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# GENERAL INFORMATION

## Coal Mine Fatal Accident 2005-21



Contractor:	Bodell Construction Company (YUD)
Operator:	Pacific Minerals
Mine:	Bridger Underground Coal Mine
Accident Date:	December 9, 2005
Classification:	Fall of Person
Location:	Dist. 9, Sweetwater County, WY
Mine Type:	Surface Area of UG Coal Mine

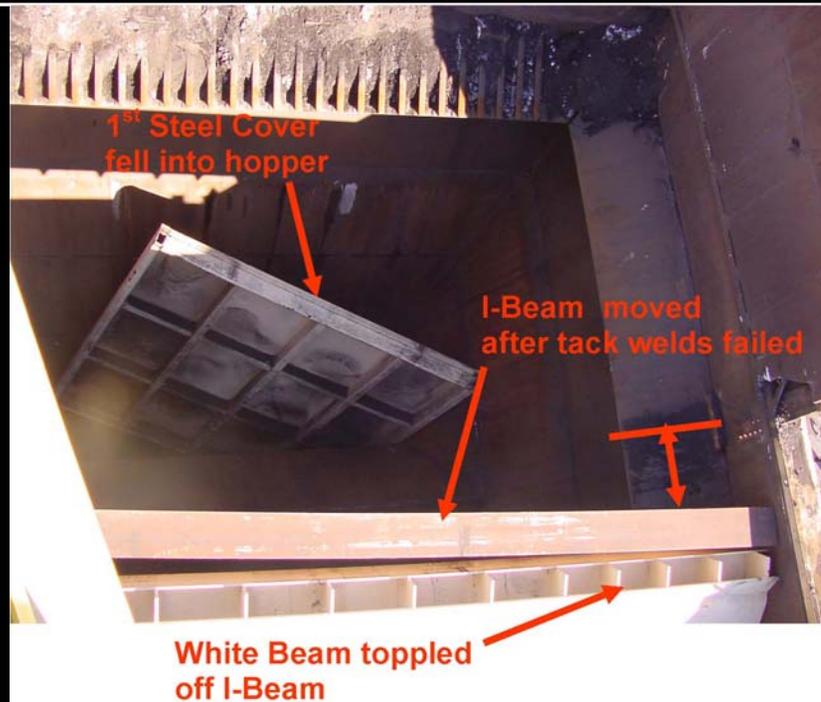
# ACCIDENT DESCRIPTION



During the morning of the accident, a meeting was held in which the use of personal protective equipment and tying off 100% of the time when working in elevated areas was discussed. The victim and another journeymen ironworker/welder, were assigned the task of installing two steel covers, each 14- by 14-feet in size.

After initial preparatory work, a crane was used to place the first steel cover over the hopper. The cover was not welded in place, but sat loosely on the hopper and a I-beam. The second steel cover was positioned over the hopper but still remained attached to the crane.

# ACCIDENT DESCRIPTION



When the second cover did not sit on the white beam properly, the victim said that the steel cover needed to drop an inch into place and another white beam needed to move about two inches. The victim used a steel bar to cause the cover to drop in place and the white beam to move approximately two inches.

The victim was still not satisfied with the alignment and decided to go inside the handrail barrier at the hopper opening and into the hopper to make adjustments. Without wearing fall protection, he climbed out on the I-beam and cover and pried again with the steel bar. As he pried with the steel bar, the tack welds on the far end of the I-beam broke, allowing it to shift and the white beam to topple over, causing him to fall into the hopper.

# DISCUSSION

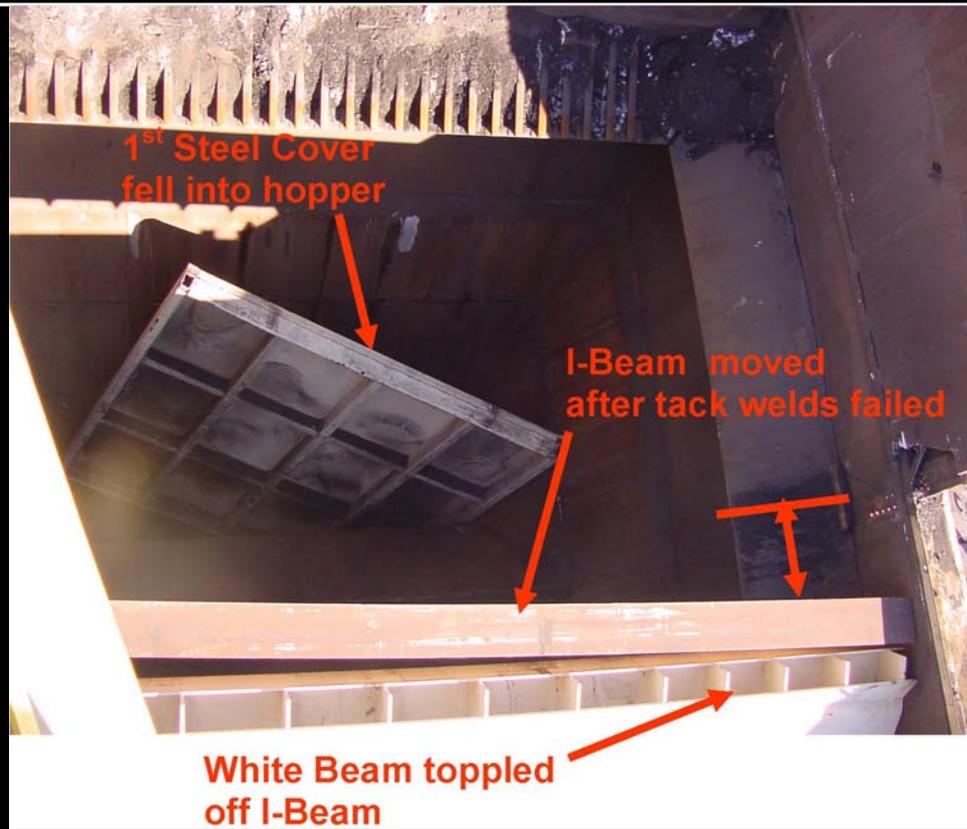
The hopper was approximately 28- by 28-feet square at the top. A steel I-beam was installed across the middle of the hopper dividing the top into two 14- by 28-foot openings. It was tack welded on each end to the hopper walls with angle iron clips. The I-beam was installed to support two steel covers, each 14- by 14-feet in size.

The original plan was to set the I-beam in place, leaving it loose, then lift one cover into position and mark the proper location of the I-beam on one end. Then move the cover to the other end and mark the location of the I-beam on that end. Then remove the cover and weld the I-beam in place. Thus, the covers could be installed without the potential for a tack weld to break. A hand-drawn construction drawing stated "Location of grizzly support beam. Leave beam loose for upper cover fit up. Weld solid after fit-up."

A prefabricated angled steel framework, referred to as the "white" beam, was placed on the top of the I-beam to receive the steel covers and hold them in place. This white beam was welded to the I-beam with clips to hold it in place. During the accident, this white beam flipped off the I-beam and came to rest beside the I-beam, also spanning the top of the hopper.

Witnesses stated that the victim had used his fall protection earlier in the day when exposed to falling hazards, but did not wear it when the accident occurred.

# DISCUSSION



The victim had a total of 5 days of coal mining experience, all at this mine. He was an experienced journeyman ironworker, and had functioned as a leadman on the crew and directed the work being done.

Blood tests were positive for methamphetamine and amphetamine. The report stated that the victim's level of methamphetamines was 27,440 ng/mL and "would definitely be in the lethal range." His pre-employment drug test was negative for all drugs tested, including methamphetamines and amphetamines.

# ROOT CAUSE ANALYSIS

1. *Root Cause:* Bodell management did not properly enforce their Fall Protection Plan, which enabled Oneida to work at the top of the hopper at Truck Dump Station No. 2 without a safety harness and line where he fell and received fatal injuries.

*Corrective Action:* Bodell management should strictly enforce their Fall Protection Plan and ensure that persons do not work in areas where there is a danger of falling without using fall protection equipment. Co-workers should work together to insist that fall protection equipment is worn where there is a danger of falling. Closer supervision is needed to ensure that fall protection equipment is used when needed.

2. *Root Cause:* Bodell management did not ensure that the loose beam fit-up procedures for installing the I- and white beams were followed. Failure of the tack welds on the south end of the I-beam allowed the beam to shift and the white beam to topple causing Oneida to fall.

*Corrective Action:* More substantial welds could have been made or the procedures outlined on the hand-written construction drawing for a loose beam fit-up should have been followed.

# ROOT CAUSE ANALYSIS

3. *Root Cause:* Bodell's drug testing policy failed to detect Oneida's use of methamphetamines. The Coroner's finding that Oneida's level of methamphetamines "would definitely be in the lethal range" indicated that use of drugs may have been a contributing factor.

*Corrective Action:* A strict application of the company's drug awareness program and drug testing should be implemented. Training for supervisors should be provided such that signs and symptoms of substance abuse can be identified and handled appropriately.

# ENFORCEMENT ACTIONS

A 104(a) citation was issued to Bodell Construction Company for a violation of 77.1710(g). On December 9, 2005, at approximately 3:45 p.m., an employee was not wearing a safety belt and line where there a danger of fall during construction activities at truck dump station coal facility. The employee fell about 25 feet and received traumatic head injuries. The employee died seventeen days after being injured.

# BEST PRACTICES

- Always use fall protection equipment, safety belts and lines, when working near elevated openings where there is a danger of falling.
- Fill bin with material prior to working over the bin.
- Heed handrails and guards in place at openings through which persons may fall.
- Train personnel in safe work procedures regarding the use of handrails and fall protection equipment during maintenance and construction activities and ensure their use.
- Stop, Look, Analyze, and Manage (SLAM) each task to identify all possible hazards. Take action to protect yourself before performing every task.