

**UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Metal and Nonmetal Mine Safety and Health**

REPORT OF INVESTIGATION

**Underground Metal Mine
(Gold)**

**Fatal Machinery Accident
April 28, 2014**

**Klondex Midas Operations, Inc.
Midas Mine
Midas, Elko County, Nevada
Mine ID No. 26-02314**

Investigators

**Joel L. Dozier
Mine Safety and Health Inspector**

**Charles Snare
Mine Safety and Health Inspector**

**Joseph Rhoades
Mine Safety and Health Specialist (Training)**

**Originating Office
Mine Safety and Health Administration
Western District
991 Nut Tree Road
Vacaville, CA 95687
Wyatt S Andrews, District Manager**



OVERVIEW

On April 28, 2014, Richard C. Otto, Miner, age 53, was killed when he became entangled in a 6-foot drill steel of a jackleg drill. Otto had been drilling blast holes in the face of the stope, preparing for a production blast in the No. 8-4540 south stope. A coworker found Otto's coveralls entangled in the drill steel approximately 15 feet 6 inches away from the face. The jackleg drill was still operating when he was found.

The accident occurred due to management's failure to ensure procedures were established to provide that the victim's workplace was kept clean and orderly. The stope contained large rocks, air and water hoses, drill steels, and an oil container, exposing Otto to slip, trip, and fall hazards as he moved about while drilling.

Management also failed to ensure that procedures were established to provide secure footing in the workplace where the accident occurred. The floor of the stope was strewn with loose rock and other items which did not provide secure footing for the victim or the drill. Secure footing is needed to keep the leg of the drill from moving or sliding while in operation.

Additionally, Otto was assigned or allowed to work alone in the No. 8-4540 south stope where he could not be seen or his cries for help could be heard by another miner. There were no other miners working in the immediate area.

GENERAL INFORMATION

Midas Mine, a gold operation owned and operated by Klondex Midas Operations, Inc., is located near Midas, Elko County, Nevada. The principal official is Sid Tolbert, Mine Manager. The mine operates two 12-hour shifts per day, seven days per week. Total employment is 102 persons.

Gold bearing ore is drilled and blasted. The broken material is removed from the mine using diesel powered Load Haul Dump (LHD) loaders that load haul trucks for transporting the material to the surface where it is stockpiled for processing and refining. The finished product is sold to commercial industries.

The Mine Safety and Health Administration (MSHA) completed the last regular inspection at this operation on February 5, 2014.

DESCRIPTION OF THE ACCIDENT

On the day of the accident, Richard C. Otto, victim, arrived at the mine at 5:45 a.m., his usual arrival time. At 6:00 a.m., Otto attended a meeting where Nathan Spry, Shift Supervisor, assigned Otto to continue working the advancement of the No. 8-4540 stope to include bolting, drilling the face, blasting, and mucking out the round. About 7:20 a.m., Otto traveled to the No. 8-4540 south stope to begin his work day.

At 9:45 a.m., Emily Sudholt and Brian Blake, Geologists, arrived at the No. 8-4540 south stope to collect ore samples. They met with Otto and waited until he finished installing the ground support near the face. Once the work was completed, Blake and Sudholt took measurements, notes, and samples and left the heading at 10:30 a.m. They were the last persons to see Otto before the accident occurred.

At 11:15 a.m., Colten Burgess, Miner, arrived at the No. 8-4540 south stope and heard the jackleg running near the face. Burgess walked into the heading and found Otto on his knees facing the right rib with his coveralls entangled in the drill steel and the jackleg drill still operating. Burgess shut off the throttle on the machine and checked Otto, but he was nonresponsive. Burgess ran out to the mine phone, approximately 200 feet from the stope, and called dispatch for first responders at 11:30 a.m.

Rob Crommelin, Safety Supervisor, Randy Counts, LHD Operator, and Spry arrived at the scene and administered Cardiopulmonary Resuscitation (CPR) on the victim. They also used the Automatic Electronic Defibrillator. Otto was brought to the surface and then transported to a local hospital where he was pronounced dead at 1:44 p.m. The cause of death was attributed to compressive asphyxia.

INVESTIGATION OF THE ACCIDENT

MSHA was notified of the accident at 12:50 p.m. on April 28, 2014, by a telephone call from Lee Morrison, Safety Manager, to MSHA's National Call Center. The Call Center contacted James Fitch, Safety Specialist, and an investigation started the same day. An order was issued under the provisions of 103(j) of the Mine Act to ensure the safety of the miners. This order was later modified to 103(k) of the Mine Act when the first Authorized Representative arrived at the mine.

MSHA's accident investigation team traveled to the mine, made a physical inspection of the accident scene, interviewed employees, and reviewed documents and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and employees, State of Nevada Mine Safety and Training Section and Elko and Humboldt County Sheriff's Departments.

DISCUSSION

Location of the Accident

The accident occurred at the No. 8-4540 south stope near the face. Otto had drilled nine holes in the face and had drilled 4 feet of the tenth hole when the accident occurred. The No. 8-4540 south stope is 8 feet wide by 12 feet high in this area. The jackleg drill was located 13 feet 9 inches from the face, with the leg extended out full length towards the face. Otto was found 15 feet 6 inches away from the face with a 6-foot drill steel connected to the jackleg drill. The drill's throttle was in the "full-on" position and the leg extension air throttle control in the "quarter-on" position. According to witnesses interviewed, the drill steel was turning when the victim was found.

There were two 6-foot steels, two bolt drivers, an axe, one 6-foot steel with a broken shank, a five gallon bucket of oil, and large rocks scattered around the workplace.

Equipment Involved in the Accident

The drill involved in the accident is a Mid-Western Jackleg Drill, Model No: RNS 83F IT, with a 6-foot drill steel attached. The heavy duty rock drill was completely disassembled and the internal parts examined by the investigators. The internal parts had minimum wear with all seals, chuck, water needle, striker bar, throttle for drill, and the leg extension air throttle control all in good condition. The drill had a factory molded muffler on it. No defects were found on the muffler.

TRAINING AND EXPERIENCE

Richard C. Otto (victim) had 32 years of mining experience, 11 years and 17 weeks at this mine. A representative of MSHA's Educational Field Services staff conducted an in-depth review of the mine operator's training records. The training records for Otto were reviewed and found to be in compliance with MSHA training requirements.

ROOT CAUSE ANALYSIS

The investigators conducted a root cause analysis of this accident and the following root cause was identified and the corresponding corrective action implemented to prevent a recurrence of the accident:

Root Cause:

Management failed to ensure that procedures were established to provide that the victim's workplace was kept clean and orderly. The floor of the stope was strewn with large rocks, air and water hoses, drill steels, and an oil container, exposing Otto to slip, trip, and fall hazards as he moved about while drilling.

Corrective Action:

Management abandoned the No. 8-4540 south stope and bolted an eight foot high chain link metal fencing from rib to rib and posted the heading as "inactive, keep out". Additionally, management updated the jackleg drilling SOP and reviewed the SOP with the jackleg operators.

CONCLUSION

The accident occurred due to management's failure to ensure procedures were established to provide that the victim's workplace was kept clean and orderly. The stope contained large rocks, air and water hoses, drill steels, and an oil container, exposing Otto to slip, trip, and fall hazards as he moved about while drilling.

Management also failed to ensure that procedures were established to provide secure footing in the workplace where the accident occurred. The floor of the stope was strewn with loose rock and other items which did not provide secure footing for the victim or the drill. Secure footing is needed to keep the leg of the drill from moving or sliding while in operation.

Additionally, Otto was assigned or allowed to work alone in the No. 8-4540 south stope where he could not be seen or his cries for help could be heard by another miner. There were no other miners working in the immediate area.

ENFORCEMENT ACTIONS

Issued to Klondex Midas Operations, Inc.

Order No. 8789010 - Issued under the provisions of section 103(j) of the Mine Act. An Authorized Representative modified this order to section 103(k) of the Mine Act upon arrival at the mine site:

An accident occurred at this operation on 04/28/2014 at approximately 12:30 p.m. This order is being issued, under Section 103(j) of the Federal Mine Safety and Health Act of 1977, to prevent the destruction of any evidence which would assist in investigation the cause or causes of the accident. It prohibits all activity at 8-4540 south heading until MSHA has determined that it is safe to resume normal mining operations in this area. This order was initially issued orally to the mine operator at 13:05 and has now been reduced to writing.

Citation No. 8697488 - issued under the provisions of section 104(d)(1) of the Mine Act for a violation of 30 CFR 57.18025:

On April 28, 2014, a fatal accident occurred at this operation when a miner became entangled in the rotating drill steel of the jackleg he was operating. The victim was assigned or allowed to work alone in the No. 8-4540 south stope where he could not be seen or his cries for help could be heard by another miner. There were no other miners working in the immediate area. Management engaged in aggravated conduct constituting more than ordinary negligence in that they failed to have all safety precautions in place prior to beginning work in the area. This violation is an unwarrantable failure to comply with a mandatory standard.

Order No. 8697489 - issued under the provisions of section 104(d)(1) of the Mine Act for a violation of 30 CFR 57.20003(a):

On April 28, 2014, a fatal accident occurred at this operation when a miner became entangled in the rotating drill steel of the jackleg he was operating. The stope was approximately 7 feet wide with large rocks in the middle of the stope, along with air and water hoses, drill steels and an oil container strewn about on the ground in the work area. This exposed the victim to slip, trip and fall hazards as he moved about while drilling.

Order No. 8697490 - issued under the provisions of section 104(d)(1) of the Mine Act for a violation of 30 CFR 57.7052(b):

On April 28, 2014, a fatal accident occurred at this operation when a miner became entangled in the rotating drill steel of the jackleg he was operating. The floor of the stope was littered with loose rock and other items which did not provide secure footing for the victim or the drill. Secure footing is needed to keep the leg of the drill from moving or sliding while in operation.

Approved: Wyatt Andrews
Wyatt Andrews
District Manager

Date: 8/26/14

APPENDIX A
Persons Participating in the Investigation

Klondex Midas Operations, Inc.

Rob Crommelin	Senior Safety Representative
Lee Morrison	Safety Manager

Elko County Sheriff's Department

Nickolas Czegledi	Detective (Sergeant)
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Humboldt County Sheriff's Department

Damon Kuskie	Detective
Jacqueline Mitcham	Detective

State of Nevada Mine Safety and Training Section

Pete Steelsmith	Mine Inspector
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Mine Safety and Health Administration

Joel Dozier	Mine Safety and Health Inspector
Charles Snare	Mine Safety and Health Inspector
Joseph Rhoades	Mine Safety and Health Specialist (Training)

APPENDIX B Victim Information

Accident Investigation Data - Victim Information

U.S. Department of Labor
Mine Safety and Health Administration



Event Number:

6	5	9	7	6	1	7
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Victim Information: 1															
1. Name of Injured/Ill Employee: <i>Richard C. Obo</i>				2. Sex: <i>M</i>		3. Victim's Age: <i>53</i>		4. Degree of Injury: <i>01 Fatal</i>							
5. Date(MWDD/YY) and Time(24 Hr.) Of Death: a. Date: <i>0428/2014</i> b. Time: <i>13:44</i>								6. Date and Time Started: a. Date: <i>0428/2014</i> b. Time: <i>6:00</i>							
7. Regular Job Title: <i>063 Miner</i>						8. Work Activity when Injured: <i>019 Drilling Face</i>						9. Was this work activity part of regular job? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
10. Experience															
a. This				b. Regular				c. This				d. Total			
Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days	
<i>11</i>	<i>17</i>	<i>0</i>		<i>11</i>	<i>17</i>	<i>0</i>		<i>11</i>	<i>17</i>	<i>0</i>		<i>32</i>	<i>0</i>	<i>0</i>	
11. What Directly Inflicted Injury or Illness? <i>082 Jackleg Drill Steel</i>								12. Nature of Injury or Illness: <i>110 Compressive asphyxia</i>							
13. Training Deficiencies:															
Hazard:		New/Newly-Employed		Experienced Miner:		Annual:		Task:							
14. Company of Employment: (if different from production operator) <i>Operator</i>															
Independent Contractor ID: (if applicable)															
15. On-site Emergency Medical Treatment:															
Not Applicable:		First Aid:		CPR:		BMT:		Medical Professional:		None:					
						<input checked="" type="checkbox"/>									
16. Part 50 Document Control Number: (form 7000-1) <i>220141280027</i>															
17. Union Affiliation of Victim: <i>9999 None (No Union Affiliation)</i>															