
West Virginia Office of Miners' Health, Safety and Training

February 6, 2013

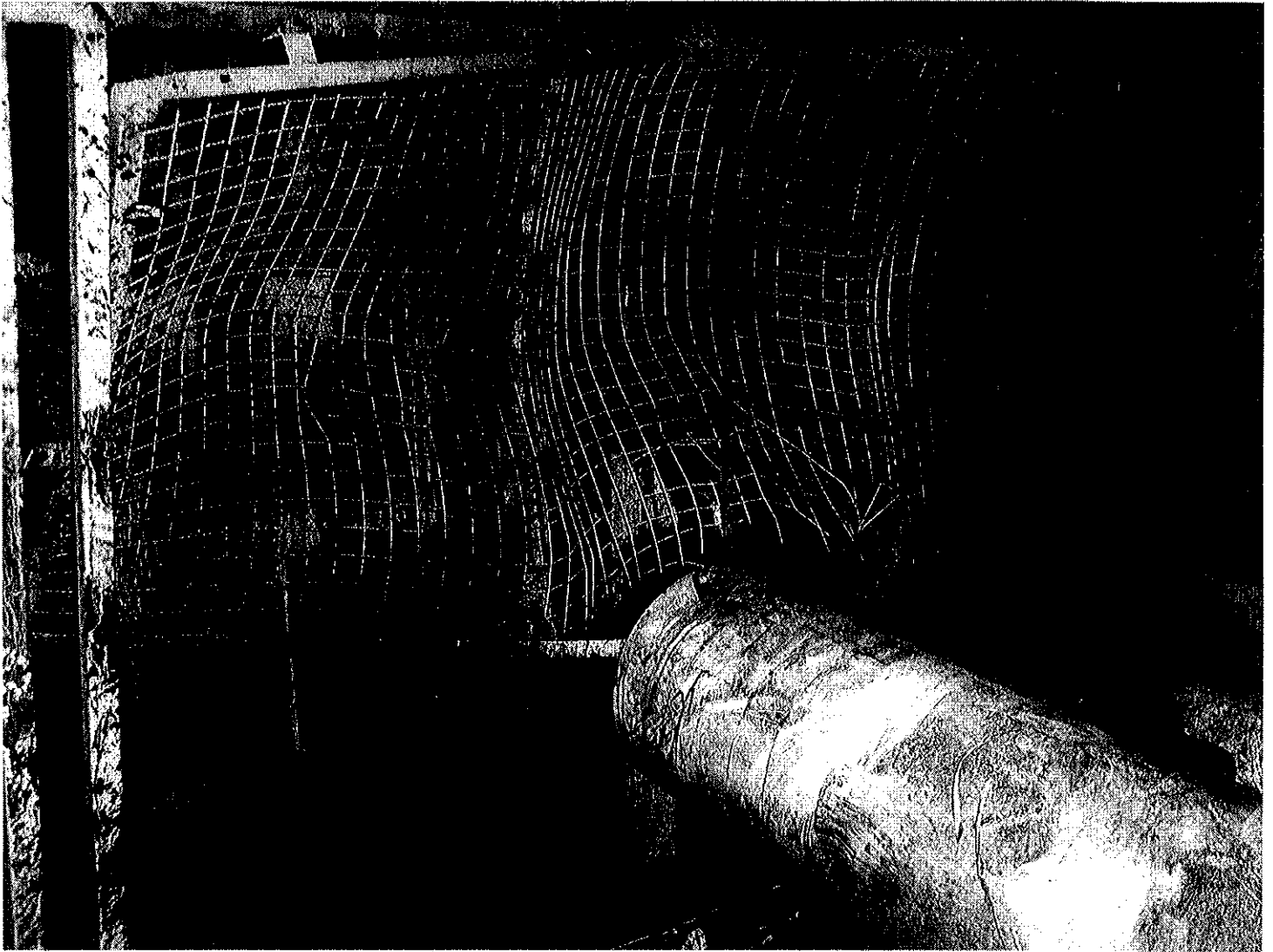
Report of Investigation
Preparation Plant Fatality
(Plate Press Accident)

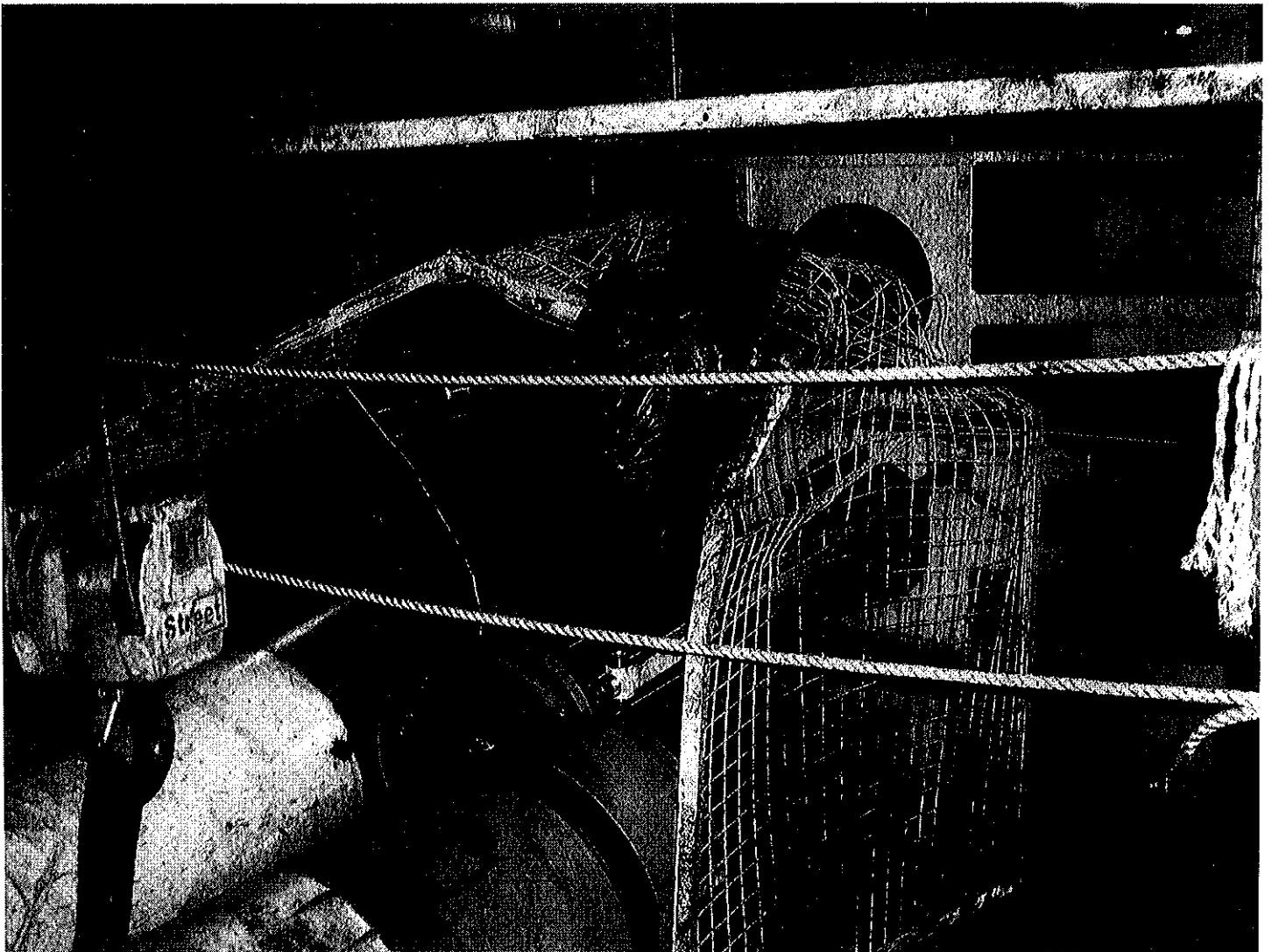
Midland Trail Energy, LLC
Blue Creek Plant Permit Number L-908

Region IV Office
550 Industrial Drive
Oak Hill, West Virginia 25901
McKennis P. Browning, Inspector-at-Large

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**Report of Investigation
Preparation Plant Fatality
Midland Trail Energy, LLC,
Blue Creek Plant, Permit Number L-908**

GENERAL INFORMATION

This report is based on an investigation conducted in accordance with Chapter 22A, Article 1, Section 14 of the mining laws of the State of West Virginia.

Brandon E. Townsend, an employee for Patriot Coal Company, LLC was fatally injured in a hydraulic accident at approximately 4:00 p.m. on February 6, 2013. Mr. Townsend was positioned directly behind the hydraulic pressing jack when a cylinder failure occurred sending the cylinder body into the walkway where the victim was located pinning the victim between the cylinder body and adjacent plate press.

The West Virginia Office of Miners' Health, Safety and Training, Region IV office, was notified of the accident by the Mine and Industrial Accident Emergency Operations Center at 4:20 p.m. on February 6, 2013. A joint investigation with the Mine Safety and Health Administration began immediately.

DESCRIPTION

The Midland Trail Energy, LLC, Blue Creek Plant is located near Tad, and is situated in Kanawha County, West Virginia. The coal preparation plant normally operates two (2) shifts a day and has 28 employees. In addition, several independent contractors are used to perform various duties such as coal haulage, and maintenance projects at the plant. The Midland Trail Energy, LLC, Blue Creek Prep Plant receives raw coal from two (2) underground mines. Upon delivery the Blue Creek Plant processes the coal and ships it via overland belt system to a loading point where it is loaded on trucks for shipment.

The Day shift at the Midland Trail Energy, LLC, Blue Creek Plant began normally on February 6, 2013. Brandon E. Townsend, employed as a specialist 1-electrical processes for Patriot Coal Company, LLC was called to the Midland Trail Energy, LLC, Blue Creek Plant for assistance in troubleshooting the Jingjin plate press. At approximately 4:00 p.m. while at Blue Creek Plant, Mr. Townsend was located directly behind the Jingjin plate press hydraulic jacks during operation of the plate press. After completing the first cycle of operation, the plate press started the second cycle when the failure occurred. Mr. Townsend was fatally injured when the hydraulic cylinders ruptured striking Mr. Townsend. Plant manager Dave Kimbrell was located in the press control room and immediately went to Mr. Townsend to render first aid and call for help. At 4:30 p.m. Campbell's Creek Fire Department arrived on scene, and at 5:40 p.m. the West Virginia State Medical Examiner arrived on scene. According to the West Virginia Medical Examiner's report Mr. Townsend's time of death was 4:28 p.m. on February 6, 2013.

FINDINGS OF FACTS

1. The pre-shift/on-shift examination book reflected that the Blue Creek Processing Plant did not have any violations or hazardous conditions. This report was completed by the Mine Manager.
2. It was also noted in the Pre-shift- Mine Examiners Report that 0% methane was detected and the weather was clear and cold.
3. The plate press building has (2) two Jingjin Membrane Filter Plate Presses that operate by human interfaced PLC controls. These Presses are identified as the A-side and B-side presses. The fatality occurred at the A - side press.
4. The A-side press head frame had excessive cracks/fractures at the cylinder mounting points.
5. The (2) two hydraulic cylinders on the A-side press had excessive cracks/fractures at the mounting flange area that existed prior to the accident.
6. The hydraulic unit that supplies oil for the A-side press did not have the system relief valve properly adjusted. The main pressure relief valve was set to relieve the system hydraulic pressure at 4800 psi. The maximum operating pressure for the filter press is 2610 psi. The hydraulic hoses connecting the pump and hoses and cylinders are rated at a maximum pressure rating of 4000 psi.
7. The cylinder flange mounting bolts (8 per cylinder) were found to be excessively loose allowing the cylinders to move/flex during operation.
8. The A-side press was provided with a single non-failsafe switch to shut down the hydraulic system when the maximum hydraulic pressure is achieved. The press is using a normally open set of contacts tips to control the PLC.
9. All employees were not given access to an operator's manual for this press, nor was one made readily available.

CONCLUSION

On February 06, 2013, coal was being processed at the Midland Trail Energy LLC, Blue Creek Plant. The day shift began normally at approximately 11:00 a.m. when the B-side press started to malfunction. Brandon E. Townsend was called to report to the plant to trouble shoot the press plate problem. Mr. Townsend arrived at the plant and was fatally injured when the A-side press cylinders ruptured.

Investigation revealed that the A-side Jingjin Membrane Plate Press was not being maintained in a safe operating condition. Also the hydraulic pump unit that supplies oil to the A- side plate press was not being maintained in a safe operating condition.

ENFORCEMENT ACTION

A non-assessed control order was issued in accordance with Chapter 22A, Article 2, Section 68 of the West Virginia Mining Laws, Rules and Regulations in order to preserve the scene of the accident and to complete the investigation. The West Virginia Office of Miners' Health, Safety and Training issued seven (7) notices of violations, and one (1) recommended special assessment violation to Midland Trail Energy LLC during this investigation. The following violations were written as a result of the accident.

Notice of Violation: WV Code 56-3-42.3(b) (Recommend Special Assessment)

The Hydraulic pump unit that supplies oil for A-Press Jingjin membrane filter press being operated at the Preparation Plant was not maintained in safe operating condition in that the main pressure relief valve was set to relieve the system hydraulic pressure at 4800 psi. The maximum operating pressure for the filter press is 2610 psi. (18mpa) the hydraulic hoses connecting the pump and cylinders are rated at a maximum operating pressure of 4000 psi. This condition violates a health or safe rule and is of a serious nature and involves a fatality. The filter press was involved in a fatal accident on 02-06-2013.

RECOMMENDATIONS

In accordance with Title 56, Series 8, Section 9.4 of the WV Mining Rules and Regulations, modifications to the above referenced comprehensive mine safety program are being provided following the investigation of a fatal accident involving Brandon E. Townsend that occurred on February 6, 2013. The modifications shall include, but not be limited to, the following:

- (1) All employees who operate the filter frame press will be given an operating manual in English. Each employee will acknowledge receipt of the manual by their signature.
- (2) All employees who operate the filter frame press will be given additional training on the operation of the press.
 - a. This training will be conducted by the manufacture or manufactures representative.
 - b. The manual will be used as instruction material. The following areas will be covered specifically:
 - I. Hydraulic
 - II. Pneumatic
 - III. Mechanical
 - IV. Electrical
- (3) All employees will be instructed that all guards installed to prevent entrance to the pressure side of the hydraulic cylinder shall remain intact. No person shall be granted

- access until all potential energy is relieved from the hydraulic system, and has been locked and tagged out.
- (4) Midland Trail Energy will follow the maintenance checks as outlined in the OEM operating manual.
 - (5) A pressure transducer will be placed as secondary failsafe for the hydraulic system. This transducer will be tied to the PLC system and trend all hydraulic pressure. Pressure reading shall be maintained by the system for one week. A second transducer will be used as a secondary failsafe for the hydraulic system. PLC logic will be added to initiate an emergency stop if 3600 PSI is exceeded or if we have a 500 PSI difference between the installed transducers.
 - (6) All persons must sign a MSHA form 5000-23 that they have received training.
 - (7) The pressure gauges that are installed on top of the pressure cylinders will be removed from their current location outside of the guarded area.
 - (8) The remote connection that allows trouble shooting of the PLC system will be disabled by the use of the PLC key switch. The press operator must be notified before placing the machine in remote status or before any outside modifications can be made.
 - (9) A structural, mechanical, electrical and hydraulic inspection shall be conducted by an independent third party. These inspections shall be accompanied by signed document by the third party. A copy of each inspection report will be forwarded to M.S.H.A. and the WV OMHS&T for review.
 - (10) A visual warning device will be installed to alert the operator prior to the start of the slurry filling cycle. The operator will remove himself from the area while the light is on.
 - (11) A certified hydraulic relief valve located on the manifold will be set at no more than 3000 PSI a second hydraulic relief valve built into the hydraulic hose feeding the cylinders is set at 3600 PSI.

ACKNOWLEDGMENT

The West Virginia Office of Miners' Health, Safety and Training gratefully acknowledges the cooperation of the employees and management of Midland Trail Energy LLC Blue Creek Plant, and the Mine Safety and Health Administration during this investigation.

APPENDIX

- Mine Information Sheet (page 10)
- Victim Information Sheet (page 11)

MINE INFORMATION

COMPANY Midland Trail Energy LLC

MINE NAME Blue Creek Plant

WV PERMIT L-908

ADDRESS P O Box 366 Tad WV 25201

COUNTY Kanawha

DATE PERMIT ISSUED March 9, 2009 WORKING STATUS Active

LOCATION Near Tad, WV

UNION _____ NON-UNION Yes

DAILY PRODUCTION 5,450 tons (approximately)

ANNUAL PRODUCTION TO DATE 1,395,000 tons (approximately)

TOTAL EMPLOYEES 28 NUMBER OF SHIFTS 2

NAME OF COAL BED Stockton

SEAM THICKNESS N/A

ACCIDENT INCIDENT RATE 0 LOST TIME ACCIDENTS 0

TYPE OF HAULAGE Coal Truck

WV OMHST INSPECTOR Dennis Halsted

DATE OF LAST INSPECTION 12/28/2012

NOTIFIED BY Mine and Industrial Accident Emergency Operations Center

TIME OF NOTIFICATION 4:20 p.m., February 6, 2013

CMSP – ANNIVERSARY DATE April 19, 2013

CMSP – CONTACT PERSON Aaron Price