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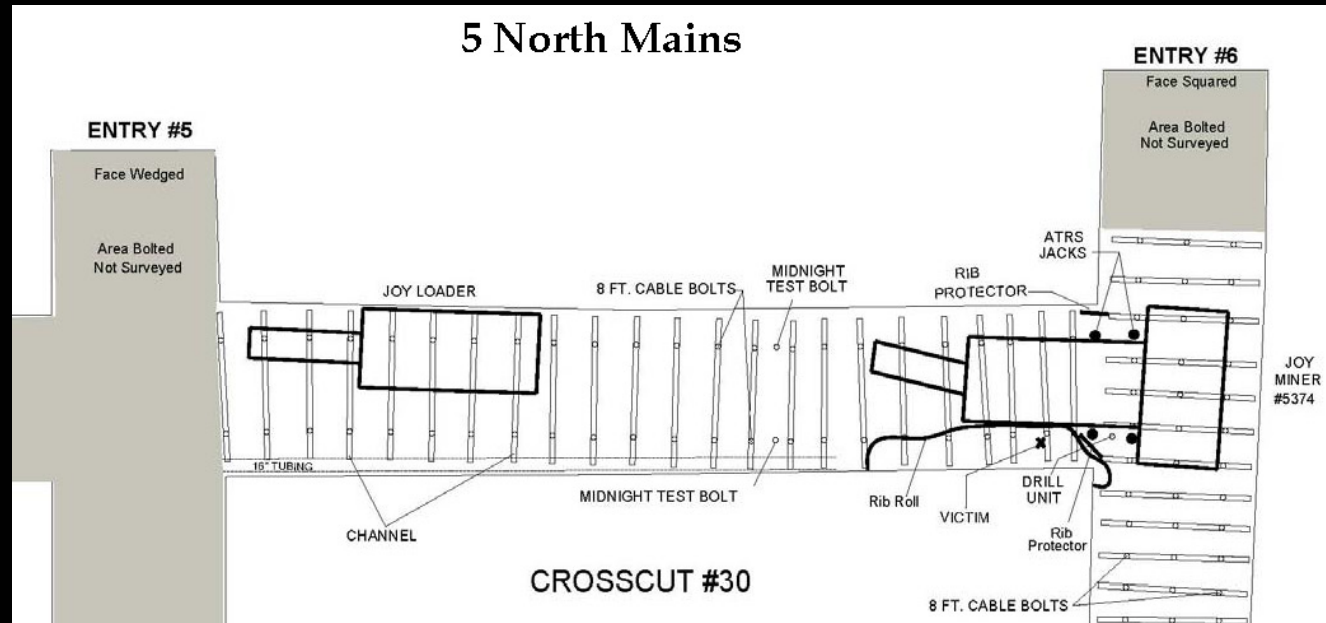
GENERAL INFORMATION

Coal Mine Fatal Accident 2004-16



Operator:	McElroy Coal Company
Mine:	McElroy Mine
Accident Date:	August 17, 2004
Classification:	Fall of Rib
Location:	District 3, Marshall County, WV
Mine Type:	Underground
Employment:	639
Production	6.7 Million Tons/Year

ACCIDENT DESCRIPTION



A 57-year old Continuous Mining Machine Roof Bolter Operator was fatally injured in a rib roll accident on the right side of the 5-North Mains section. The crew had mined through the No. 30 crosscut between the No. 5 and No. 6 entries when the roof bolters started to install the last strap. The miner operator warned the victim that the rib was beginning to work. The victim withdrew approximately 3 feet toward the No. 5 entry (rear of the mining machine) when he stopped and placed his hand on the rib. The coal and rock rib (~20' long by 5' wide and up to 10" thick) collapsed and pinned the victim against the continuous mining machine causing fatal injuries.

CONCLUSION



The accident was caused by failure to effectively control the rib at the work area which exposed the victim to a hazardous condition. The hazardous condition was a result from what appeared to be mining induced loading in the No. 30 crosscut between the No. 5 and No. 6 entries. Stress redistribution resulting from the completion of the crosscut shed an additional load on the surrounding pillar ribs. The additional load caused the pillar block to expand and the rib line adjacent to the right side of the continuous mining machine to fracture. Contributing to the accident was equipment incapable of installing rib support, an insufficient roof control plan, and failure to reevaluate changing conditions relative to equipment, mining procedures and practices.

ROOT CAUSE ANALYSIS

Causal Factor: Hazardous rib conditions were permitted to exist in the work area. The standards, policies, and administrative controls in use at the mine did not ensure that the ribs were adequately supported or otherwise controlled to protect persons from the hazards associated with rib rolls. The operator's policy was to control ribs by scaling them down.

Corrective Actions: The approved roof control plan was revised to include rib bolting as mining advanced.

Causal Factor: The operator failed to provide corrective actions for known deficiencies in their rib control policy. The operator's policy was to train personnel in the hazards of rib rolls and to scale the ribs. There were four rib rolls since June 2003 that caused lost work days. Also, between July 12, 2004 and August 17, 2004 the operator has been cited eight times for not adequately controlling the ribs under 75.202 (a).

Corrective Actions: The approved roof control plan was revised to include rib bolting as mining advances to protect miners from the hazards of rib rolls.

ROOT CAUSE ANALYSIS

Causal Factor: The roof control plan was inadequate and unsuitable to prevailing geologic conditions. The operator failed to adopt recommendations of on cycle rib bolting.

Corrective Actions: The approved roof control plan was revised to include rib bolting as mining advanced. The continuous mining machines were retrofitted with rib drills to install rib bolts in accordance with the approved roof control plan.

Causal Factor: There was no policy or procedure developed to perform a detailed review of design changes as the mining environment changed. Management failed to review the equipment performance based upon mining conditions. As rib conditions deteriorated, continuous mining machines were not modified to address changing conditions.

Corrective Actions: Rib drills were retrofitted to the continuous mining machine to install rib bolts as mining advanced.

ROOT CAUSE ANALYSIS

Causal Factor: Existing equipment was unable to install needed rib support and was thereby unsuited to current conditions. The continuous mining machine was not designed to install rib support during advance mining. The need to rib bolt on advanced was never anticipated in the design of the continuous mining machine.

Corrective Actions: Rib drills were retrofitted to the continuous mining machine to install rib bolts as mining advanced.

ENFORCEMENT ACTIONS

104(d)(2) Order was issued for a violation of 30 CFR 75.223(a)(2).

Adequate revisions to the roof control plan were not proposed by the operator when accident and injury experience indicated the plan was inadequate. On August 17, 2004, a rib roll occurred resulting in fatal injuries to the right side roof bolter operator. The rib roll located on the 5-North Mains - Right side in the No. 30 crosscut between the No. 5 and No. 6 entries measured 20 feet long, 5 feet high and up to 10 inches thick.

Between August 16, 2002 and April 15, 2004 there have been eight lost-work day injuries occur due to rib rolls at this mine with the last four resulting in broken bones.

- April 15, 2004 - broken right leg - located near the tool car - 5-South
- March 27, 2004 - broken pelvis - left side of continuous mining machine - 5-South, 2-Left
- October 21, 2003 - broken leg - left side of continuous mining machine - 5-North
- June 20, 2003 - broken ankle - beside the loading machine, 5-South
- April 19, 2003 - Lost-work days - rib roll struck shuttle car operator on the right leg
- January 8, 2003 - Lost-work days - loader operator was struck by rib roll on right leg
- October 30, 2002 - Lost-work days - rib fall strikes miner in the back and upper extremities
- August 16, 2002 - Lost-work days - rib struck miner standing beside the continuous mining machine, 5-South, 4-Right

During the past month, preceding the accident, the company was cited five times for not adequately supporting or otherwise controlling the ribs under 75. 202 (a).

ENFORCEMENT ACTIONS

104(d)(2) Order was issued for a violation of 30 CFR 75.220(a)(1).

The operator failed to take adequate additional measures to protect persons when encountering the unusual hazards of continual sloughing and spalling of the coal and rock rib of the 5-North Mains - right side active mining section. The operator's measures of scaling the ribs required the bolter operator, (victim), when working at the roof bolting controls or assigned work station, to be inby ribs that continued to slough and spall. A rib roll measuring 20 feet long, 5 feet high, and up to 10 inches thick occurred in the No. 30 crosscut between the No. 5 and No. 6 entries resulting in a fatality of the right side roof bolter operator. This area was mined just prior to the accident occurring.

On May 19, 2004, a meeting was held between MSHA District 3, WVOMHST, UMWA, and Consol management about the rib conditions at this mine. During the meeting, the operator was put on notice that the current roof control plan was inadequate due to the severity of recent accidents and the number of 75.202 (a) citations at this operation. Between August 16, 2002 and April 15, 2004 there have been eight lost-work day injuries occur due to rib rolls at this mine with the last four resulting in broken bones.

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During the past month, preceding the accident, the company was cited five times for not adequately supporting or otherwise controlling the ribs under 75. 202 (a). The roof control plan is the minimum measures that are required by the operator. A reasonably prudent mine operator would have proposed and implemented additional measures to control the ribs.

BEST PRACTICES

- Examine the roof and ribs frequently while working.
- Take down or adequately support any loose ribs or roof before working or traveling in the affected area.
- Stay aware of changing roof and rib conditions and position yourself in a safe location.
- Remain within the confines of any protective device such as cabs, canopies and rib protectors as much as possible.