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|  | **Climax Mine**  **Safe Operating Procedure** |

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| **Department** | **Operating Area** |
| Health and Safety | Sitewide |
| **SOP Title** | |
| Operation In and Around Climax Mine Avalanche Terrain | |

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| **Purpose & Scope** |

The purpose of this SOP is to ensure safe work practices and safe travel in Climax Mine avalanche paths and deposition zones. Rescuers are by default working in an avalanche deposition zone and training beyond the scope of this SOP is required for those engaging in rescue activities.

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| **Safety** |

Employees are responsible for ensuring all PPE is in good serviceable condition and worn properly.

PPE required:  Hard hat  Safety glasses

Hard-toed boots  Gloves

Reflective Hi-Vis Orange Outer  Flashlight (night)

Respirator (if conditions dusty)  Hearing protection (if necessary)

Hazards include:

* Avalanche
* Cold weather
* Over-exertion
* Uneven ground
* Engulfment

Proper PPE (in addition to regular PPE) for access to an avalanche area is:

* RECCO Reflector (to be worn during work in restricted areas) during all restriction stages.
* Avalanche Transceiver (to be worn for highly critical work in restricted areas with mine rescue standing by), Stage 3 restrictions
* Cold weather clothing

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| **Environmental** |

* Chemical Spill from a vehicle which has been damaged by an avalanche.

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| **Responsible Parties** |

Health and Safety Department

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| **Specialized Tools/Skills/Training** |

Specialized Tool(s):

* Avalanche Transceiver
* Avalanche Shovel
* RECCO Reflector
* RECCO Device
* Avalung Backpacks
* Avalanche Probes
* Snowshoes/skis

Skills:

* Familiarity with rescue and safety tools as listed above during rescue situations.
* CPR & First aid training for use during rescue operations.

Training:

* Avalanche hazard recognition for use during rescue operations.
* CPR & First aid training for use during rescue operations.

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| **Reference Materials** |

* Back Country Access Tracker 2 Owner’s Manual.
* Recco Device Owner’s Manual
* Avalung Owner’s Manual
* Avalanche Probe Owner’s Manual

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| **Step by Step Procedure** |

It is your responsibility to ensure that you understand this SOP prior to performing the following process steps. You are to contact your immediate supervisor if you have any questions about this safe operating procedure.

**Traveling though or working in avalanche terrain**

1. **Avalanche Info**
   1. Avalanches are dangerous and should not be taken lightly. An avalanche may trap a victim under the snow, cause serious injuries by dragging the victim through rocks or trees, or push a victim off a cliff or into water. Self-rescue is nearly impossible, never travel in avalanche terrain alone.
   2. Time is of the essence during a burial. Although snow may contain more than 70% air, it is the victims own exhaled carbon dioxide that is the most dangerous. A victim who is uncovered within 15 minutes of burial has a much better chance of survival.
   3. Avalanches most often occur during rapid changes in weather, including but not limited to rapid and/or prolonged snow fall, high winds, rapid warming of the snowpack, and intense sun exposure. Pay attention to the weather and how it may affect the snowpack. Report any concerns to your supervisor.
   4. Avalanches can be triggered from activity on the slope, travel on adjacent slopes or they can suddenly collapse and run on their own. Know the terrain and the people that may be in your vicinity.
2. **Work Restriction Stages**

Work restriction stages are determined using information from the CAIC, observations of surrounding terrain, snow pack studies and interaction with Copper Mountain Snow Technicians. The CAIC information isn’t equivalent to the Climax Mine work restriction stage.

1. **Work Restrictions**
   1. The work restriction scale should be used when determining whether work can be performed. It is the responsibility of anyone performing work in avalanche terrain to know the current work restriction stage. Radial dial signs indicating restriction level will be updated daily at the main site entrance, north gate and the pedestrian walkway with the current restriction stage. Current restrictions will be determined by the Climax Health and Safety department.

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| **Work Restriction Stage** | **Operational Impact** |
| **Stage 1** | Vehicle travel: No restrictions.  Plowing: No restrictions  Out of vehicle work: Proper PPE and spotters required. |
| **Stage 2** | Vehicle travel: Spotters required **or** supervisor /security notification required while traveling through the hazard area. Notify contact when safely through the restricted area. No stopping allowed.  Plowing: Spotter required while plowing in restricted area.  Out of vehicle work: Critical work only. Requires spotter and proper PPE. |
| **Stage 3** | Vehicle Travel: Spotters required.  Plowing: Spotters required.  Out of vehicle work: Highly critical work only. Requires proper PPE and Mine Rescue standby in immediate area. |

**4. Spotter responsibilities**

4.1 A spotter may not be in the restricted area at the same time.

4.2 A spotter may not have any other responsibilities.

4.3 A spotter must have confirmed communication with security office or supervisor.

4.4 A spotter must maintain constant visual contact.

4.5 A spotter must announce a “mayday” before beginning rescue activities.

1. **Traveling through avalanche terrain in a vehicle** 
   1. While crossing the specific avalanche path, maintain safe driving speeds - there is no need to speed. Non-driving workers should visually inspect the path and make note of anything out of the ordinary or of concern.
   2. If traveling in a convoy, cross individually to ensure only one vehicle is exposed at a time.
   3. Parking in an avalanche path is strictly prohibited. All passengers are to remain in the vehicle at all times.
2. **Avalanche Rescue**
   1. In the event an avalanche impacting the mine site is observed, a **“MAYDAY**” shall be called, all work stopped and all employees and contractors accounted for.
   2. In the event a person(s) is known to be caught in a slide, the “**MAYDAY**” shall be updated stating that there is a known entrapment of an individual(s). Anyone not accounted for shall be assumed to be entrapped until they have been accounted for.
   3. Climax Mine Rescue and outside agencies will be contacted by the security officers to assist in the rescue.

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| REVISION DATE | REVISION DESCRIPTION |
| 03/22/2021 | Revision block added into final document and updated in Sharepoint |
| 8/12/2022 | Added Hi-vis to PPE list, updated reference materials, |
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