minimum of 10 trained mine rescue people for response on surface at all times.
9. Mine Managers will ensure that arrangements are made with other established mining operations for mine rescue mutual aid.
10. The Chief Inspector must be notified of the arrangements for mutual aid.

General Requirements for Mine Rescue Certification Training

The medical and psychological fitness of a worker should be evaluated prior to training for mine rescue. Workers and supervisors to be trained in the use and maintenance of mine rescue equipment must meet the following criteria:

1. Complete the baseline examination for medical requirements following the current CSA standard "Selection, Use and Care of Respirator". Applicants must be examined by a medical professional and certified fit for mine rescue training and if accepted, annually while they remain in active training.
2. Candidates must have the potential for developing into a competent member of a mine rescue team and have both the mental and physical qualifications. Members of mine rescue teams should be:
    a. not younger than 18 years of age;
    b. in good health and physically fit;
    c. clean-shaven, with no facial hair to interfere with the facemask seal.
    d. calm and self-controlled in emergency and danger;
    e. of good judgement and initiative;
    f. capable of performing long and arduous physical labour;
    g. familiar with working environment;
    h. a holder of a valid Standard First Aid Certificate from a recognized training provider;
    i. able to follow directions and communicate in the language of the operation

Introductory Mine Rescue Certification Training Requirements

Introductory mine rescue certification is considered to be entry-level mine rescue training. In addition to the general requirements, potential candidates must successfully complete Basic Mine Rescue Training delivered by qualified mine rescue instructors certified by the Workers Safety and Compensation Commission (WSCC).

Introductory mine rescue training will consist of a minimum of 40 hours of training. Classroom instruction combined with practical evolutions on surface or underground is used to test candidates on theory and application of knowledge in the following areas:

1. Mine rescue organization
2. Care and use of respiratory protective equipment
3. The properties of normal air and gases encountered in a contaminated mine atmosphere
4. Oxygen therapy
5. Gas detection methods and use of gas detection equipment
6. Rope rescue
7. Environmental conditions
8. Electrical hazards
9. Rescue tools
10. Fire
11. Mine operations
12. Operation skills

The body of knowledge for reference will include The *Western Canada Mine Rescue Manual* and manufacturers' guidelines for operation of equipment, apparatus and instruments in use. To qualify for certification, participants must demonstrate a satisfactory degree of knowledge, skill; competency and proficiency in the use of mine rescue equipment and must attain a minimum of seventy percent on a written exam set by the instructor.

Maintenance of Mine Rescue Certification

Active

All **active** members of mine rescue teams must receive regularly scheduled refresher training with at least five 11-hour training sessions annually (55 hours of training/year) covering all topics to maintain their active status.

Current

To remain **current** with a mine rescue certificate, members must participate in at least 11-hours of training per year.

Appendix

Medical Requirements

(From *CAN/CSA-Z94.4-11 Standard)*

 Selection, Use, and Care of Respirators

Part 5: Respirator User's Health Conditions (check YES or NO box only. Do not specify)

(a) Some conditions can seriously affect your ability to safely use a respirator. Do you have or do you experience any of the following, or another condition that may affect respirator use? ❑ YES ❑ NO

Shortness of breath	Breathing difficulties	Chronic bronchitis	Emphysema
Lung disease	Chest pain on exertion	Heart problems	Allergies
Hypertension	Cardiovascular disease	Thyroid problems	Diabetes
Neuromuscular disease	Fainting spells	Dizziness/nausea	Seizures
Temperature susceptibility	Claustrophobia/fear of heights	Hearing impairment	Dentures
Panic attacks	Colour blindness	Asthma	Pacemaker
Vision impairment	Reduced sense of smell	Reduced sense of taste	
Back/neck problems	Facial features/skin conditions		

Prescription medication to control a condition

Other condition(s) affecting respirator use:

Δ (b) Have you had previous difficulty while using a respirator? ❑ YES ❑ NO

Δ (c) Do you have any concerns about your future ability to use a respirator safely? ❑ YES ❑NO

A "YES" answer to "a" "b" or "c" indicates further assessment by a health care professional is required prior to respirator use. NOTE: Medical information is NOT to be offered on this form.

Signature of Respirator User: Supervisor's Initials:

Date:

Part 6: Health Care Professional Primary Assessment (if required)

Assessment date:

Respirator use permitted?: ❑ YES ❑ NO ❑ UNCERTAIN

Referred to medical assessment: ❑ YES ❑ NO

Comments:

Reassessment date:

Name of Health Care Professional: Title: Signature of HCP:

Part 7: Medical Assessment (if required)

Assessment Date:

❑ Class 1. NO restrictions

❑ Class 2. Some specific restrictions apply: _____

❑ Class 3. Respirator use is NOT permitted.

Name of Physician: Signature of Physician:

References

Western Canada Mine Rescue Manual

HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix N: Mine Rescue Mutual Aid Agreement

Mine Rescue Mutual Aid Agreement

Preamble:

The operators of the **Dominion Diamond Mines ULC, Diavik Diamond Mines (2012) Inc., De Beers Canada, Agnico Eagle Mines Ltd., TMAC Resources Inc.,** and the **Giant Mine Remediation Project** are committed to safety as a fundamental value. They each recognize that having Crisis and Emergency Response capability is essential in the event that extraordinary circumstances put human life, operational infrastructure or the environment in extreme danger. To that end each party has created a fully equipped Crisis and Emergency response capability supported by documented response procedures, highly trained personnel, and appropriate equipment and infrastructure to respond to the variety of emergencies that may occur from time to time on their respective sites.

Each Operator also recognizes that, at times, the scale of an emergency or crisis may overwhelm their individual resources; and believe that – given their geographic distance from the usual First Responders and the physical proximity of their respective sites – it is both desirable and prudent to establish terms for a combined response should such circumstances arise at one mine site or the other.

A Shared Commitment:

1. We each recognize the need to have and to maintain a strong, independent, self-contained emergency response capability.
2. We each recognize our shared commitment to the safety and preservation of life and the environment.
3. We each promise to use best efforts to respond to reasonable requests from the others to share emergency response capability when resources on the impacted site are determined to be insufficient to meet the magnitude of the emergency.
4. We each reserve the right, acting reasonably, to decline a request for such assistance if it would in any way compromise the safety and security of the people or the environment at our own site or the safety of our emergency responders.
5. We each acknowledge that assistance provided under this Agreement is voluntary and exempt from legal liability, save and except when provided in a reckless or grossly negligent manner.
6. We each accept that it is fair and proper for the responding party hereunder to be reimbursed for all reasonable costs incurred by in providing such assistance.

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This Agreement is an expression of shared intent only and does not constitute a binding agreement between the parties. Signed by each party into effect on January 1, 2018

Chantal Lavoie
Chief Operating Officer
Dominion Diamond Mines ULC

Patrick Boitumelo
President & Chief Operating Officer
Diavik Diamond Mines (2012) Inc.

Digitally signed by Rodel, Allan
DN: cn=Rodel, Allan
Date:2017.12.13 16:11:23 -07'00'

Allan Rodel
Gahcho Kué Mine General Manager
De Beers Canada

Dominique Girard
Vice President Nunavut, Operations
Agnico Eagle Mines Ltd.

Dan Gagnon
Mine General Manager
TMAC Resources Inc.

Mark Schmalz
Giant Mine Manager

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HOPE BAY PROJECT EMERGENCY RESPONSE PLAN

HOPE BAY, NUNAVUT

Appendix O: Telephone Call Record Sheet

Telephone Call Record Sheet

Use one page per call

Call Taken / Made by:		Ext. No.		Date:		Time:	

Call Source: Government ☐ Media ☐ Assistance Offer ☐ Other ☐	Employee ☐ Employee; Family ☐ Public ☐

Caller Details:			
Name:			
Title / Relationship			
Organization / Department			
Phone Number:		Fax Number	
Message For:		Return call by: (Time)	
Message Information Request:			

Action Required	Call Back: ☐	Send Fax: ☐	Wants Meeting: ☐	Will Call You ☐			
Actioned By:		Date:		Time:			