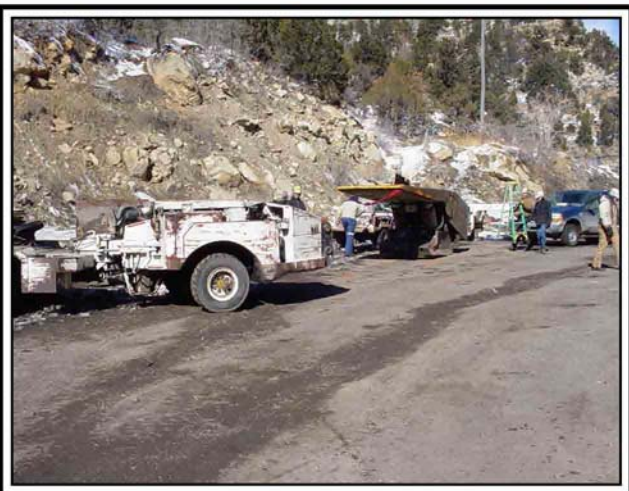


*This presentation is for illustrative and **general** educational purposes only and is not intended to substitute for the official MSHA Investigation Report analysis nor is it intended to provide the sole foundation, if any, for any related enforcement actions.*

GENERAL INFORMATION



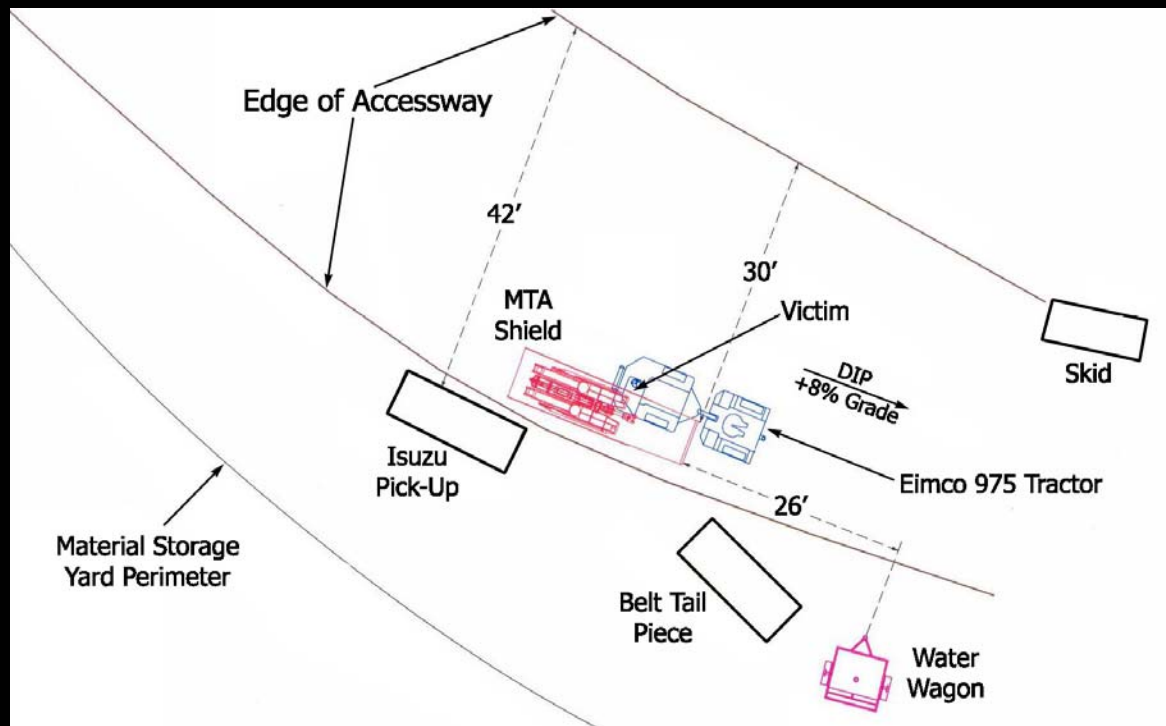
GENERAL INFORMATION

- Andalex Resources, Inc. operates two underground bituminous coal mines near the accident site:
 - Pinnacle Mine, located in the Gilson Seam;
 - Aberdeen Mine, located in the Aberdeen seam, ~250' below the Gilson seam.
- The accident occurred at the Pinnacle Mine's upper material storage yard, which is also shared by the Aberdeen Mine.
- The victim was employed at the Aberdeen Mine.
- The Aberdeen Mine employed 114 miners and produced coal from two continuous mining machine sections. At the time of the accident, a longwall mining section was being installed at the mine.

ACCIDENT DESCRIPTION

- On January 22, 2004, a 29-year old laborer (victim), began his night shift at 9:00 p.m. and was assigned to water the underground roadways at the Aberdeen Mine.
- He obtained an Eimco 975 utility tractor, which had just been brought out of the mine by another miner, attached to an empty low-boy trailer.
- He proceeded to the upper material storage yard, where he parked the low-boy trailer and hooked a 650-gallon water trailer to the tractor. However, the water in the trailer was frozen.
- He then drove to the lamp house, with the water trailer attached, where the shift foreman told him to use another trailer that was parked in the mine.

ACCIDENT DESCRIPTION



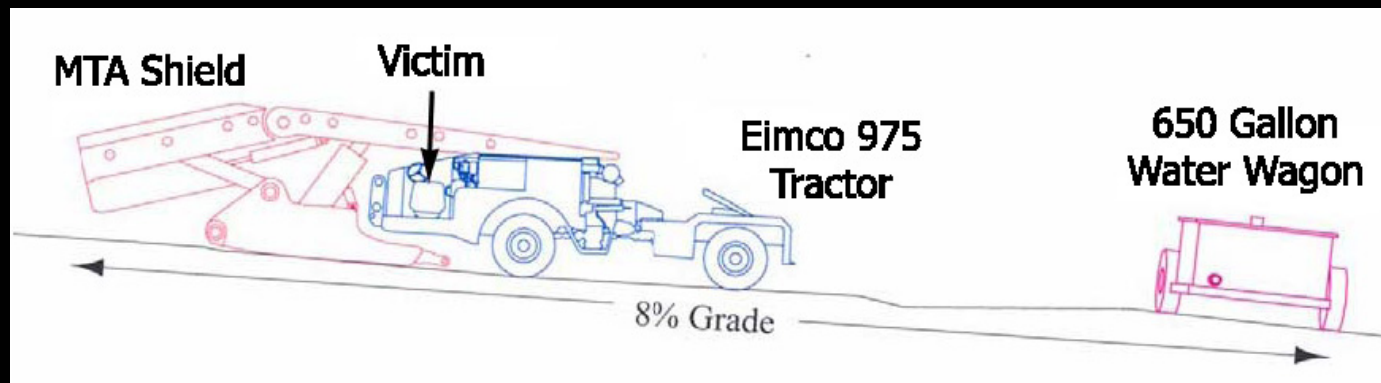
EQUIPMENT

- The vehicle involved in the accident was an Eimco non-permissible 975 diesel-powered utility tractor.
- It was not equipped with a protective cab or canopy nor was a seat belt provided.
- The tractor was used as a towing vehicle to deliver materials and to water roadways.
- At the time of the accident, the vehicle was traveling up an approximate grade of 8%.
- The automatic transmission selector was found in 3rd gear.
- A thorough examination of the tractor indicated that there were no defects that would have contributed to the cause of the accident.

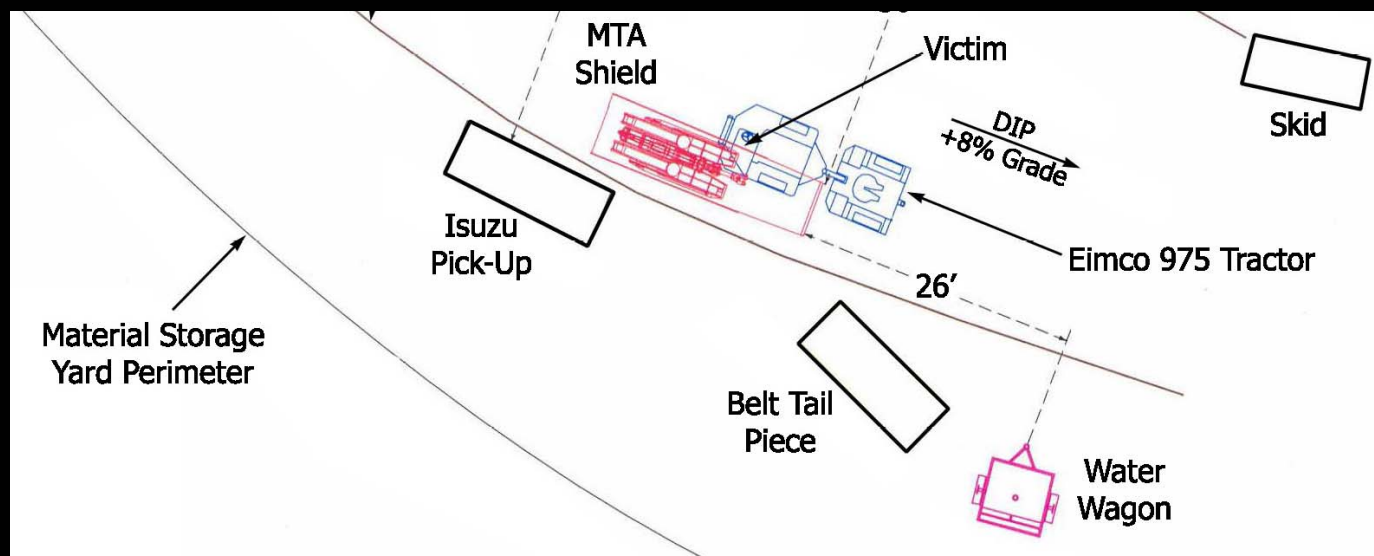
EQUIPMENT

- Test results of the steering mechanism were within design parameters. The vehicle was test-driven and no steering defects were noted.
- The service brakes on the vehicle functioned as designed. In third gear, full throttle, the service brake held the utility tractor stationary.
- Stopping tests were conducted. The utility tractor stopped quickly in each test and no defects were noted.
- The vehicle was moving forward at the time of the accident and both the front and rear lights were on. Both forward lights functioned when tested.

ACCIDENT SITE



ACCIDENT SITE



ACCIDENT SITE



ROOT CAUSE ANALYSIS

Causal Factor: The shield involved in the accident was stored in a manner that the canopy tip faced toward the access way through the storage yard such that vehicles could travel under the shield canopy.

Corrective Actions: Management should evaluate and assure the safe storage of equipment at the upper material storage yard. Equipment should be stored and located so as not to present a hazard to vehicle operators traveling through the storage yard.

ROOT CAUSE ANALYSIS

Causal Factor: The Eimco 975 tractor was not equipped with a protective cab, canopy, or other type structure to protect the operator.

Corrective Actions: Although this is not a mandatory requirement for this type of equipment, management should consider installing a protective structure for operator compartments.

ROOT CAUSE ANALYSIS

Causal Factor: The operator was not aware of the hazard presented by the shield, either because he did not look ahead while moving forward or did not check the surroundings before moving the tractor.

Corrective Actions: Management should routinely observe work habits of miners to ensure that safe work practices and procedures are being followed. Persons operating equipment should be aware of their surroundings for any potential hazards and should always look in the direction of movement.

CONCLUSION

The accident occurred because the shield was stored in an unsafe manner that allowed the tractor to drive under the canopy tip creating a pinch point with the top of the tractor. The absence of a protective structure for the operator's compartment on the tractor contributed to the accident. The operator's apparent lack of awareness that he was moving toward the shield after dropping off the trailer also contributed to the accident.

ENFORCEMENT ACTIONS

103(k) Order was issued on January 22, 2004, to ensure the safety of persons at the mine until an investigation of the accident could be completed and the mine deemed safe.

BEST PRACTICES

- Ensure that surface work areas are sufficiently illuminated at night so that obstacles can be clearly seen.
- Equipment operators should always look in the direction of movement.
- Design and arrange equipment storage yards to provide safe access and egress.
- Equipment operators should be aware of their surroundings and any potential hazards.
- Routinely monitor work habits and examine work areas to ensure that safe work procedures are being followed.
- In addition to mandatory applications, consider providing protective cabs, canopies, or vertical intrusion shielding pipes on mobile equipment whenever mining height permits.