

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Coal Mine Facility

Fatal Machinery Accident
July 25, 2017

New St. Nicholas Breaker
Reading Anthracite Company
Pottsville, Schuylkill County, Pennsylvania
ID No. 36-01966

Accident Investigators

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OVERVIEW

On Tuesday, July 25, 2017, Andrew J. Oxenrider, a 28-year-old equipment operator, with seven years and nine months of total mining experience was fatally injured while operating a Caterpillar D9L bulldozer on a refuse bank. The accident occurred when the victim, who was working alone, was run over by the bulldozer. Investigators believe that shortly before the accident, the victim exited the bulldozer onto the slope of the refuse bank and into the bulldozer's push path near the edge of the refuse bank.

Because the manufacturer's parking procedure was not followed, the bulldozer moved downhill after the victim exited it. When the bulldozer hit the victim, he was positioned between the track and blade. The bulldozer did not stop but traveled over the edge of the refuse pile and came to rest at the bottom of the embankment. There were no witnesses to the accident.

The fatal accident occurred because the manufacturer's braking procedure was not followed. Also, the mine operator did not adequately task train the victim in accordance with its approved training plan, which included training on the safe operating procedures outlined in the CAT D9L operator's manual for parking the bulldozer on a grade. In addition, the mine operator did not maintain the braking system of the bulldozer in a safe operating condition.

GENERAL INFORMATION

The New St. Nicholas Breaker, operated by Reading Anthracite Company, and located in Pottsville, Schuylkill County, Pennsylvania, is an active surface facility used to separate anthracite coal from refuse material. Bulldozers are used to move these materials from a storage bank to a screening pad area. Portable screening plants separate the anthracite coal from the refuse material. The marketable product that results from this process is then hauled away with trucks. The other material is placed in another refuse pile. The facility employs 26 miners and operates two production shifts, six days a week.

The principal officers for the facility at the time of the accident were:

Brian Rich	President
Michael Rich	Vice President
Robert Ryan Sr.....	Secretary
Frank Derrick.....	General Manager
Riccardo Muntone.....	Vice President of Safety and Compliance

The Mine Safety and Health Administration (MSHA) completed a regular safety and health inspection (E01) with the inspector's last day on-site being July 7, 2017. The Non-Fatal Days Lost (NFDL) injury incidence rate for the facility in 2016 was 12.64, compared to a national NFDL rate of 3.24.

DESCRIPTION OF THE ACCIDENT

On Tuesday, July 25, 2017, at 6:00 a.m., Oxenrider reported for work at the Oak Hill P - 47 refuse bank area of the mine. He worked alone, operating a CAT D9L bulldozer to push material down the bank to a screening area pad where an excavator could load it into a screen at a later date. Seth Huey, Foreman, also started his shift at 6:00 a.m., by conducting his job site examination. Huey drove through the bottom of the Oak Hill P - 47 operation to the screening area pad, observed no hazards, and drove away from the area. At approximately 9:30 a.m., Huey drove to the Oak Hill P - 47 to meet Oxenrider on the road at the top of the refuse bank to give him further instructions. Huey sent Oxenrider a text message while he was on his way, but did not get a reply. Huey arrived at the top of the refuse bank, got out of his truck and stood on a berm, but he did not see Oxenrider's bulldozer. Huey also called Oxenrider on his cellular telephone and did not get an answer. Huey drove back down to the screening area pad, assuming that Oxenrider was on the pad getting fuel.

Huey arrived at the screening area pad and found the bulldozer, which was positioned blade first into the ground, at the bottom of the refuse bank. He ran toward the bulldozer and noticed that the engine was running at low idle and the door was open.

Oxenrider was not in the bulldozer cab, and Huey saw him lying on the ground near the edge of the bank. Huey approached Oxenrider and observed that he had received fatal injuries.

Huey immediately called Frank Derrick, General Manager, and told him to come right away because the bulldozer was over the bank and Oxenrider was lying on the ground. Huey then called Riccardo Muntone, Vice President of Safety and Compliance. Derrick arrived at the bottom of the refuse bank. He called 911 at 9:42 a.m. and then traveled to the entrance gate and waited for emergency assistance to arrive.

Schuylkill Emergency Medical Services (EMS) arrived at the accident scene at 10:09 a.m. A front end loader was used to open a road for the EMS to travel to the scene in an all-terrain vehicle (ATV). After EMS evaluated Oxenrider, Andrew Szczyglak, Schuylkill County Deputy Coroner, arrived and pronounced Oxenrider dead at the scene at 11:05 a.m.

INVESTIGATION OF THE ACCIDENT

Muntone called the Department of Labor (DOL) National Contact Center at 10:03 a.m. A noncontributory citation was issued to the mine operator for a violation of 30 CFR § 50.10 because the mine operator did not contact MSHA immediately, at once, without delay, and within 15 minutes.

On July 25, 2017, at 10:15 a.m., Randall Caramellino, MSHA District 2 Staff Assistant, was notified of the fatal accident by the DOL Contact Center. Caramellino informed Patrick Boylan, Frackville Field Office Supervisor. Boylan dispatched Stephen Kowalick, Coal Mine Inspector (CMI) and Joseph Draugelis, CMI and Accident Investigator, to the mine. Upon his arrival at 10:35 a.m., Draugelis issued a 103(k) order to ensure the safety of all persons on site and to prevent the destruction of evidence that would aid in investigating the cause or causes of the accident. Kowalick arrived at the same time as Draugelis, and Boylan arrived shortly after.

Kowalick, Draugelis, and Boylan took photographs and gathered preliminary information. They also conducted initial interviews with the Reading Anthracite company management personnel who were present at the accident scene (see Appendix A).

The accident investigation was conducted jointly with the Anthracite and Industrial Minerals Mine Safety Division of the Pennsylvania Department of Environmental Protection (DEP). United Mine Workers of America (UMWA) representatives and Reading Anthracite company management participated in the investigation. A list of the persons who participated in the investigation is in Appendix A.

Formal interviews were conducted by MSHA and DEP on July 26 and 31 and August 2, 10, and 16, 2017 at the Frackville Field Office. All persons interviewed were involved in mining activity at the Oak Hill P – 47 Operation or had operated or maintained the bulldozer involved in the accident.

The investigators obtained the service history of the bulldozer from the time it was rebuilt in 2004 by Fabco Equipment Inc., until the air conditioner was serviced by a company mechanic on July 20, 2017.

Onsite testing and evaluation of the bulldozer was conducted by MSHA Technical Support on July 28 and 29, and on August 3 and 4, 2017. Technical representatives and a mechanic from Cleveland Brothers Equipment Co. Inc. were present during the testing. Evidence obtained from the bulldozer was removed and itemized through the MSHA chain of custody forms.

DISCUSSION

Accident Location

The accident occurred on the refuse bank approximately 400 yards from the mine entrance gate. The bulldozer was used to push material along a path that was sloped to various degrees ranging from 17 to 20 degrees. As the bulldozer pushed the refuse material, berms of material were created on both sides of the machine to various heights. The berms ranged in height from 18 to 31 inches on one side of the bulldozer, and 36 to 60 inches on the other side.

Because the manufacturer's parking procedure was not followed, the bulldozer moved downhill after the victim exited the bulldozer. After the bulldozer hit the victim, it travelled over the edge of the refuse pile and went down a 44 degree slope. It traveled to the toe of the slope, and was found in the "laid" position (see Appendix C). Because the blade dug in deeper than the 44 degree slope, the machine was actually at a 55 degree slope when it was found by investigators.

General Machine Information

The bulldozer involved in the fatal accident is a 1984 Caterpillar D9L track type tractor, serial number 14Y02387. It is equipped with a 9S bulldozer blade, a Caterpillar 3412 diesel engine with a power rating of 460 horsepower, and a power shift transmission with three speeds in both forward and reverse direction. The bulldozer uses an elevated type drive sprocket arrangement and weighs approximately 115,000 pounds, which includes the blade. The engine hour meter showed 26,281.1 hours of use.

Maintenance and Service Records

According to maintenance and service history records, the bulldozer was rebuilt by Fabco Equipment Inc., a Caterpillar dealer for the State of Wisconsin. The bulldozer

was purchased by Reading Anthracite in December 2016. Investigators reviewed service, maintenance, and pre-operational check records provided by the mine operator, and they did not indicate any problems with the parking or service brake systems.

Testing and Evaluation

Investigators determined that the only damage the bulldozer sustained during the accident was to the right side of the windshield. The transmission was in the neutral position and the parking brake lever was in the released position. The bulldozer was able to start and operate without any repairs for the purpose of testing.

Function Test

Function testing revealed the following:

- The governor control lever and the decelerator foot pedal linkages were intact and moved throughout their range without binding or sticking.
- From powershift transmission testing, the transmission selector lever and hydraulic control valve moved throughout first and second gear positions without sticking or binding. A metal plate installed across the opening of the shifting guide for the transmission selector lever prevented 3rd gear from being selected in forward or reverse.
- The blade control has four positions: float, lower, hold, and raise. The blade control was found in the float detent position. Since, distinct hand effort is required to push the control lever from hold to the detent float position; investigators determined the victim must have put the blade control in the float position before he exited the bulldozer.

Braking System Design

The service and parking brake systems consist of spring-applied, hydraulically-released, enclosed wet disc brakes in both track drives. The service brake is activated by a foot pedal which varies the brake pressure to the wet disc brakes. The parking brake is activated by a hand control lever. The parking brake lever linkage has an overcenter spring. This spring pulls the lever to apply or release the parking brake. If the operator wants to fully apply the parking brake, he will move the lever down. When the lever moves past the overcenter position, the overcenter spring will pull the lever the remaining distance to fully apply the parking brake.

Conversely, if the operator wants to fully release the parking brake, he will move the lever up. When the lever moves past the overcenter position, the overcenter spring will pull the lever the remaining distance to fully release the parking brake.

The parking brake control lever is designed so that it partially obstructs the exit door of the bulldozer when the parking brake is in the released position. This serves as a visual reminder to the operator to remain in the cab of the bulldozer until the parking brake is

fully engaged. In the released position, the parking brake lever is parallel with the cab floor and approximately 15 $\frac{3}{4}$ inches above the cab floor and approximately 5 $\frac{3}{4}$ inches from the dash panel (see Appendix B, Picture 1).

The foot pedal service brake and parking brake lever controls activate a common single linkage on the steering and brake valve. The same brakes are applied within the track drives regardless of which controls are used. They are automatically applied when the engine is shut down due to hydraulic release pressure to the brakes.

Service and Parking Brake Controls, and Performance Test

When the service brake foot pedal was tested, it functioned and moved throughout its range without sticking or binding. Investigators determined, however, that the pedal linkage was out of adjustment based on the specifications of the original equipment manufacturer (OEM).

The parking brake lever was found in the released position after the accident. The parking brake lever and linkage were still functional but testing revealed problems with the operation of the lever:

- The parking brake had a “stay point” range where the lever was on the applied side of the parking brake linkage overcenter spring, but was not being pulled into the fully applied position by the overcenter spring. The parking brake would be applied, but the lever would not be snapped completely into position.
- Low hand force was all that was needed to pull the parking brake lever through the “stay point” toward the released position.
- The parking brake control lever would move towards the released position if the following sequence occurred: The foot pedal was fully applied. Next, the parking brake was applied. Lastly, the foot brake was released. This movement was able to move the parking brake lever to the released position if the lever was not set past the “stay point” when applied. This sequence could be expected when the bulldozer is stopped by an operator on a steep grade (see Appendix B, Picture 2). If an operator stops on a grade by pushing the foot pedal and then engages the parking brake lever to the “stay point,” the parking brake lever could release when he takes his foot off the foot pedal.

Manufacturer’s Parking Procedure

The victim was not trained on the manufacturer’s parking procedure in the operator’s manual. The general parking procedure outlined in the operation and maintenance manual is as follows:

- Park on a level surface. If necessary to park on a grade, block the machine.
- Apply the service brake to stop the machine.

- Shift the transmission control to neutral.
- Engage the parking brake.
- Lower all implements to the ground and apply slight down pressure.
- Stop the engine.
- Turn the start switch to the OFF position.
- Turn the disconnect switch key to the OFF position and remove the key.

In this instance, the victim had not parked the bulldozer on a level surface. He applied the service brake to stop the machine and he shifted into neutral. He may or may not have engaged, or partially engaged the parking brake. The victim put the bulldozer blade in the float position but did not apply slight down pressure. There were no rippers (long claw-like device on the back of the bulldozer) on the bulldozer. The victim also did not stop the engine, turn the start switch to the OFF position, or turn the disconnect switch key to the OFF position.

Technical Support Findings

MSHA Technical Support determined that the problems with the operation of the parking brake assembly were due to an incorrect overcenter spring installed in the assembly. This spring provided considerably less spring force than the OEM overcenter spring and made it easier for the parking brake lever to move to the released position. The lever force test demonstrated that replacing the incorrect overcenter spring raised the hand force requirements from approximately 1 pound of force to approximately 6 pounds of force. Photographs taken of the bulldozer, before it was purchased, and when it was transferred to the equipment dealer, indicate that the general condition of the parking brake lever linkage existed prior to the mine operator purchasing the bulldozer. The lack of a positive spring and linkage action to firmly hold the parking brake control lever in the applied position could have contributed to the accident had the victim engaged or attempted to engage the parking brake and it did not hold (see Appendix B, Pictures 3 and 4).

Ground Control Plan

The mine operator's ground control plan was established by the mine operator and filed with MSHA on April 13, 2016, over a year before the Oak Hill P-47 operation became active and producing. The Oak Hill P - 47 refuse bank area began operation on July 13, 2017, 12 days before the accident. At the time of the accident, the mine operator had not developed another ground control plan which included provisions to address the hazards associated with mining on a refuse bank.

The plan should have included the following provisions to insure safe mining conditions:

- Maintaining a substantial pile of refuse material at the end of a bulldozer push path to prevent the bulldozer from pushing over the edge of the push path. This

pile of refuse material is created when the bulldozer pushing the material leaves one to two bulldozer blades of material at the end of the push.

- Maintaining the edge of the bulldozer push path at a reduced grade to prevent a condition where a bulldozer could travel over the edge of a push path.

Training and Experience

MSHA conducted a thorough review of Reading Anthracite Company's training records. The victim had seven years and nine months of total mining experience as an equipment operator. He received his first eight hours of new miner training on November 9, 2015, and completed the required twenty four hours of training on November 12, 2015, at West Spring Energy LLC. Task training records verify that he received training on D10, D9R, and D9T bulldozers, 16G grader, 375 excavator, HM400 articulated truck, and various haul trucks. The last record of annual refresher training he received was at West Spring Energy LLC on February 2, 2017.

On July 13, 2017, the victim started at Reading Anthracite Company's New St. Nicholas Breaker (Oak Hill P - 47 Operation). He received hazard training specific to the mine site and task training on the bulldozer on the same day he started working alone on the refuse bank clearing trees.

Since the victim was a new employee but an experienced miner, the operator was required to give him experienced miner training. While he received experienced miner training, it was inadequate. The victim was not trained on the specific mining conditions or on the mine's ground control plan, as specifically outlined in the operator's training plan approved by MSHA on November 13, 2013.

While the victim did receive task training on the bulldozer, the training was not conducted according to the operator's approved training plan, which required using the bulldozer's operator's manual issued by the manufacturer. This manual was not used when the victim was task trained because the mine operator did not have a copy. In addition, investigators learned that the parking procedures for parking on a grade were not discussed or performed during task training. Greg Sterling, Maintenance Superintendent, provided the victim with the task training on the bulldozer. However, he did not review the CAT D9L operator's manual with the victim and had never operated the machine.

Non-contributory citations were issued for violations of 30 C.F.R. § 48.27(a)(1), 30 C.F.R. § 48.29(a), and 30 C.F.R. § 48.27(d) due to training deficiencies.

ROOT CAUSE ANALYSIS

MSHA conducted an analysis to identify the most basic causes of the accident that were correctable through reasonable management controls. Root causes were identified that, if eliminated, would have either prevented the accident or mitigated its consequences.

Listed below are root causes identified during the investigation and the operator's implemented corrective actions to prevent a recurrence of this type of accident:

1. Root Cause: The mine operator did not provide adequate task training to the victim. The operator's approved training plan required training on the provisions in the bulldozer's operating manual but the operator did not have a copy of the manual. In addition, investigators learned that the parking procedures for parking on a grade were not discussed and performed during task training.

Corrective Action: The mine operator adequately trained equipment operators on the safety aspects and safe operating procedures of their machines, according to the operating manuals and approved training plan. The task training included supervised practice during nonproduction or supervised operation during production.

2. Root Cause: The mine operator did not develop a suitable ground control plan. The ground control plan did not address the hazards associated with mining a refuse bank.

Corrective Action: The mine operator has developed a ground control plan to address the hazards associated with mining on a refuse bank.

3. Root Cause: The mine operator did not provide adequate experienced miner training, as outlined in its approved training plan. The training plan requires training on the ground control plan, which was inadequate at the time of the accident

Corrective Action: The mine operator trained all equipment operators on the provisions of the ground control plan that were added after the fatal accident.

CONCLUSION

On Tuesday, July 25, 2017, a 28-year-old equipment operator with seven years and nine months of total mining experience was fatally injured while operating a Caterpillar D9L bulldozer on a refuse bank. The accident occurred when the victim, who was working alone, was run over by the bulldozer. Investigators believe that shortly before the accident he exited the bulldozer onto the slope of the refuse bank and into the bulldozer's push path near the edge of the refuse bank.

Because the manufacturer's parking procedure was not followed, the bulldozer moved downhill after the victim exited the bulldozer. When the bulldozer hit him, he was positioned between the track and blade. The bulldozer did not stop, but traveled over the edge of the refuse pile and came to rest at the bottom of the embankment. There were no witnesses to the accident.

The fatal accident occurred because the manufacturer's braking procedure was not followed. Also, the mine operator did not adequately task train the victim in accordance with the approved training plan, which included training on the safe operating procedures outlined in the bulldozer's operators manual for parking the bulldozer on a grade. In addition, the mine operator did not maintain the bulldozer in a safe operating condition with regard to the braking system.

Approved By:

Russell J. Riley,
District Manager

Date

ENFORCEMENT ACTIONS

1. 103(k) order, number 8002778 was issued to Reading Anthracite Company, to ensure the safety of all persons on site, and to prevent the destruction of evidence that would aid in investigating the cause or causes of the accident.
2. 104(d)(2) order, number 8002780 was issued to Reading Anthracite Company citing 30 CFR § 77.1000.

During a fatal accident investigation, it was determined on July 26, 2017, the operator's current ground control plan, acknowledged April 13, 2016, does not address mining conditions at the Oak Hill P - 47 Operation (refuse bank). The ground control plan does not address maintaining a pile of refuse material at a reduced grade at the edge of the bulldozer push path to prevent over travel of a bulldozer, and to ensure safe working conditions. A bulldozer operator was fatally injured on July 25, 2017, when the Caterpillar (CAT) D9L, serial number 14Y02387, bulldozer he was operating ran over him and traveled over the refuse bank edge. The Oak Hill P - 47 Operation has been active and producing since July 13, 2017. The mine operator produced a ground control plan for the Oak Hill P - 47 refuse bank when the mine ID was 36-01968. This plan was acknowledged for Oak Hill P - 47 before the mine was consolidated with 36-01966 on February 3, 1977.

3. 104(a) citation, number 8003202 was issued to Reading Anthracite Company, citing 30 CFR § 77.404(a).

During a fatal accident investigation, it was determined on July 29, 2017, the Caterpillar (CAT) D9L bulldozer, serial number 14Y02387, was not maintained in safe operating condition. A defective parking brake spring and linkage assembly was detected during examination and testing of the parking brake lever, which was conducted by the Mine Safety and Health Administration's Mechanical and Engineering Safety Division of Technical Support. A bulldozer operator was fatally injured on July 25, 2017, when the bulldozer he was operating ran over him and traveled over the refuse bank edge. The foot pedal service brake control and the parking brake lever control activate a common single linkage on the steering and brake valve. The service brake was found to be out of adjustment per original equipment manufacturer (OEM) specifications.

4. 104(d)(2) order, number 8002744 was issued to, Reading Anthracite Company citing 30 CFR § 48.27(a)(1).

During a fatal accident investigation, it was determined that on July 26, 2017, adequate task training was not given to the operator of the Caterpillar (CAT) D9L,

serial number 14Y02387, bulldozer according to the operator's approved training plan dated November 13, 2013. The operator did not have the CAT D9L operator's manual to task train the bulldozer operator in the safe operating procedures until after the fatal accident occurred. Procedures listed in the operator's manual for parking the CAT D9L bulldozer on a grade were not followed. The bulldozer blade was determined to be in the float position with the engine running and the parking brake was in the off position when the CAT D9L bulldozer came to rest. A bulldozer operator received fatal injuries on July 25, 2017, when the bulldozer he was operating ran over him and came to rest at the bottom of a refuse bank. The Federal Mine Safety and Health Act of 1977 states that an untrained miner is a hazard to himself and others.

5. 104(d)(2) order, number 8003201 was issued to, Reading Anthracite Company citing 30 CFR § 48.26(a)(2).

During a fatal accident investigation, it was determined that on July 26, 2017, a bulldozer operator was not given adequate experienced miner training. This miner was transferred from West Spring Energy LLC's surface coal mine, ID 36-08489 to Reading Anthracite Company's New St. Nicholas Breaker (Oak Hill P - 47 Operation) ID 36-01966. The training was not adequate because it did not cover the specific mining conditions and the ground control plan. These subjects are required for experienced miner training, as outlined in the mine operator's approved training plan dated November 13, 2013. The training received at West Spring Energy LLC did not cover the tasks and mining conditions at Oak Hill P - 47 Operation. A bulldozer operator was fatally injured on July 25, 2017, when his Caterpillar (CAT) D9L, serial number 14Y02387, bulldozer ran over him and traveled over the refuse bank edge. The Federal Mine Safety and Health Act of 1977 states that an untrained miner is a hazard to himself and others.

6. 104(d)(2) order, number 8002779 was issued to, Reading Anthracite Company citing 30 CFR § 77.1607(n).

During a fatal accident investigation, it was determined that on July 25, 2017, a miner with one week and five days experience at the job did not block the tracks, or turn the bulldozer into a bank or berm, before dismounting the parked Caterpillar (CAT) D9L, serial number 14Y02387, on a grade. The CAT D9L bulldozer ran the victim over, and then traveled over the edge of the refuse bank and came to rest at the bottom of the embankment. The parking brake was not engaged where the bulldozer came to rest. The mine operator failed to task train the victim on how to block the tracks or turn the bulldozer into a bank or berm.

Appendix A
Persons Participating in the Investigation
(Persons interviewed are indicated by a * next to their name)

Reading Anthracite Company

<u>Name</u>	<u>Title</u>
*Frank Derrick.....	General Manager
*Riccardo Muntone.....	Vice President of Safety and Compliance
*Seth Huey.....	Foreman
*Greg Sterling.....	Maintenance Superintendent
*Joe Kelly.....	Mine Superintendent
*Paul Vuksta.....	Foreman
*Christian Kaiser.....	Foreman
*John Bell.....	Equipment Operator
*Mike Miller.....	Equipment Operator
*Frederick E. Rehrig Jr	Foreman
*Robert Leddy.....	Mechanic
*Machenzie Spicher	Mechanic
*John Koch	Equipment Operator
*Travis Wiest	Equipment Operator
*Kyle Weidensal	Equipment Operator
*Charles Evans	Equipment Operator
*Jason Noecker	Equipment Operator
*Dylan Bowers	Fuel Truck Drivers

United Mine Workers of America

<u>Name</u>	<u>Title</u>
Ron Bowersox.....	International Representative
*William Ploxa.....	Safety Committee Chairman

Cleveland Brothers Equipment Company, Incorporated

<u>Name</u>	<u>Title</u>
Stanley Bednash.....	Technical Services Manager
Jeff Ambrose.....	Technical Communicator
Paul Sleva.....	Mechanic

Mine Safety and Health Administration

<u>Name</u>	<u>Title</u>
Joseph J. Draugelis.....	Coal Mine Safety and Health Inspector/Investigator
Michael J. Dudash.....	Coal Mine Safety and Health Inspector/Investigator
Patrick M. Boylan.....	Coal Mine Safety and Health Supervisor/Liaison

Appendix A Cont'd

Mine Safety and Health Administration Cont'd

<u>Name</u>	<u>Title</u>
F. Terry Marshall.....	Technical Support/Mechanical Engineer
Ronald F. Farrell.....	Coal Mine Safety and Health Inspector
Stephen J. Kowalick.....	Coal Mine Safety and Health Inspector

Pennsylvania Department of Environmental Protection, Anthracite and Industrial Minerals Mine Safety Division

<u>Name</u>	<u>Title</u>
Colvin C. Carson.....	Bureau Director
Troy A. Wolfgang.....	Chief
David L. Williams.....	Mining Engineer Consultant
Terry D. Wolfgang.....	Anthracite Underground Mine Inspector

Appendix B
Parking Brake Lever

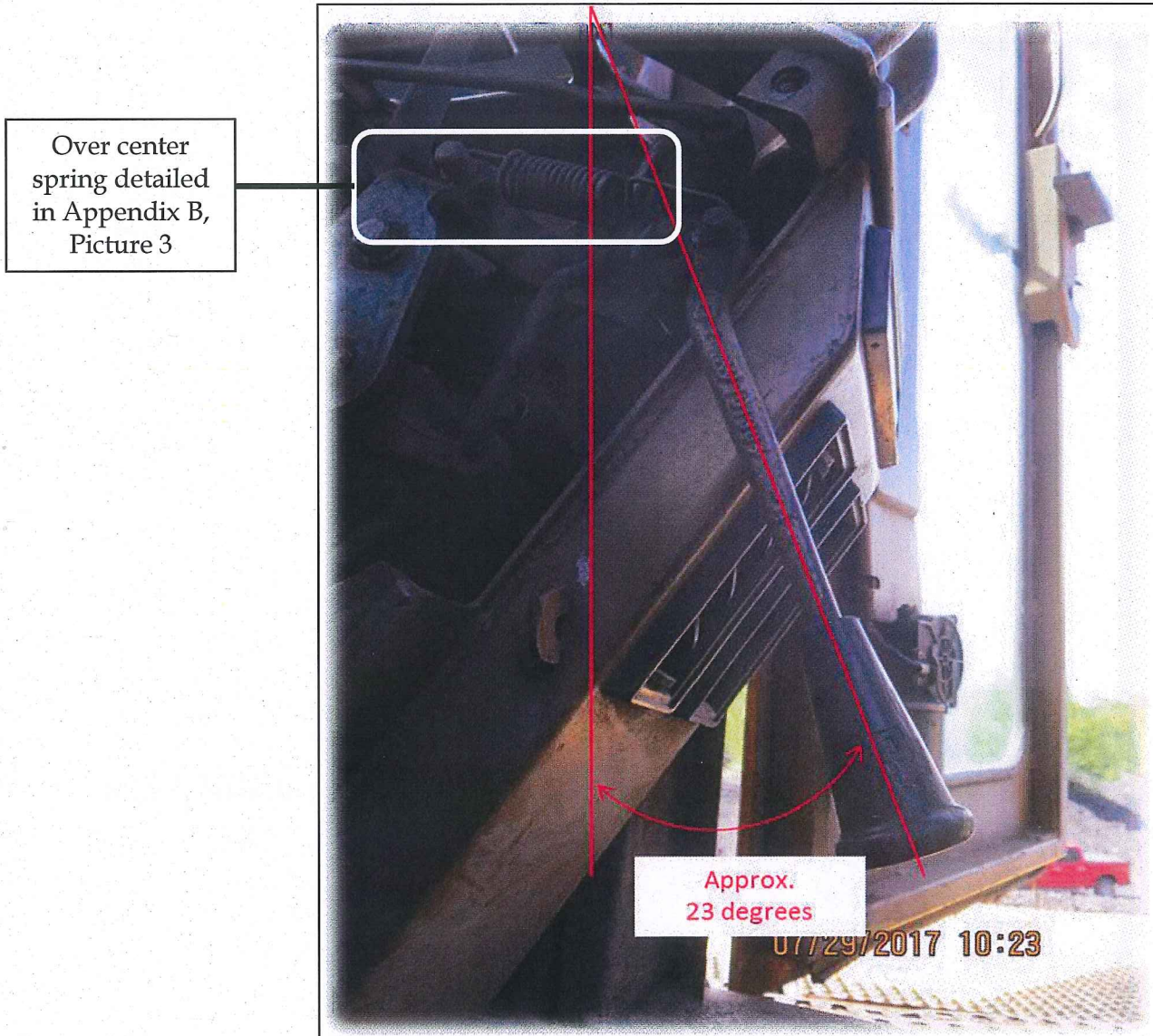
Picture 1



Parking brake lever in the released position showing partial obstruction of the exit path where the bulldozer operator exits the cab.

Appendix B Cont'd
Parking Brake Lever

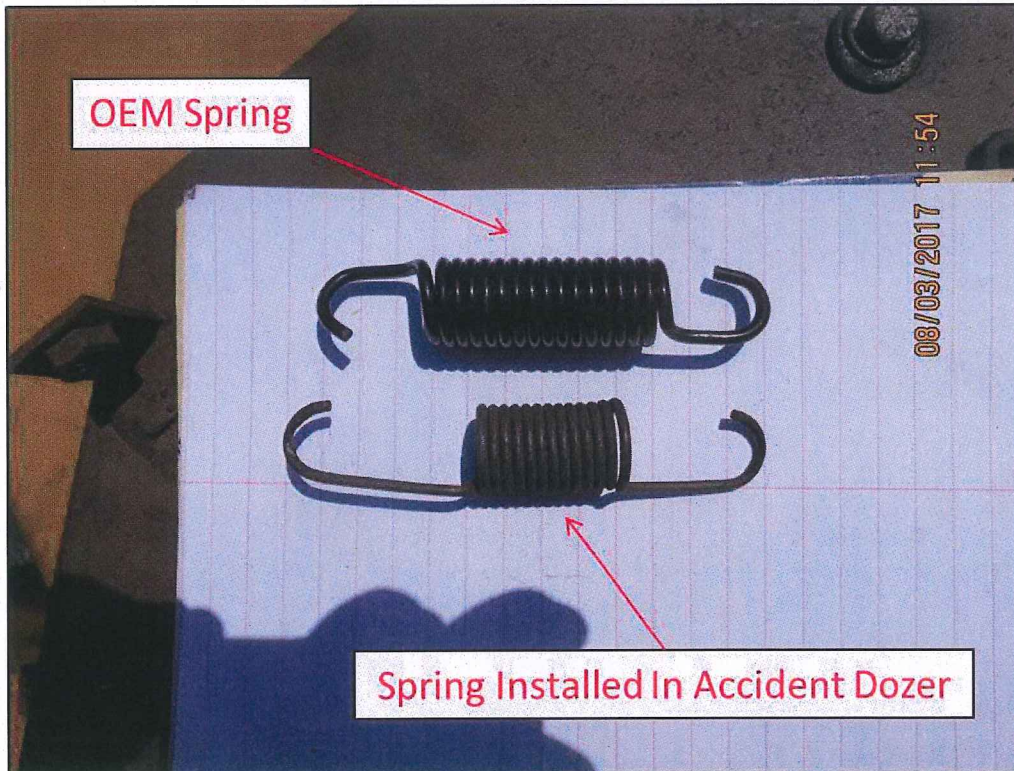
Picture 2



Example of 23 Degree "Stay Point" Range of Parking Brake Lever.

Appendix B Cont'd
Parking Brake Lever

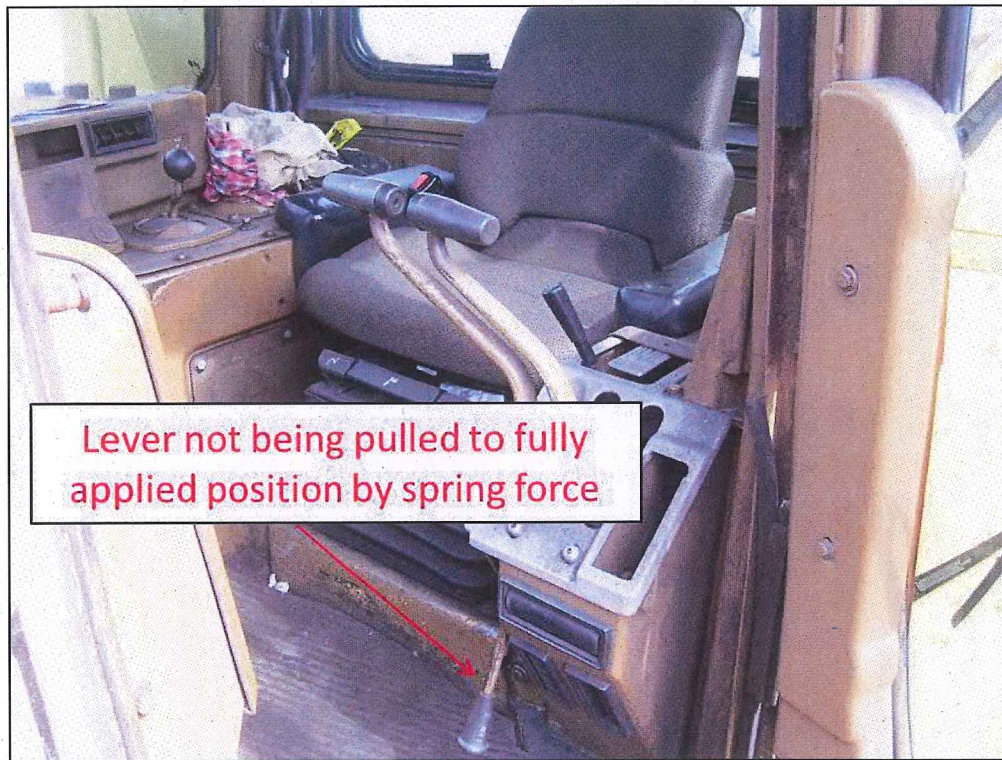
Picture 3



Brake lever over center spring comparison.

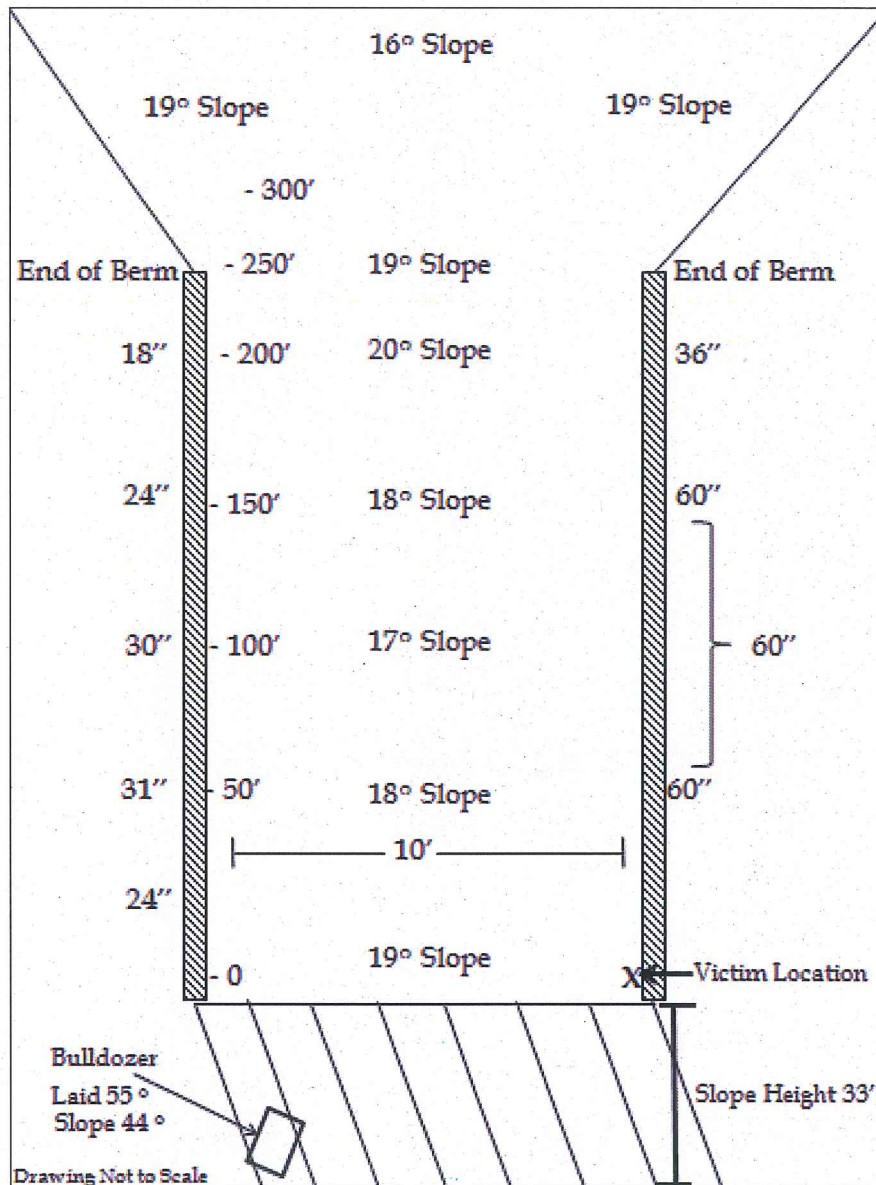
Appendix B Cont'd
Parking Brake Lever

Picture 4



Photograph of Cab Interior Prior to Bulldozer Being Purchased by the Mine Operator Showing Relative Position of the Parking Brake Lever with the Transmission Selector Lever in Neutral (N).

Appendix C Accident Location



Appendix D Victim Information

Accident Investigation Data - Victim Information

U.S. Department of Labor

Mine Safety and Health Administration



Event Number: 4 3 1 1 0 6 7

Victim Information: 1

1. Name of Injured/Ill Employee: <i>Andrew J. Oxenrider</i>				2. Sex: <i>M</i>		3. Victim's Age: <i>28</i>		4. Degree of Injury: <i>01 Fatal</i>													
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 07/25/2017 b. Time: 11:05</i>								6. Date and Time Started: <i>a. Date: 07/25/2017 b. Time: 6:00</i>													
7. Regular Job Title: <i>168 Bulldozer/tractor operator</i>						8. Work Activity when Injured: <i>023 Get on or off equipment/machine</i>						9. Was this work activity part of regular job? <div style="text-align: center;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></div>									
10. Experience		Years	Weeks	Days	b. Regular		Years	Weeks	Days	c. This		Years	Weeks	Days	d. Total		Years	Weeks	Days		
a. This					Job Title:					Mine:					Mining:						
Work Activity:		<i>7</i>	<i>36</i>	<i>6</i>			<i>1</i>	<i>36</i>	<i>6</i>			<i>0</i>	<i>1</i>	<i>5</i>			<i>7</i>	<i>36</i>	<i>6</i>		
11. What Directly Inflicted Injury or Illness? <i>076 Surface Mining Machines</i>										12. Nature of Injury or Illness: <i>370 Multiple Injuries</i>											
13. Training Deficiencies:																					
Hazard:				New/Newly-Employed Experienced Miner:						<input checked="" type="checkbox"/>		Annual:				Task:		<input checked="" type="checkbox"/>			
14. Company of Employment: (If different from production operator) <i>Operator</i>										Independent Contractor ID: (if applicable)											
15. On-site Emergency Medical Treatment:																					
Not Applicable:				<input checked="" type="checkbox"/>		First-Aid:				CPR:				EMT:				Medical Professional:		None:	
16. Part 50 Document Control Number: (form 7000-1) <i>220172160001</i>										17. Union Affiliation of Victim: <i>2555 United Mine Workers of Amer.</i>											

