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GENERAL INFORMATION

Coal Mine Fatal Accident 2004-25



Operator:	Endurance Mining
Mine:	Red Cedar Surface Mine
Accident Date:	November 20, 2004
Classification:	Fall of Highwall
Location:	District 4, Boone County, WV
Mine Type:	Surface
Production	6,000 Tons/Day

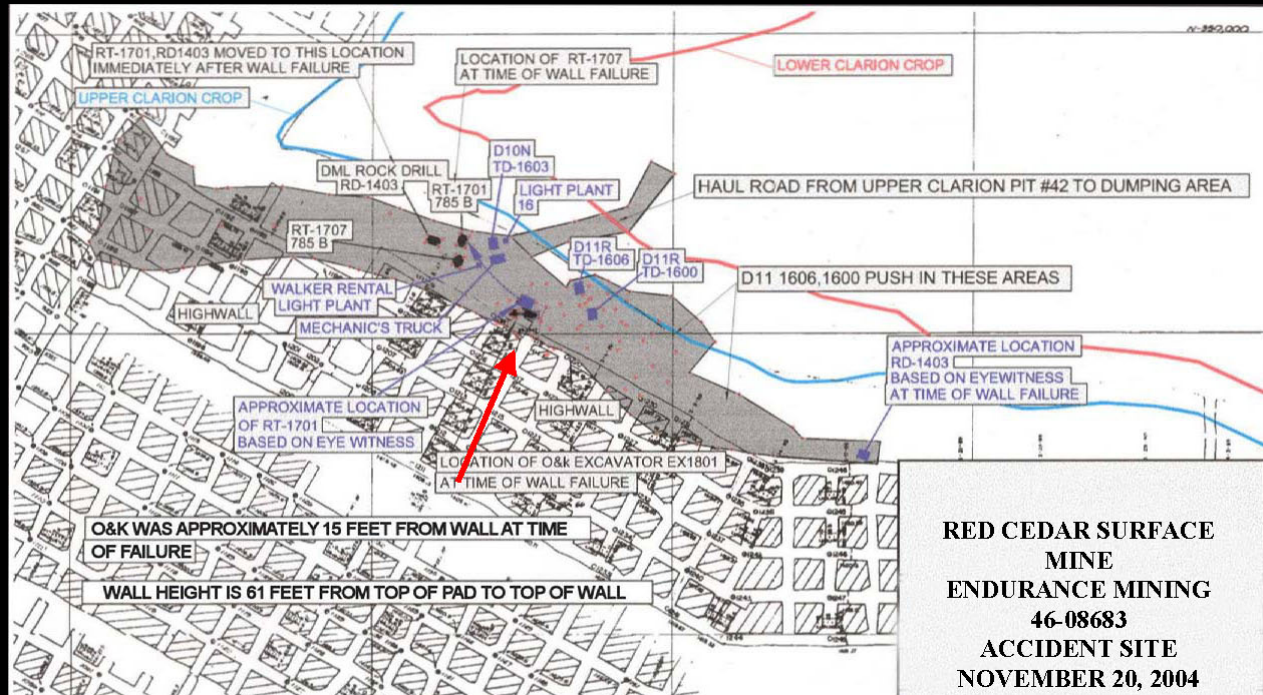
ACCIDENT DESCRIPTION



A 41-year old equipment operator with seven months of mining experience was fatally injured while operating an excavator near the highwall, loading spoil into trucks. The excavator was positioned with the cab on the highwall side. The highwall collapsed causing rocks to cover the operator's cab.

ROOT CAUSE ANALYSIS

Causal Factor: Surface mining was developed into abandoned, pillared, underground mine workings where subsidence had occurred, resulting in unstable highwall conditions.



Corrective Actions: The mine operator revised the ground control plan to require drilling in advance of contour mining adjacent to old underground mine works. The revised plan also required a bench to be left above the pit floor, away from the outermost edge of old underground mine works. This resulted in highwall development away from the old mine workings to prevent subsidence from affecting the stability of the highwall.

ROOT CAUSE ANALYSIS

Causal Factor: The ground control plan did not establish procedures, precautions, or provisions to be taken for the safe control of the highwall and safe working conditions. Specifically it did not insure highwall stability in the contour cuts where old works intersected and/or were located adjacent to the active surface mining areas at the mine.

Corrective Actions: The mine operator revised the ground control plan to safely control the highwalls and to provide safe working conditions for persons working near highwalls. The plan revision addressed highwall stability in the contour cuts where old works intersected and/or were located adjacent to the active surface mining areas at the mine.

Causal Factor: The procedure used by the excavator when pulling the pad positioned the operators cab on the highwall side, exposing the operator to a hazardous highwall condition.

Corrective Actions: The mine operator revised the ground control plan, to prevent highwall material from striking the operators cab.

CONCLUSION

The accident occurred because the ground control plan did not provide for safe control of the highwall and safe working conditions in areas near abandoned underground mine workings. Subsidence resulting from the second mining of the abandoned underground mine workings caused the highwall to be unstable. The unstable highwall collapsed crushing the machine operators cab and resulted in the death of the machine operator. At the time of the accident, the operator's cab was positioned immediately adjacent to the highwall while the pad was being excavated. This was the normal procedure for excavator positioning.

The mine plan established by the mine operator failed to provide for safe control of the highwall and safe working conditions.

ENFORCEMENT ACTIONS

104(d)(1) Citation was issued for a violation of 30 CFR 77.1000.

The operator did not establish and follow a ground control plan for the safe control of all highwalls that was consistent with prudent engineering design and insured safe working conditions. The highwall developed in the Upper Clarion and Lower Clarion mining pits at this mine was developed where second mining had occurred in old underground mine workings underlying and adjacent to the area where the highwall was developed. The mining methods employed by this operator did not insure highwall stability in these locations.

104(d)(1) Order was issued for a violation of 30 CFR 77.1006(a).

The operator of the Terex O&K RH 120-E excavator (No. EX 1801) was working near a dangerous highwall on November 20, 2004. The unstable highwall collapsed crushing the cab of the machine and resulting in fatal injuries to the excavator operator. The victim was loading spoil into rock trucks near the approximately 61 ft. highwall in the UCL 42 pit on the Upper Clarion level at the mine. When the excavator loaded out the spoil against the highwall and turned to pull the pad, the operator's cab was positioned on the highwall side of the pad between the boom of the machine and the highwall. The cab was located approximately 15 feet from the highwall when the highwall collapsed. Subsidence resulting from second mining in the old underground works caused this highwall to be unstable.

BEST PRACTICES

- Do not work near dangerous highwalls or banks.
- Operate excavators with the cab positioned away from the highwall side.
- Be aware of changing highwall conditions and develop mining methods that address adverse changes.
- Train examiners to recognize adverse conditions and environmental factors that can decrease stability.
- Involve front line supervisors when developing mining plans.