# MNM Fatal 2011-08

- Explosives Accident
- September 7, 2011 (Alaska)
- Gold Mine
- Miner
- 30 years old
- 1 year and 8 weeks of experience

# Overview

The victim was killed when he was struck by rock and debris after a production blast was initiated. The rock and debris passed through a 3-inch diameter diamond drill hole that intersected the blast site. He was standing next to a tractor positioned on the uphill side of a haulage ramp near the 1290 crosscut. He was approximately 200 feet from the blast site and in line with the drill hole when the blast was initiated.

The accident occurred because management policies, procedures, and controls were inadequate and did not protect persons from flying materials near the blast area. An old diamond drill hole, that intersected the blast pattern, had not been identified prior to initiating the blast. An adequate examination to check the area for hazards or to identify the diamond drill hole was not conducted prior to initiating the blast. Persons were not trained to be out of the blast area or in a location that would protect them from concussion, flying material, or gases. The blaster and blaster's helper were not provided with a blasting shelter or removed from the blast area to protect them from concussion and flying material.

# Root Causes

***Root Cause:*** Management's policies and procedures were inadequate and failed to ensure that persons were trained to be out of the blast area or in a location that would protect them from concussion, flying material, or gases.

***Corrective Action:*** Management implemented new policies and procedures for blasting that removes all persons from the blast area. Management has designated a safe zone in an area where there are not any diamond drill core holes and a significant distance away from any active blast areas. A centralized blasting initiation system has been installed to allow the initiation of blasts from the designated safe zone.

***Root Cause:*** Management failed to ensure that persons were trained to conduct adequate workplace examinations to identify hazards.

***Corrective Action:*** Management provided additional training regarding workplace examinations to all miners. The training included conducting adequate examinations to check for hazards or to identify diamond drill holes prior to initiating a blast, ventilation, and ground control.

# Best Practices

- Plug a diamond drill hole that intersects any opening and map the hole.
- During blasting operations, consider mine specific conditions, including diamond drill holes and rock strata, and establish mine policies and procedures to protect all persons.
- When developing a blasting plan, make sure all drilled holes and open passageways that intersect the area to be blasted are known and taken into consideration before initiating any blast.
- Use a central blasting system and schedule blasting between shifts or on off-shifts when no one is present.

# Best Practices

- Train persons to identify hazards associated with blasting activity and take action to correct them.
- Never initiate a blast until the blast area has been determined to be safe and all persons have been evacuated from the designated blasting area.
- Take special precautions to ensure that all roadways and regularly traveled areas are blocked to prevent access when blasting is being conducted.