
WEST VIRGINIA OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

REFUSE IMPOUNDMENT DUMP AREA FAILURE

NOVEMBER 30, 2012

CONSOLIDATION COAL COMPANY

ROBINSON RUN #95

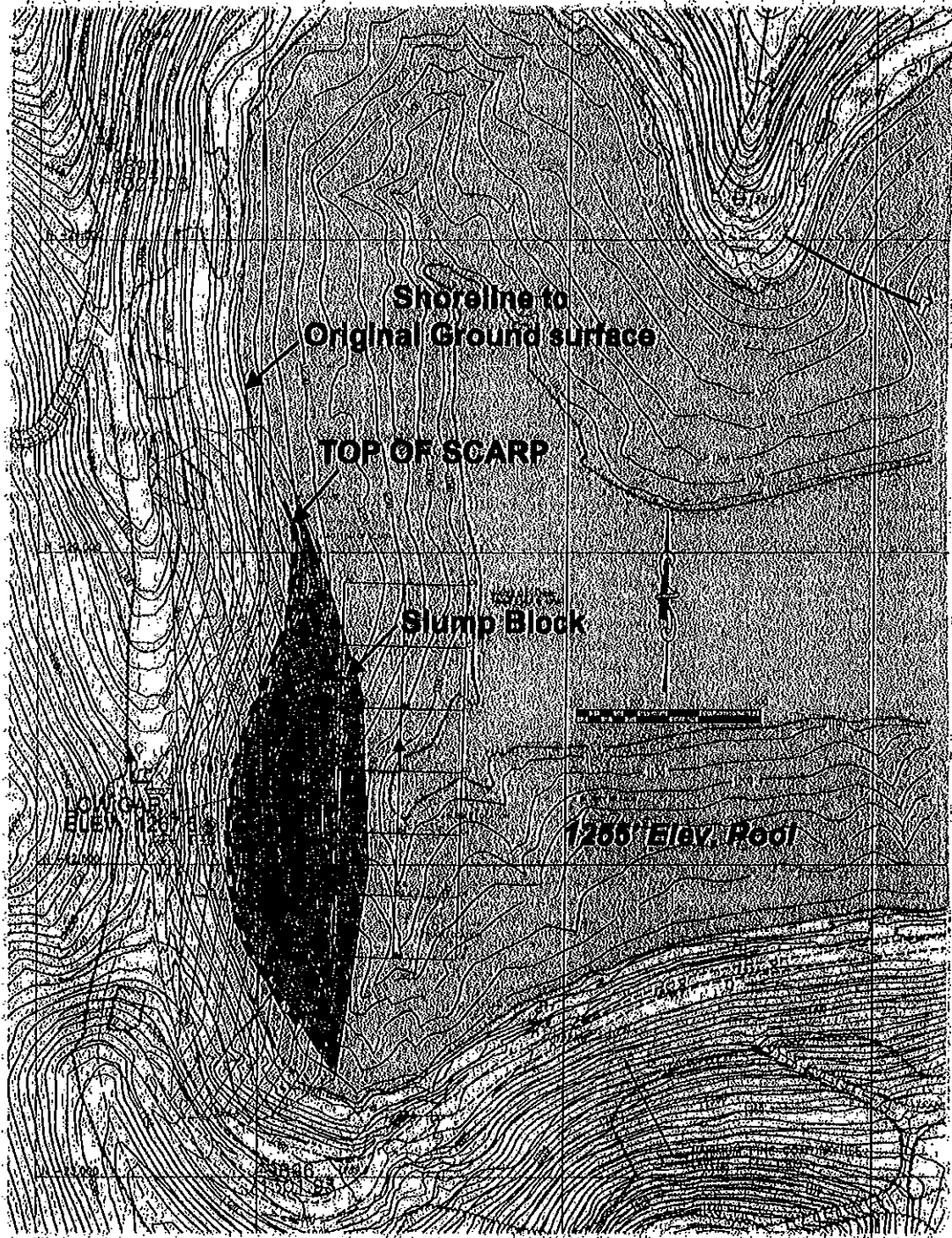
PERMIT NO. D-4786S

REGION ONE

14 COMMERCE DRIVE, SUITE ONE

WESTOVER, WEST VIRGINIA 26501

EDWARD PEDDICORD, INSPECTOR-AT-LARGE



GENERAL INFORMATION

The Consolidation Coal Co., Robinson Run #95 Preparation Plant is located near Lumberport, in Harrison County, West Virginia. The underground mine that supplies coal to the preparation plant employs 592 miners. The mine produces approximately 4.7 million tons of coal annually from 5 continuous miner units and one (1) longwall unit. Coal is transported by conveyor belt from the mine via the Margaret slope onto an overland conveyor belt to the preparation plant. The coal waste material that is produced as a result of cleaning coal at the preparation plant is deposited into the Nolan Run Fine Coal Slurry Impoundment by 2 different means. A conveyor belt that originates at the preparation plant extends to a surface loadout structure that is located approximately 1.3 miles from the impoundment and from there; pans are used to transport the coarse refuse, into the impoundment. The slurry material of the coal cleaning process is pumped through a 10 inch plastic line into the impoundment. After, the slurry is deposited in the impoundment; the water is treated and recycled for use in the preparation plant.

DESCRIPTION

On November 30, 2012, at approximately 12:05 p.m., Mr. Markel J. Koon, 58 years of age, was operating a D-6T Caterpillar dozer on the coarse refuse dump site at the Nolan Run Fine Coal Slurry Impoundment when the dumpsite cracked and failed; causing the dozer that Mr. Koon was operating to sink into the slurry impoundment. Mr. Koon had a total of 37 years of mining experience, all at this mine; with 2 1/2 years as a mobile equipment operator.

At 12:20 p.m. on November 30, 2012, Mr. Edward Peddicord, Inspector-at-Large for Region One of the Office of Miners' Health, Safety and Training was notified by the Mine Safety and Industrial Accident Emergency Operation Center of the accident. James Stuckey, District Inspector, Mike Southern, Surface Inspector, John Meadows, Assistant Inspector-at-

Large and Mr. Peddicord went directly to the Robinson Run Mine. A joint investigation with the Mine Safety and Health Administration, United Mine Workers of America and Consolidation Coal Co. started immediately.

On November 30, 2012, at approximately 8:00 a.m., the day shift equipment operators began their shift by conducting equipment examinations prior to operation. Conversations between the midnight shift and day shift also took place that included conditions of the work area. Michael Friedline, Supervisor for Consolidation Coal Co., drove a pick-up truck from the equipment parking lot conducting an on-shift examination of the haulage road. He then drove to the saddle dike area on the western end of the Nolan Run Fine Slurry Impoundment to examine the area where coarse refuse was being placed. Once the shift began, coarse refuse was loaded into Caterpillar 657 pans at the refuse bin and hauled approximately 1.3 miles to the saddle dike area where a pan would spread the material in approximately 12" lifts. After dumping, the pans would travel back over the area where they just dumped and then return to the bin for another load. Dozers, trucks and rollers/compactors were used to spread and compact the material.

At approximately 11:30 a.m., Paul Stuart Carter, Engineer for Consolidation Coal Co. arrived at the saddle dike area of the Nolan Run Fine Slurry Impoundment after receiving numerous emails from Mr. Friedline in the past weeks concerning the high readings being obtained at the newly installed P-7 piezometer. Mr. Carter and Mr. Friedline parked the pick-up trucks they were driving near the piezometer then proceeded to observe and analyze the work area along with the upstream slopes. After walking from the P-7 piezometer, located near the center of the dump area to the eastern outer slope of the saddle dike area, they observed excessive bubbling of water in the impoundment along the eastern toe/slope and east of the P-7 piezometer. Mr. Carter asked Mr. Friedline if he had noticed the bubbling earlier in the day. Mr. Friedline said "yes, but not as bad". Mr. Carter then stated "we need to get off the fill". Mr. Friedline called to Mr. Koon by radio, who was operating a dozer on the outer slope of the coarse refuse dump area, instructing him to leave the area. Mr. Koon was pushing refuse up the slope to install berms and to seal and track the loose material of the outer slope. Mr. Koon

immediately trammed the dozer to the top of the slope when a large crack began to develop across the refuse fill area. After the large crack developed a large section of the fill immediately became unstable. Water/slurry shot through the developing cracks, causing large sections of refuse to break off, sinking into the impoundment.

Mr. Koon was heard on the radio saying "what's going on" as the refuse fill began to fail. The dozer was located on top of the outer slope with the blade toward the dam, when the material under the dozer became unstable. As the section of refuse began to slide, it caused the dozer that Mr. Koon was operating to turn, going blade first into the water of the impoundment. The cab of the dozer was visible for a few seconds then sank into the water. The other employees working at or near the affected area were able to escape to a safe location. Mr. Koon's body was recovered from the cab of the submerged dozer on December 14, 2012, at approximately 4:40 p.m. by underwater divers.

Mr. Friedline and Mr. Carter attempted to run toward stable ground, in the direction of the P-7 piezometer. Mr. Friedline and Mr. Carter were both submerged in the water/slurry of the impoundment, along with the pick-up trucks they had driven to the site. The conditions of the impoundment deteriorated quickly causing large sections of refuse to break off, falling into the water of the impoundment. This collapse of material caused an approximately 5' high wave of slurry to travel west to east then return to the collapsed area of the saddle dike. Mr. Friedline was able to swim back toward the southern end of the saddle dike where he was rescued from the cold water by several employees. Mr. Carter was swept out toward the center of the impoundment, unable to reach safety. A boat that had been brought to the site was used to rescue Mr. Carter from a slurry island surrounded by water. Mr. Friedline was transported to UHC Hospital in Clarksburg, where he was treated and released; Mr. Carter was transported to Ruby Memorial Hospital in Morgantown via WV Health Net where he was treated for hyperthermia and released that evening.

FINDINGS OF FACT

1) Equipment Involved in the Accident

- * Mr. Koon was operating a D-6T Caterpillar dozer serial number KJL00443
- * Mr. Carter was driving a 2009 Dodge Ram Vin # 3D7KS28L29G549467
- * Mr. Friedline was driving a 2008 Dodge Ram Vin # 3D3KS28DX8G223988

- 2) The dozer that the victim was operating at the time of the accident has not been recovered. The two pick-up trucks were recovered after the victim was recovered.
- 3) On shift inspection documents were reviewed from October 30, 2012, to November 30, 2012. No violations or remarks were recorded, in the examination books regarding the refuse dumping area.
- 4) Mr. Koon received annual refresher training on June 11, 2012.
- 5) The body of the victim was recovered from the operator's cab of the submerged dozer on December 14, 2012, at approximately 4:40 p.m. by underwater divers.
- 6) An Auger hole was drilled in the refuse area on November 16, 2012, by Triad Engineering and a P-7 Pneumatic Piezometer was installed to monitor the coarse refuse.
- 7) According to testimony, the doors of the cab were shut while in operation.
- 8) According to testimony, and the pre-operational safety checklist, the D-6T dozer was mechanically sound.
- 9) The D-6T dozer was equipped with a life jacket.
- 10) The D-6T dozer was working the slope in an area that is not commonly worked on a consistent basis.
- 11) Weather conditions on November 30, 2012, at 12:53 p.m. were 53 degrees, partly sunny and dry.
- 12) The failure site at the Nolan Run Fine Coal Slurry Impoundment was approximately 621' long, approximately 50' wide and approximately 24' high.
- 13) The dozer came to rest on approximately 53' of compacted fine coal slurry; from the cab of the dozer to the water's surface was approximately 27', approximately 24' of which

was thick fine coal slurry and black water. Approximately 3' was clear fresh water near the surface.

- 14) Part of the Nolan Run Impoundment was previously surface mined prior to the construction of the Nolan Run Coal Slurry Impoundment.
- 15) The impoundment consists of approximately 75 acres of water and fine slurry.

CORRESPONDENCE/ E-MAILS

16) On November 23, 2012, at 11:28 a.m. an email from Mr. Leonard Roman of Consolidation Coal Co. to Stuart Carter indicating Forquer Contracting received the first reading on the P-7 piezometer. The email stated:

- * The Phreatic Surface is 4' higher than the pool elevation.

17) An email from Mr. Michael Friedline, Consolidation Coal Co. on November 24, 2012, at 1:44 p.m. to Mr. Roman and Stuart Carter stated.

- * Does this mean we have to stop placing slate here until the pressure goes back down?

18) On November 25, 2012, at 5:26 p.m. Mr. Carter sent an email to Mr. Friedline instructing him that the area should be monitored for a week or so to let it stabilize.

19) On November 26, 2012, at 10:56 a.m., Mr. Friedline sent an email to Mr. Carter concerning the Nolan Run Slurry Impoundment P-7 piezometer. The concerns were:

- * The dry refuse was drilled for approximately 15' or more before encountering the saturated zone.
- * The pool elevation was 1264.5' indicating the saturated zone is only 5' below the current surface of the saddle at the time the P-7 piezometer hole was drilled.
- * The pool elevation was never as high as the reading, even during construction.
- * The highest water level was approximately 1256.3'.
- * The saturated zone is 1259.65' indicating the area became saturated in the last month to month and a half.

- * Elevation 1259' would contain fairly fresh refuse.
- * The upstream slopes began at 1257' indicating that the first 2' of the slope should be saturated but there were no signs of that according to Mr. Friedline.

20) On November 30, 2012, at 11:01 a.m. Mr. Carter emailed Mr. Fred Vass of Alliance Consulting, Inc. indicating the P-7 piezometer reading is the same as the week before. (15 psi)

RECOVERY OPERATION

- 21) The recovery operation began on November 30, 2012.
- 22) Rescue personnel probed the slurry/water for the victim with a 2" PVC pipe approximately 30' long from boats.
- 23) On December 1, 2012, a magnetometer/sonar was used to scan the slurry/water for the D-6T dozer in an established area/grid identified by a 2" PVC pipe near the accident scene.
- 24) The D-6T dozer was identified and located by the magnetometer/sonar. The coordinates of the dozer were marked by GPS and the dozer was outlined by 2" PVC pipe by the water rescue personnel on December 2, 2012.
- 25) On December 3, 2012, the area from the landing to the submerged dozer was dredged by a mudcat to remove fine slurry.
- 26) Flotilla/barges were being assembled on December 3, 2012, at the area known as the landing.
- 27) On December 4, 2012, barges/flotillas were pushed into the slurry/water at the landing to continue set-up.
- 28) On December 5, 2012, pumps, air compressors, an 80 ton crane, miscellaneous buildings and welders were placed on the flotillas/barges and secured.
- 29) On December 6, 2012, the 42" X 47' long recovery/dive pipe was fully assembled and taken to the recovery site.
- 30) The barges/flotillas were floated to the recovery site and secured/anchored by 50' spuds.

- 31) On December 8, 2012, the dive pipe was set on the D-6T dozer according to GPS coordinates with the 80 ton crane in approximately 25' of the thick slurry/water. The pipe was being aerated and fresh water was being pumped into the pipe to liquify the thick slurry. Divers entered the pipe to spray the hard packed slurry at the bottom of the pipe with a high pressure water hose. The diver made contact with the dozer and determined the dozer was upright and possibly had identified a handrail.
- 32) On December 9, 2012, the dive pipe was repositioned on the dozer. Divers entered the pipe to retrieve conduit that was in the way of the pipe. The victim's dinner bucket was retrieved by the diver.
- 33) On December 10, 2012, the victim's dinner bucket was observed by the Office of MHS&T, MSHA, UMWA and company officials. It was determined the victim was located in the cab of the D-6T dozer. Divers started cutting on the door post of the D-6T dozer with under water torches.
- 34) On December 14, 2012, divers cut the cab structure with under water torches. At 4:40 p.m. the victim was extracted from the dozer cab and pulled to the surface by the dive tube. At 5:20 p.m. the victim arrived via rescue boat to the landing and was placed in an ambulance.
- 35) Please see the attached drawing of the dive pipe configuration.

CONCLUSION

The collapse of the haulage road/dump area caused the dozer that the victim was operating to become submerged in the fine slurry impoundment, resulting in his death.

The accident occurred on November 30, 2012, and the victim was recovered from the cab of the submerged dozer on December 14, 2012.

ENFORCEMENT ACTION

A Non-Assessed Order was issued in accordance with the West Virginia Code Chapter 22A, Article 2, Section 68 to preserve evidence following a death of an individual at a mine until an investigation by the Office of Miners' Health, Safety and Training is completed.

A total of (1) special assessed violation was issued:

Chapter 22A, Article 2, Section 53(b)(18) of the West Virginia Code: The haulage road, located on the coarse refuse dump area was not constructed and maintained in a manner to ensure safe operation of mobile equipment. A large section of the dump area became unstable, then cracked and collapsed in the water and slurry of the Nolan Run Fine Refuse Impoundment on November 30, 2012, at approximately 12:05 p.m. The result of the collapse of the dump area caused the D-6T Caterpillar dozer that Mr. Koon was operating to sink into the slurry impoundment, entrapping the victim and resulting in his death. Two other employees were swept into the impoundment, and later recovered/rescued along with the pick-up trucks they had drove to the location. Another dozer, pans, a roller, a grader and a truck were operated in this area prior to the collapse. This is a violation of a Health and Safety statute of a serious nature involving a fatality.

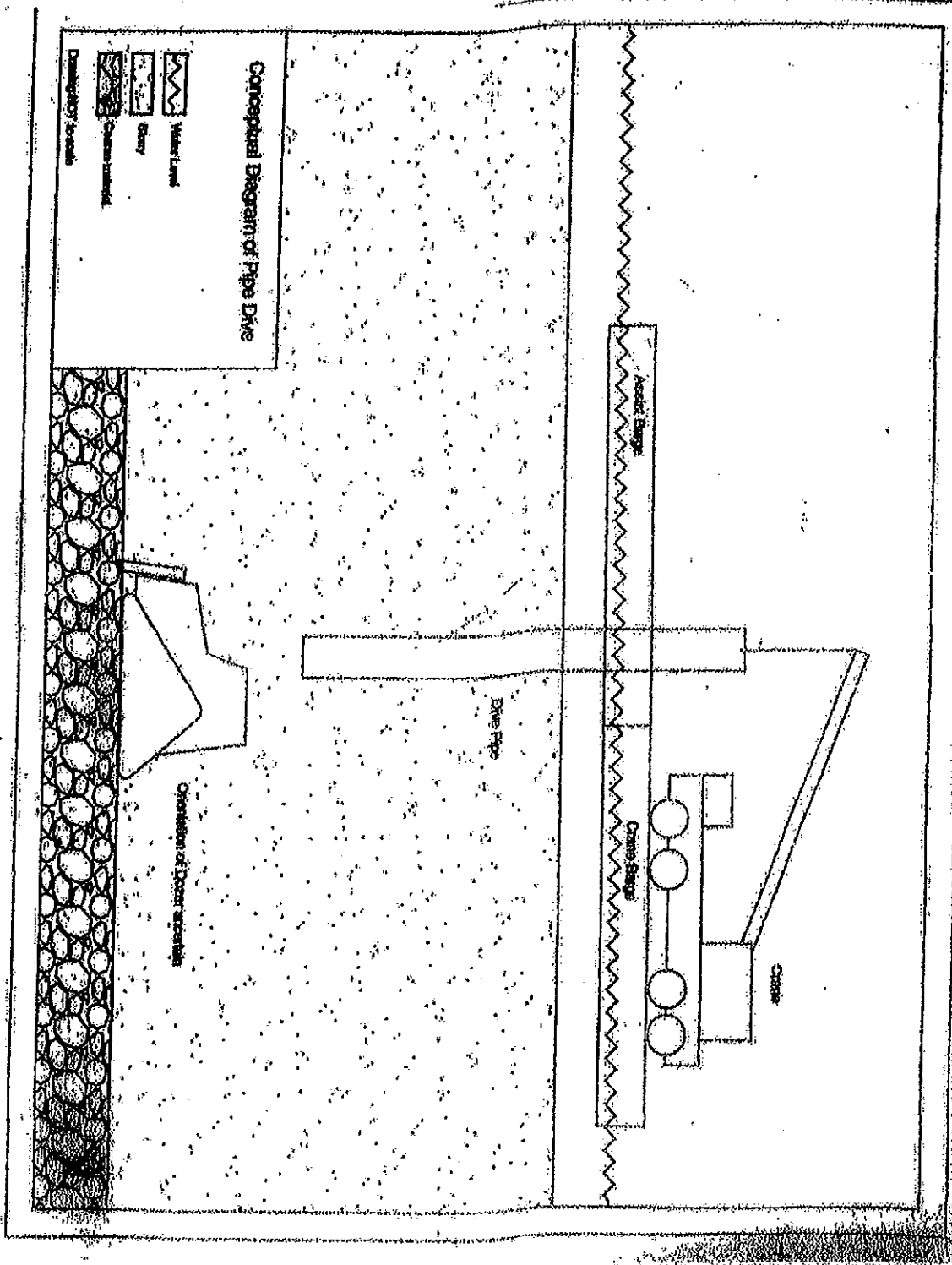
RECOMMENDATIONS

- 1) Train employees of the hazards of working near or around water.
- 2) Life jackets should be worn by all employees working/operating equipment in close proximity to water.
- 3) An investigation of the Nolan Run Fine Slurry Impoundment has been ongoing since the victim was recovered. Data and information has been collected and is still being

gathered at this time. Future recommendations and Findings of Fact may be submitted when all data and information is collected and reviewed.

ACKNOWLEDGEMENT

The West Virginia Office of Miners' Health, Safety and Training gratefully acknowledges the cooperation of the management and employees of Consolidation Coal Co., Robinson Run #95 Mine, Consol Energy Company, Mine Safety and Health Administration, and the United Mine Workers of America during the investigation.



MINE INFORMATION

COMPANY Consolidation Coal Co.

MINE COMPANY Robinson Run #95 Mine

WV PERMIT D-4786S MSHA PERMIT NO. 46-01318

ADDRESS 79 Camp Run Road Mannington, WV

COUNTY Harrison PHONE NO. 304-986-9600

DATE PERMIT ISSUED 12-15-1970

WORKING STATUS Active

LOCATION Shinnston

UNION X NON-UNION

DAILY PRODUCTION 19,045 ANNUAL PRODUCTION TO DATE 4.5 Million

TOTAL EMPLOYEES 592

NUMBER OF SHIFTS 3

COAL SEAM NAME AND THICKNESS Pittsburg 8 84 inches

ACCIDENT INCIDENT RATE 1.99 LOST TIME ACCIDENTS 15 ytd

TYPE OF HAULAGE Belts

WVOMHST INSPECTOR Billy Tankersley

DATE OF LAST INSPECTION Regular Inspection being conducted at this time

NOTIFIED BY Mine and Industrial Accident Emergency Operation Center

NOTIFICATION TIME 12:20 p.m. on November 30, 2012

CMSP-ANNIVERSARY DATE 12-21-2012

CMSP-CONTACT PERSON Michael Nestor

APPENDIX

Refuse- Waste material in the raw coal which it is the object of cleaning to remove.

Slurry- Fine particles concentrated in the circulation water of a treatment plant of any kind.

Slurry Pond- Any natural or artificial pond or lagoon for settling or draining the solids from washery slurry.

Piezometer- Any of several instruments for measuring the pressure of a fluid or the compressibility of a substance when subjected to such a pressure.

Compaction- The process by which the porosity of a given form of sediment is decreased as a result of its mineral grains being squeezed together by the weight of overlying sediment or by mechanical means.