

UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Mine

Fatal Machinery Accident  
September 19, 2008

Battlecreek Corporation, dba  
Battlecreek-Tri-Mountain Corporation (R542)  
Summersville, West Virginia

at

Alex Energy Incorporated  
No.1 Surface Mine  
Drennen, Nicholas County, West Virginia  
46-06870

Accident Investigator

Andrew J. Sedlock  
Coal Mine Safety and Health Inspector

Originating Office  
Mine Safety and Health Administration  
District 4  
100 Bluestone Road  
Mt. Hope, West Virginia 25880  
Robert G. Hardman, District Manager

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## OVERVIEW

On Friday, September 19, 2008, at approximately 3:20 p.m., a 61 year old bulldozer operator with 40 years of mining experience received multiple injuries when he failed to maintain control of the bulldozer he was operating at a reclamation site. The bulldozer rolled over four (4) times coming to rest on its top. The victim died on October 4, 2008, from blunt force injuries sustained in the accident. The accident occurred as the result of the bulldozer operator failing to maintain control of the Caterpillar D6R II bulldozer on steep terrain consisting of loose dirt and rocks and a solid rock outcrop.

## GENERAL INFORMATION

The Alex Energy No. 1 Surface Mine is located at Drennen, Nicholas County, West Virginia and is owned by Massey Energy Inc., Richmond, Virginia. The mine employs 230 miners and operates two production shifts.

The officers for the mine at the time of the accident were:

Jon Brown.....President  
Patrick Bruffy.....General Mine Superintendent  
Jonah Pritt.....Safety Director

Battlecreek-Tri-Mountain Corporation, Summersville, West Virginia, I.D. No. R542, is an independent contractor providing excavation work for the mining company and other industries.

The officers for the independent contractor were:

James O. Woods (victim).....President  
Jamie Woods.....Vice President

The last regular inspection by the Mine Safety and Health Administration (MSHA) of this operation was completed July 7, 2008. The mine Non Fatal Days Lost (NFDL) incidence rate for 2007 was 1.71 compared to the national average of 4.71 for mines of the same type.

## DESCRIPTION OF THE ACCIDENT

On Friday, September 19, 2008, James O. Woods, the victim, met with Bernard Brown, excavator operator, at approximately 7:00 A.M. It was standard procedure to fuel the equipment, and grease and inspect machinery prior to the beginning of each shift, which they did on this morning. Following the pre-shift maintenance, the men walked the area where they would be working to determine their work cycle(s), look for potential problem areas or unsafe conditions, and discuss their work plan.

Brown and Woods started the shift by covering a slurry line located directly below the reclamation area utilizing the excavator and dozer. This was directly below the Payne-Gallion area that was to be reclaimed to eliminate the outcrop of a rock ledge from a previous contour mining highwall. A drainage ditch between the reclaim area and slurry line had to be reopened and cleared of large rocks. The drainage ditch would act as a landing for the reclaim dozer when he came down the slope, as well as a means of access back to the top of the slope via a core drain.

The two men worked at covering the slurry line and opening the drainage ditch until some time between 12:30p.m. and 1:00 p.m., then stopped to have a lunch break. Shortly after 1:00 P.M., following the lunch break, Woods trammed the Caterpillar D6R II dozer, serial number CAT00D6RCAAX00492, to the top of the approximate 280 foot slope to begin the reclamation work. The top 100 feet of the

slope was 1.68 to 1 ratio to the top of the backstacked highwall left by previous mining. This ledge was created when the area was drilled and blasted to move overburden. A portion of the original highwall was still visible. From the highwall to the drainage ditch the slope ratio was 1.41 to 1 for approximately 180 feet.

Woods made 6 passes with the dozer down the slope to the drainage ditch, pushing material for reclamation of the area. He proceeded up the ditch to a core drain, up the drain to an access road on top and then back down the slope to a work area approximately 1000 feet away.

Brown cleared large rocks from the drainage ditch as Woods completed each pass down the slope. At approximately 3:20 p.m., Woods' dozer made the seventh pass down the slope, when the machine made a sudden turn to the left and immediately began to roll down the slope. The dozer made four complete rolls before coming to a stop on its top in the drainage ditch approximately 180 feet below the rock outcrop.

Brown rushed to the accident scene and found Woods hanging upside down in the seat belt. Brown attempted several times to get a response from the victim. On the third attempt the victim responded. Brown carefully removed Woods from the seat belt to the ground, returned to his excavator and radioed for help.

Mine emergency personnel responded, treated Woods at the scene, and then transported him by stretcher approximately 1000 feet to a vehicle that transported him to an ambulance. Woods was taken to Charleston Area Medical Center, General Division for treatment. The victim died on Saturday October 4, 2008, at 11:29 p.m. due to injuries sustained in the accident.

## INVESTIGATION OF THE ACCIDENT

MSHA was notified at 3:20 p.m. on September 19, 2008, that a serious accident had occurred at the Alex Energy Incorporated, No. 1 Surface Mine. Inspectors from the Summersville and Mount Hope Field Offices traveled to the site and issued a 103(k) order to ensure the safety of all persons during the investigation. The accident investigation was conducted with the assistance of the West Virginia Office of Miners Health, Safety and Training (WVOMHS&T), the mine operator, independent contractor, and mine employees. A list of those persons participating in the investigation can be found in Appendix A.

## DISCUSSION

The Caterpillar Performance Handbook, Edition 35, publication number SEBD0345, covers the D6R II, which was the model involved in this instance. The handbook

outlines the extreme slope operation for Caterpillar Track Type Tractors. This information is relative to the degree slope angle the machine can safely operate and still maintain proper lubrication. The handbook defines Extreme Slope operation as anytime the slope exceeds 25 degrees (47 percent). The slope's maximum angle at the accident scene was 36 degrees. This is within the slope angle designated in the company's Ground Control Plan for deposited spoil (37 degrees or angle of repose). However, the degree of slope at the reclaim/accident site exceeds the designation of Extreme Slope Operation. The handbook further recommends when working under these conditions consideration must be given to the following points: 1) Speed of travel. 2) Roughness of terrain or surface. 3) Mounted equipment. 4) Nature of surface. 5) Track slippage due to load. 6) Implements hitched to drawbar. 7) Height of hitch on tractor. 8) Width of shoes. 9) Operated equipment (performance features).

A check of the Caterpillar Monitoring System on the Electronic Control Module did not show evidence of a malfunction that could have contributed to the sudden left turn and loss of control.

Loose, layered rocks, ranging from 4 inches to 12 inches in thickness, were present on the slope for a distance of approximately 30 feet just above the rock outcrop (photo). The layered rocks were approximately 15 feet wide and had apparently rolled down with each dozer pass. There were Grouser traction tracks leading up to the rocks, but no sign of track traction on these rocks. Rocks, unobserved by the dozer operator on the steep slope, acted as layered ball bearings, causing sudden speeding up or loss of directional control (#2 and #4 points above). This sudden loss of control and turn to the left occurred just above an approximate 18 inch high outcrop of the original highwall. When the right track slipped over the outcrop it dropped, causing the dozer to tilt and begin rolling down grade.

#### ROOT CAUSE ANALYSIS

An analysis was conducted to determine the most basic causes of an accident that were correctable through reasonable management controls. Listed below are root causes identified by the analysis and their corrective actions implemented to prevent a recurrence of the accident.

Root Cause: The dozer operator failed to maintain full control of the equipment he was operating on extreme slope conditions.

Corrective Action: Equipment operators will be trained to identify extreme conditions, operate equipment safely in extreme conditions, and recognize the limitations of equipment in extreme conditions.

Root Cause: An effective procedure was not in place for those certified persons performing On Shift Inspections to identify conditions that may adversely affect equipment handling during extreme slope operation.

Corrective Action: Persons designated by the operator to perform on shift inspections will be trained in identifying extreme operating conditions, operating and machinery limitations, and written company policy.

#### CONCLUSION

The accident occurred because the equipment operator was unaware of the slope conditions on which he was operating and failed to maintain full control of the equipment.

Approved by:



Robert G. Hardman  
District Manager



Date

## ENFORCEMENT ACTIONS

1. A 103(k) order was issued on September 19, 2008, to assure the safety of all persons in the Payne-Gallion reclamation area. A serious accident has occurred at this operation when a bulldozer performing reclamation work at the Payne-Gallion reclamation area when a miner sustained multiple injuries when the bulldozer he was operating overturned and rolled over approximately 4 times down the slope. This order is issued to insure the safety of all persons at this operation. It prohibits all activity in the Payne-Gallion reclamation area until MSHA has determined that it is safe to resume normal mining operations in this area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore operations in the affected area.
2. A 104(a) Citation No. 6620570, was issued to Battlecreek-Tri-Mountain on September 24, 2008 for a violation of 30CFR 77.1607(b) stating that the operator of a Caterpillar D6R II bulldozer, performing reclamation work at the Payne-Gallion reclaim area of the mine, did not maintain full control of the equipment he was operating while it was in motion. Failure to maintain full control resulted in the dozer rolling over four (4) times down the slope.



Appendix A

Persons Participating in the Investigation

Alex Energy Inc.

Jonah Pritt..... Safety Director  
Patrick Bruffy..... Production Superintendent  
Jon Brown..... President  
Dave Hardy..... Council  
Jeremy Crist..... Chief Engineer  
John B. Woods..... Foreman  
Will Fisher..... Permitting Coordinator  
Herbert Cruise..... Environmental Foreman

Battlecreek-Tri-Mountain

Jeremy Woods..... Vice-President

West Virginia Office of Miner' Health, Safety, and Training

Gary S. Snyder..... Inspector-At-Large  
Barry Koerber..... Attorney  
C. A. Phillips..... Deputy Director  
Henry Armentrout..... Inspector

Mine Safety and Health Administration

Andrew J. Sedlock..... Coal Mine Safety and Health Inspector

# Appendix B

**Accident Investigation Data - Victim Information**

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



Event Number:

<b>Victim Information: 1</b>														
1. Name of Injured/Ill Employee: <i>James O. Woods</i>			2. Sex: <i>M</i>	3. Victim's Age: <i>61</i>		4. Last Four Digits of SSN:			5. Degree of Injury: <i>01 Fatal</i>					
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 10/04/2008 b. Time: 22:29</i>							7. Date and Time Started: <i>a. Date: 09/19/2008 b. Time: 7:00</i>							
8. Regular Job Title: <i>168 Bulldozer Operator</i>				9. Work Activity when Injured: <i>047 Reclamation</i>					10. Was this work activity part of regular job? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
11. Experience a. This		Years	Weeks	Days	b. Regular	Years	Weeks	Days	c. This	Years	Weeks	Days	d. Total	
Work Activity:		<i>40</i>	<i>0</i>	<i>0</i>	Job Title:	<i>40</i>	<i>0</i>	<i>0</i>	Mine:	<i>3</i>	<i>0</i>	<i>0</i>	Mining: <i>40 0 0</i>	
12. What Directly Inflicted Injury or Illness? <i>117 Rollover down steep grade</i>							13. Nature of Injury or Illness: <i>370 Fracture /low spine, bruises, contusions</i>							
14. Training Deficiencies: Hazard:           New/Newly-Employed Experienced Miner:           Annual:           Task:														
15. Company of Employment: (If different from production operator) <i>Tri-Mountain Corporation, Battle Creek Co.</i>										Independent Contractor ID: (if applicable) <i>R542</i>				
16. On-site Emergency Medical Treatment: Not Applicable:           First-Aid:           CPR:           EMT: <input checked="" type="checkbox"/>           Medical Professional: <input checked="" type="checkbox"/>           None:														
17. Part 50 Document Control Number: (form 7000-1)							18. Union Affiliation of Victim: <i>9999 None (No Union Affiliation)</i>							

<b>Victim Information:</b>														
1. Name of Injured/Ill Employee:			2. Sex:	3. Victim's Age:		4. Last Four Digits of SSN:			5. Degree of Injury:					
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death:							7. Date and Time Started:							
8. Regular Job Title:				9. Work Activity when Injured:					10. Was this work activity part of regular job? <input type="checkbox"/> Yes <input type="checkbox"/> No					
11. Experience a. This		Years	Weeks	Days	b. Regular	Years	Weeks	Days	c. This	Years	Week	Days	d. Total	
Work Activity:					Job Title:				Mine:				Mining:	
12. What Directly Inflicted Injury or Illness?							13. Nature of Injury or Illness:							
14. Training Deficiencies: Hazard:           New/Newly-Employed Experienced Miner:           Annual:           Task:														
15. Company of Employment: (If different from production operator)										Independent Contractor ID: (if applicable)				
16. On-site Emergency Medical Treatment: Not Applicable:           First-Aid:           CPR:           EMT:           Medical Professional:           None:														
17. Part 50 Document Control Number: (form 7000-1)							18. Union Affiliation of Victim:							

<b>Victim Information:</b>														
1. Name of Injured/Ill Employee:			2. Sex:	3. Victim's Age:		4. Last Four Digits of SSN:			5. Degree of Injury:					
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death:							7. Date and Time Started:							
8. Regular Job Title:				9. Work Activity when Injured:					10. Was this work activity part of regular job? <input type="checkbox"/> Yes <input type="checkbox"/> No					
11. Experience a. This		Years	Weeks	Days	b. Regular	Years	Weeks	Days	c. This	Years	Week	Days	d. Total	
Work Activity:					Job Title:				Mine:				Mining:	
12. What Directly Inflicted Injury or Illness?							13. Nature of Injury or Illness:							
14. Training Deficiencies: Hazard:           New/Newly-Employed Experienced Miner:           Annual:           Task:														
15. Company of Employment: (If different from production operator)										Independent Contractor ID: (if applicable)				
16. On-site Emergency Medical Treatment: Not Applicable:           First-Aid:           CPR:           EMT:           Medical Professional:           None:														
17. Part 50 Document Control Number: (form 7000-1)							18. Union Affiliation of Victim:							