

CHEMICAL LIME
COMPANY
BRIERFIELD QUARRY
Brierfield, Alabama

MAY 5, 2010

CRUSHED STONE FATALITY

- A 21 year old contract driller with one year of experience was fatally injured.
- The victim was repositioning a truck mounted drill in a sloping work area of a quarry.
- He lowered the mast to the stored position.
- He had raised the two rear leveling jacks completely and had raised the single front leveling jack about 12 inches.
- The drill rolled over a small berm and into a small depression.

INGERSOLL RAND MODEL T4W WATER WELL DRILL



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- The victim was located 109 from the last hole that he had drilled and 41 feet from his drill.
- When found, the victim's drill was running and in neutral.
- The elevation of the blast site varied from 327' to 333' above sea level and had grades ranging from 3% to 12%.

WHAT UNSAFE CONDITIONS WERE PRESENT?

NORMAL DRILLING PROCEDURE

- After drilling a hole, the drill operator would pull the drill steel up, lower the mast, and raise the leveling jacks from the operating controls at the rear of the drilling machine.
- The drill operator would then walk around to the operator's compartment where the operator would release the park brake and let the machine roll to the next hole.
- The operator would position his/her head out of the door to make sure the drill location lined up with the next marked hole.



NORMAL DRILLING PROCEDURE

- The operator had to lean outside the operator's compartment to be able to view this location and assure the machine was positioned properly.
- When in the correct position the operator would stop the machine and set the park brake.

WHAT UNSAFE PROCEDURES WERE IN PLACE?

FINDINGS

- Investigators determined the victim sat on the edge of the operator seat with the cab door open and his head out of the cab.
- When the brake was released the machine was sitting on an 8.8% grade.
- The machine lunged forward dislodging the victim from the operator compartment.
- Due to the rough terrain the victim could not stay in the cab.
- He stayed with the machine for 109', fell out and the machine ran over him.
- The machine continued another 41' and stopped in a spoil area 10 feet lower than the drilling area.

FINAL POSITION OF DRILL



ROOT CAUSE

**WHAT WAS THE ROOT CAUSE OF THIS
ACCIDENT?**

MSHA ROOT CAUSE

- **Management Failures**

- **Contractor management policies, procedures, and controls were inadequate and failed to ensure that operators could safely move the drill from one hole to the next hole to be drilled.**
- **Contractor management failed to properly task train drill operators in the safe operation of the rubber tired drill.**

BEST PRACTICES

**WHAT BEST PRACTICES
COULD HAVE PREVENTED
THIS FATALITY?**

BEST PRACTICES

- **Assure miners are properly task trained in equipment operation.**
- **Use seat belts at all times in mobile equipment.**
- **Use mirrors to position equipment.**
- **Stay in cab of equipment.**
- **Use a spotter to assist operator in positioning equipment.**
- **Assure brakes on mobile equipment are sufficient to hold on maximum grade worked.**
- **Assure terrain is compatible with equipment.**

BEST PRACTICES

**WAS THE VICTIM'S
EXPERIENCE A FACTOR
IN THE FATALITY?**