

CAI-2013-01

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION
(Surface Coal Mine)

Fatal Accident (Machinery)
January 26, 2013

Watts Welding & Fabricating (NXA)
Slemp, Kentucky

at

Begley Resources, #1
T & T Energy, LLC
Hyden, Leslie County, Kentucky
MSHA ID No. 15-19550

Accident Investigator
David A. Faulkner
Surface Coal Mine Health and Safety Inspector

Originating Office
Mine Safety and Health Administration
District 7
3837 S. U.S. Hwy. 25 E, Barbourville, Ky. 40906

Irvin T. Hooker, District Manager

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PHOTOGRAPH OF ACCIDENT SCENE



OVERVIEW

On Saturday, January 26, 2013, at approximately 11:10 a.m., a machinery accident occurred at the T & T Energy, LLC, Begley Resources # 1 Mine, located near Hyden, Leslie County, Kentucky. Jerry A. Watts (victim), a 52 year old contract welder with 30 years of experience, received blunt force trauma injuries when he was struck by a metal liner (component of the push blade) being repaired on a Caterpillar D10R bulldozer's push blade. (See Appendix E for sketch). The victim died from injuries sustained in the accident. There were no eye-witnesses to the accident.

The accident investigation team determined that while conducting repairs on the bulldozer push blade's metal liner, the victim positioned himself partially between the metal liner and the push blade. A hydraulic jack used to support the metal liner slipped, allowing the metal liner to retract and strike the victim.

GENERAL INFORMATION

The Begley Resources # 1 mine is a surface coal mine that is located at 1081 Willie Begley RV Park Road, off Highway 421 in Hyden, Kentucky. The mine had 38 employees at the time of the accident, operating two production shifts daily, five to six days per week. The active work area is identified as Area 15, No. 8. The mine produces 1,000 tons of coal per day from the Hazard No. 8, Hazard No. 9, and Hazard No. 10 coal seams. Coal is mined with wheel loaders, haul trucks, and bulldozers. The coal is transported from the coal pit to delivery locations by contract trucking companies.

The principal officers for T & T Energy, LLC are:

Amy C. Hamilton.....Managing Member
Mervin Anthony Hamilton..... Superintendent

The last regular safety and health inspection (E01) conducted by the Mine Safety and Health Administration (MSHA) was completed on December 11, 2012. The mine's Non Fatal Days Lost (NFDL) incidence rate for 2012 was 0.0, compared to the national average of 1.04 for mines of the same type.

DESCRIPTION OF ACCIDENT

At approximately 7:15 a.m. on Saturday, January 26, 2013, Jerry A Watts, Contract Welder, arrived for work. Rodney D. Couch, Foreman, met Watts in the parking area of the mine identified as Area 15, No. 8. Couch informed Watts that the metal liner of the push blade on the Caterpillar D10R bulldozer, Co. # 104, was peeling up and needed repaired. At this time, the bulldozer was in operation, but was to be available for repairs shortly. Prior to beginning repairs on the push blade, Watts traveled to the oxygen and acetylene storage area to acquire a cylinder of acetylene for his welding truck. Upon return, Watts found the Caterpillar bulldozer parked and available for repairs.

Before beginning repairs on the push blade, Watts communicated by CB radio with James Thomas Elsea, Mechanic, and requested to use his service truck. The service truck was equipped with an air compressor needed for the operation of the air hammer. Elsea, who was operating a haul truck, instructed Watts to go ahead and use the truck. After parking the service truck adjacent to the bulldozer, Watts again communicated with Elsea requesting instruction on the operation of the hydraulic air compressor.

Shortly afterwards, Watts communicated again by CB radio with Kenneth Bowling, Excavator Operator, requesting instructions on the operation of the Caterpillar 365 excavator. At this time, Bowling was operating a haul truck in the pit area. Bowling was later instructed by the mine foreman to return the haul truck to the parking area and retrieve the excavator for use in the active pit area. Upon arrival to the parking area, Bowling found Watts operating the excavator. Watts was using the bucket attachment to remove dirt and materials from behind the damaged liner on the push blade of the bulldozer. While at this location, Bowling asked Watts if he need any assistance. Watts declined and completed his excavator work. Thereafter, Bowling assumed operation of the excavator and trammed the excavator to the pit area.

At approximately 10:50 a.m., Mervin Anthony Hamilton, Superintendent, drove by the parked bulldozer on his way to the mine office to pick up a blast hole drill bit. Hamilton observed Watts standing near the rear of his welding truck as he passed. At approximately 11:15 a.m., Hamilton was returning from the mine office. Hamilton stopped at Watts' location to obtain a wrench from the service truck and to ask Watts for assistance in changing the drill bit. Hamilton found Watts lying unresponsive in front of the bulldozer.

Hamilton contacted Couch by CB radio and told him to come quickly, because Watts had been injured. Jody Bowen, Loader Operator/Mine Emergency Technician (MET), and Elsea heard the call and responded to the location. Approximately two minutes later, Bowen arrived and began checking Watts for vital signs. Watts was unresponsive and lacked a pulse. Bowen was unable to perform CPR due to the extent of the injuries Watts had sustained. A call was made to the local 911 dispatch center and the local ambulance service responded to the accident scene. Watts was pronounced dead at the mine by the Leslie County Coroner at 1:00 p.m.

INVESTIGATION OF ACCIDENT

Mervin Anthony Hamilton, Superintendent, called the National Call Center at 11:37 a.m. on January 26, 2013. The call center notified MSHA / Coal Mine Safety and Health (CMS&H) Special Investigation Supervisor, Kenneth McClung of the accident at 11:55 a.m. McClung contacted Clayton E. Sparks, Assistant District Manager, via telephone. Sparks called Samuel R. Creasy, Supervisor for the CMS&H Barbourville Field Office. Creasy then made contact with David A. Faulkner, Accident Investigator.

A 103(j) Order was issued verbally by Creasy at 1:45 p.m. to ensure the safety of the miners and to preserve the accident scene. Faulkner and Creasy then traveled to the accident scene. Upon their arrival, the 103(j) order was modified to a 103(k) order at 2:15 p.m. Preliminary information was gathered and the accident scene examined. The accident investigation was conducted in coordination with the Commonwealth of Kentucky Office of Mine Safety and Licensing (KOMSL).

Formal interviews were conducted on January 28, 2013, at the KOMSL Office in Hazard, Kentucky. For a list of those who participated in the interviews, see Appendix B.

DISCUSSION

The accident occurred while Watts was conducting repairs to the center portion of the metal liner on the push blade of the Caterpillar D10R bulldozer. A hydraulic jack was positioned between the push blade surface and the inside of the damaged metal liner. Watts was using an air hammer with a chisel attachment to remove dirt and contaminants from behind the metal liner in preparation to repair the push blade. The metal liner was extended outward enough to allow Watts to position his arm and a portion of his head behind the metal liner. The vibration caused by the air hammer against the metal liner and push blade allowed the hydraulic jack to slip. The metal liner recoiled, striking Watts in the head and pinning his arm. The hydraulic jack was found lodged on its side between the metal liner and the push blade.

MACHINE INFORMATION

The Caterpillar Model D10R Track-Type Bulldozer, serial number AKT00480, was identified as Company # 104.

BULLDOZER PUSH BLADE

The bulldozer was equipped with a universal push blade (U-Blade), serial number BHP00220. The push blade measured approximately sixteen feet, eight inches wide by six feet, nine and one half inches tall. The surface areas of the push blade and metal liner are manufactured in a concave (curving inward) manner.

The surface area of the damaged metal liner measured approximately nine feet, one and one half inches wide by six feet, two inches tall and three fourths of an inch thick. The estimated weight is 1,432 lbs.

AIR HAMMER & HYDRAULIC JACK

The air hammer was an Ingersoll-Rand hand-held tool with a chisel attachment. The compressed air was supplied by a hydraulic air compressor mounted on the company service truck.

The hand operated hydraulic jack had an estimated capacity of sixteen tons. The base of the jack measured approximately five inches by five and one half inches. When recovered, the jack was extended approximately 12 inches.

WEATHER CONDITIONS

Weather data obtained for the mine location at the approximate time of the accident indicated the temperature to be 28 degrees, the dew point 26 degrees, relative humidity 93%, winds 0 mph, with fog and visibility 4 miles. The weather was not a contributing factor to this accident.

The area underneath the hydraulic jack was dry where the jack was being used to support the metal liner and did not contribute to slippage of the jack.

TOXICOLOGY

Toxicology of the victim's blood was conducted post-mortem. The results of the toxicology indicated that the victim was positive for Cannabinoids and Methadone.

TRAINING & EXPERIENCE

Training records indicated that Watts received experienced miner training on 06/27/2011. Task training records indicated that Watts had received task training as a welder on 06/27/2011. The last annual refresher training was received on 03/24/2012. Information obtained through the investigation, interviews and family liaison contacts determined that Watts had 30 years of experience as a welder.

A review of mine operator's training program was conducted. Deficiencies were found for the mine operator not completing training requirements as required by 30 CFR § 48.31, and 30 CFR § 48.27, which did not contribute to the accident. Violations were issued under a separate event for these deficiencies.

ROOT CAUSE ANALYSIS


An analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. During the analysis, a root cause was identified that, if eliminated, would have either prevented the accident or mitigated its consequences. The following root cause was identified and the corresponding corrective action was implemented to prevent a recurrence.

1. *Root Cause:* Mine Management failed to implement policies and procedures to ensure that the metal liner on the push blade of the bulldozer was blocked or secured against motion during repairs and failed to train the miners in these procedures.

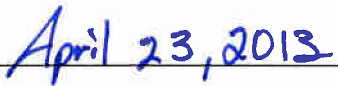
Corrective Action: Mine Management has established and implemented written safety procedures and provided additional training to the affected miners for blocking and securing mobile equipment or components prior to repairs.

CONCLUSION

The accident occurred because the mine operator failed to ensure that the contract welder blocked or secured the metal liner on the push blade of the bulldozer against motion. The accident investigation team concluded that the hydraulic jack used to support the metal liner slipped, creating a recoil action of the metal liner. The injuries received from the blunt force trauma caused the death of the victim.



Irvin T. Hooker
District Manager



Date

ENFORCEMENT ACTIONS¹

Order No. 8388035 was issued to T & T Energy, LLC on January 26, 2013, under the provisions of Section 103(j) of the Mine Act:

An accident occurred at this operation on 01-26-2013, at approximately 11:20 a.m. As rescue and recovery work is necessary, this order is being issued, under Section 103(j) of the Federal Mine Safety and Health Act of 1977, to assure the safety of all persons at this operation. This order is also being issued to prevent the destruction of any evidence which would assist in investigating the cause or causes of the accident. It prohibits all activity at the entire mine site, until MSHA has determined that it is safe to resume normal mining operations in this area. This order applies to all persons engaged in the rescue and recovery operation and any other persons on-site. The order was initially issued orally to the mine operator at 13:45 and now been reduced to writing.

Modified Order No. 8388035 to 103(k) order at 14:15 p.m.

104(d)1 Order No. 8388048 was issued to T & T Energy, LLC, for violation of 30 CFR § 77.405(b).

As a result of a fatal accident investigation at the T & T Energy, LLC, Begley Resources # 1 mine, it has been concluded that management failed to ensure the contract welder securely blocked in position the metal liner (component) measuring nine feet one and one half inches by six feet, two inches, located on the push blade of the Caterpillar D10R bulldozer, Co. # 104, S/N AKT00480. A hydraulic jack was used to raise the metal liner (component) away from the push blade. The jack slipped allowing the metal liner to strike the victim. No blocking was provided at the location of the bulldozer. This violation is an unwarrantable failure to comply with a mandatory standard.

¹ Because the victim was the sole proprietor of the contracting entity, no enforcement actions were issued to the contractor.

APPENDIX A

List of persons furnishing information and/or present during the investigation:

T & T Energy, LLC Officials & Employees

James Thomas ElseaMechanic
Jamie CollettMine Office Manager
Rodney D. Couch.....Mine Foreman
Bill Woods Chief Financial Officer
Mervin Anthony Hamilton..... Superintendent
Amy C. Hamilton.....Managing Member

Kentucky Office of Mine Safety & Licensing

Tracy Stumbo..... Chief Accident Investigator
Greg Goins Deputy Chief Accident Investigator
Tim Fugate Deputy Chief Accident Investigator
Ricky Johnson..... District Supervisor
Ralph Crawford..... Inspector Principal
Gene Adams.....Surface Mine Safety Analysis
Ronald Patrick Turner.....Inspector
Ronnie WhitakerInspector

Mine Safety and Health Administration

Steven L. Sorke..... Accident Investigation Coordinator /Staff Assistant
David A. Faulkner.....CMS&H Surface Specialist/Accident Investigator
Samuel R. Creasy.....Supervisory CMS&H Inspector
Deborah B. Combs..... Educational Field Service/Training
Lester Cox Family Liaison
Clayton E. Sparks.....Assistant District Manager
Irvin T. Hooker District Manager

APPENDIX B

List of Persons Interviewed

David P. Ferguson.....	Drill Operator
Ronald Douglas Bray.....	Haul Truck Operator
Harold D. Howard.....	Haul Truck Operator
Kenneth Bowling Jr.	Excavator Operator
James Thomas Elsea	Mechanic/Equipment Operator
Jody Paul Bowen.....	Wheel Loader Operator
Kevin Dean Spurlock.....	Equipment Operator
Rodney D. Couch.....	Mine Foreman
Mervin Anthony Hamilton.....	Superintendent

APPENDIX C

MSHA Form 7000-50b

Accident Investigation Data - Victim Information

U.S. Department of Labor
Mine Safety and Health Administration



Event Number:

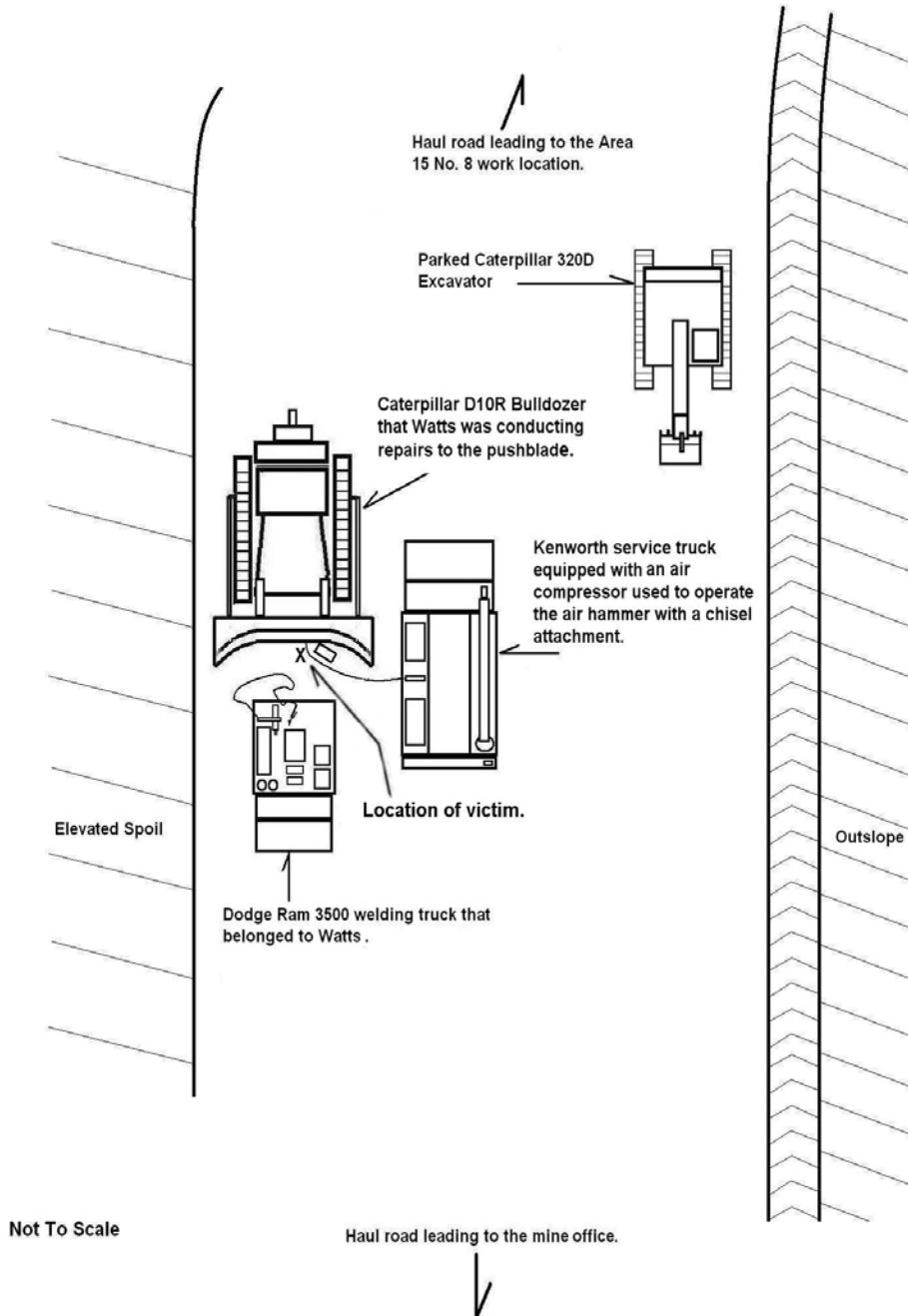
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Victim Information: 1																																																											
1. Name of Injured/Ill Employee: <i>Jerry A. Watts</i>			2. Sex <i>M</i>		3. Victim's Age <i>52</i>			4. Degree of Injury: <i>01 Fatal</i>																																																			
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 01/26/2013 b. Time: 13:00</i>						6. Date and Time Started: <i>a. Date: 01/26/2013 b. Time: 7:00</i>																																																					
7. Regular Job Title: <i>121 Welder/blacksmith</i>				8. Work Activity when Injured: <i>039 Machine maintenance/repair</i>				9. Was this work activity part of regular job? <table style="width: 100%;"><tr><td>Yes</td><td><input checked="" type="checkbox"/></td><td>No</td><td><input type="checkbox"/></td></tr></table>				Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>																																												
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11. What Directly Inflicted Injury or Illness? <i>086 Metal cover/guard/door/gate/mat/canopy</i>						12. Nature of Injury or Illness: <i>170 Crushing</i>																																																					
13. Training Deficiencies Hazard: <table style="width: 100%;"><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table> New/Newly-Employed Experienced Miner: <table style="width: 100%;"><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table> Annual: <table style="width: 100%;"><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table> Task: <table style="width: 100%;"><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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16. Part 50 Document Control Number: (form 7000-1)						17. Union Affiliation of Victim: <i>9999 None (No Union Affiliation)</i>																																																					

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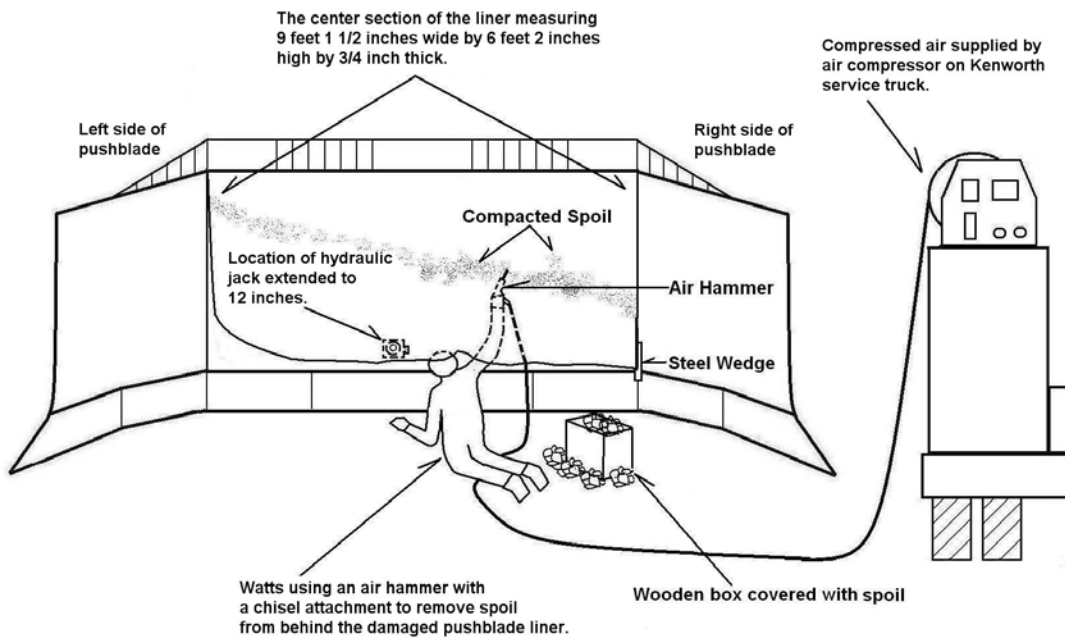
Victim Information:																																																											
1. Name of Injured/Ill Employee:			2. Sex		3. Victim's Age			4. Degree of Injury:																																																			
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:						6. Date and Time Started:																																																					
7. Regular Job Title:				8. Work Activity when Injured:				9. Was this work activity part of regular job? <table style="width: 100%;"><tr><td>Yes</td><td><input type="checkbox"/></td><td>No</td><td><input type="checkbox"/></td></tr></table>				Yes	<input type="checkbox"/>	No	<input type="checkbox"/>																																												
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11. What Directly Inflicted Injury or Illness?						12. Nature of Injury or Illness:																																																					
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APPENDIX D
Overall Sketch of Accident Scene



APPENDIX E
Detailed Sketch of Accident Scene

**Front View of the Caterpillar D10R
Universal Blade (U-Blade)**



Not To Scale