

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Coal Mine

Fatal Powered Haulage Accident
February 11, 2011

West States Skanska, Inc. (VH8)
Cortez, CO

at

Kayenta Mine
Peabody Western Coal Company
Black Mesa, Navajo County, Arizona
MSHA I.D. No. 02-01195

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VIEW OF ACCIDENT SCENE

VEHICLE COLLISION SITE



OVERVIEW

On Friday, February 11, 2011, at approximately 2:00 p.m., Roy Lee Black (victim), a 55-year-old serviceman with 30 years mining experience, was killed in a powered haulage accident at the J21 Pit, Ramp 38 area of the Kayenta Mine. The accident occurred as Black was driving a combination fuel/service truck on a two-way haul road between ramps 40 and 38 after servicing equipment around the mine site. Several scrapers were operating on the same haul road as part of a topsoil removal operation. The traffic pattern was two-way, right-hand traffic. A scraper was being driven, traveling in the opposite direction on the haul road and on the wrong side for the right-hand traffic pattern. The scraper and the fuel/service truck collided.

Because of a blind intersection, scraper operators drove on the left side (left-hand traffic pattern) of the haul road when entering the haul road. Traffic approaching on the same side of the haul road (right-hand traffic pattern) could not be seen because of a high berm. The road was not marked adequately with signage to ensure that the equipment operators knew which vehicle had the right of way.

The operation of the scraper's bowl control lever was not working properly and contributed to the operator not having full control of the vehicle. Intermittently, the control lever would stick and not activate the bowl to lower or raise.

Management's lack of proper procedures for contacting the personnel working in that area before entering the area was also a contributory factor.

GENERAL INFORMATION

The Kayenta Mine is a large surface mine, located 15 miles south of Kayenta, Arizona, and is operated by Peabody Western Coal Company, a subsidiary of Peabody Energy Corporation located in St. Louis, Missouri. The principal officers at the mine at the time of the accident were Barry Grass, Mine Manager; Scott Williams, Operations Manager; and On-site Safety Manager, Daniel Ashike. The miners are represented by the United Mine Workers of America (UMWA).

Kayenta Mine began operations under the current operator in 1998. The mine produced 7,752,277 tons of coal in 2010. Mining at the Kayenta Mine is performed with draglines and backhoes. Multiple seam mining is conducted in three active pits. Two pits are being reclaimed. The mine employs 412 miners.

Topsoil removal and reclamation operations were being performed by West States Skanska (Skanska), MSHA Contractor ID VH8. Skanska owns and maintains the equipment and has supervision over the crew, but the crew members are employed by

Peabody Western Coal Company. Twelve miners were employed by Skanska to manage the reclamation projects. These twelve miners worked at the mine site.

Skanska normally schedules four, 10-hour shifts, Monday through Thursday and one 8-hour shift on Friday. When production quotas require it, Skanska extends the Friday shift to 10 hours and has on occasion scheduled Saturday work.

At the time of the accident, an E01 inspection was in progress. The event was opened on October 29, 2010. The last E01 inspection was completed on September 30, 2010. The non-fatal days lost (NFDL) incidence rate for the mine for 2010 was 0.20. The national NFDL incidence rate for surface coal mines for 2010 was 1.12.

DESCRIPTION OF ACCIDENT

On Friday, February 11, 2011, at approximately 7:00 a.m., Dickson Hoshnic, Sr., Scraper Operator, reported for the start of his shift at the West States Skanska's start-up building along with others working on the topsoil removal crew. Keith Curnutte, Skanska Maintenance Supervisor, was acting as the project supervisor because regularly assigned supervisors, Leo Martinez and George Adams, were attending a yearly company meeting in Cortez, Colorado. After a short safety talk, Curnutte assigned the crew to the day's activities.

Curnutte assigned one operator to the push bulldozer, one operator to the grader for haul road maintenance, one operator to the water truck, and three operators to the scrapers hauling topsoil. All operators had previous experience on all pieces of equipment. Each operator, including Hoshnic, did a pre-operational inspection of Caterpillar Model 631E scraper #069019 and proceeded to the topsoil removal area at J21 Pit.

At approximately 8:00 a.m., day shift serviceman, Roy Black (victim), reported for the start of his shift at the J28 Shop area. Spencer Pavinyama, Mobile Equipment Maintenance Supervisor, informed Black of his job duties for the day. This included a scheduled service and preventative maintenance (PM) on a bulldozer and routine work of servicing equipment in the J21 and J19 Pit areas.

At approximately 8:30 a.m., Hoshnic informed Curnutte that there was a crack on the right side window of the scraper. Curnutte told him to take the scraper to the Skanska's start-up area for repair. Hoshnic took the scraper to the area. There he traded for scraper #217 and returned to the topsoil removal worksite and continued hauling topsoil.

At about 9:30 a.m., Pavinyama saw Black outside the J28 Shop. Black did not display any signs of distress. Later that morning, Black was assisting Sam Secody, Day-Shift

Mechanic, and Ron James, Mechanic, with the repair of a ripper shank on bulldozer #329 in the J19 Pit, ramp 53 area.

The broken window in scraper #069019 that Hoshnic was operating was replaced. During a lunch break, about 11:45 a.m., Curnutte told Hoshnic that his scraper, #069019, was repaired. Hoshnic replied that he would stay on scraper #217 for the remainder of the shift. After lunch Hoshnic returned to the topsoil cut area and continued hauling topsoil.

After lunch, in a separate location of the mine, Black returned to servicing equipment. At approximately 1:00 p.m., Black traveled to J19 Pit, ramp 41, to fuel the drill. After about fifteen minutes of fueling and talking with drill operator Alfred Murphy, Black asked about the location of other equipment in the area. Murphy told him that there was a bulldozer and Black proceeded back down, towards ramp 44.

About 1:40 p.m., in the J21 Pit, ramp 40 area, Black radioed for the location of bulldozer #332. Robin Whitla, #332 bulldozer operator, tried to respond to Black, but radio communications were spotty and intermittent in this area of the mine. After several attempts between Black and Whitla, Black arrived at ramp 40 where bulldozer #332 was working. Black proceeded to fuel and service the bulldozer and talked briefly with Whitla. After completing the servicing, Black left the site and traveled east on a two-way haul road between ramps 40 and 38.

Just before 2:00 p.m., Hoshnic had placed a load of topsoil on Topsoil Pile 27 and was returning to the topsoil removal cut area. He had traveled up a slight hill; past a portable toilet, then down and slightly upgrade again, until reaching the two-way haul road between ramps 38 and 40. The scraper road intersects on the south side of the haul road at ramps 38 and 40. Hoshnic continued to travel westerly on the left due to a high berm blocking his view of possible intersecting traffic. Hoshnic was preparing to stop to take a toilet break after he crossed to the right side.

Hoshnic stated he tried to lower the scraper bowl by pulling on the bowl lever. He turned back to look at the bowl to see if it had lowered, but the bowl did not respond. When he turned back around, he saw the fuel/service truck that Black was operating approximately 20 to 30 feet in front of him. Hoshnic stated that the driver's head was down and he could not recognize who was driving. At approximately 2:00 p.m., Hoshnic's scraper collided with the service truck driven by Black. There was no evidence of evasive measures taken by either operator.

Hoshnic called Curnutte on the radio saying, "Adam 12, Get back over here," and "There has been an accident." Hoshnic shut down the scraper and exited the cab. He moved around the scraper to the driver's side of the service truck. He saw the victim in the wreckage. The service truck was on fire at that point.

Herbert Harrison, scraper operator, arrived at the accident site in another scraper and used the radio to call for first responders. Hoshnic attempted to extinguish the fire by using Harrison's fire extinguisher and temporarily knocked down the flames.

Curnutte arrived at the site and called for an ambulance and fire truck. He used the fire extinguishers from his truck and from scraper operator Watson Manydules's scraper, who had just arrived at the site to try to put out the fire that was growing on the service truck. Curnutte saw the victim and yelled to him, but got no response. The fire had engulfed the cab. Curnutte motioned to the drivers in the two scrapers to move out of harm's way.

Hoshnic was placed in Curnutte's pickup truck and driven to the east away from the accident scene. The Peabody ambulance arrived on the scene at approximately 2:20 p.m. and Hoshnic was treated for left shoulder and arm pain. Hoshnic was transported by ambulance to Kayenta Emergency Room in Kayenta, Arizona where he was treated and released.

Approximately 33,000 gallons of water from two water trucks were used on the fire. The fire was finally extinguished at about 4:30 p.m. A Navajo Police Officer and criminal investigator, Reeder Nez of the local Navajo Nation Division of Public Safety, arrived on site. Black was pronounced dead at the scene of the accident at 6:40 p.m. and was transported to a mortuary. Subsequently, an autopsy was performed.

INVESTIGATION

The Mine Safety and Health Administration (MSHA) was notified of the accident at 2:18 p.m. on February 11, 2011, when the mine operator called the MSHA Call Center. Dan Vetter, Acting Staff Assistant to the District Manager, was notified of the accident by the Call Center at 2:37 p.m., February 11, 2011. At that time, the mine reported an unplanned fire was occurring and that it had not been extinguished. Dan Vetter called the mine and spoke with Edward Whitehair, who had contacted the Call Center. Whitehair confirmed the fire was still ablaze and involved two pieces of equipment that had collided.

Vetter then called the Farmington, New Mexico, Field Office Supervisor, William E. Vetter, in his office to inform him of the fire. A second call was placed to the mine and again, Whitehair was contacted. Whitehair did not have information about the extent of injuries, if any, but provided a cell number for the operations manager who was at the accident site. At 2:47 p.m. Dan Vetter issued a 103(j) Order orally to preserve the accident scene and ensure the safety of the miners.

Dan Vetter called the operations manager, Scott Williams, and he confirmed a fuel truck and scraper were still burning. Williams reported that the operator of the fuel/service truck was killed. Williams was told that a verbal 103(j) Order had been issued.

William Vetter was called a second time and informed of the 103(j) Order and the reported fatality. William Vetter traveled to the mine to assess the scene. He arrived at about 7:25 p.m. Also on site at that time, was the local Navajo Nation Division of Public Safety, Criminal Investigator, Reeder Nez.

An MSHA investigation team was assembled and began arriving at the mine site on February 12, 2011. MSHA's Technical Support Branch was contacted and a mechanical engineer, Ronald Medina, arrived at the mine on February 13, 2011. The accident scene was documented with photographs, sketches, maps, and measurements. Interviews were conducted with persons known to have knowledge of the accident. A list of persons who participate in the investigation is contained in Appendix A. Other documents and records; such as: training records, onshift examination records, pre-operational examination records, equipment maintenance records, maps, aerial photographs, and radio transmission recordings, were collected from Skanska and Peabody Western Coal Company.

DISCUSSION

Location of Accident

The accident happened on an unnamed haul road in the J21 Pit area between ramps 38 and 40. The J21 Pit area is approximately 4.5 miles south of the main J28 Facilities area of the Kayenta Mine (see Appendix C).

Accident Scene

Skanska's topsoil removal operation above the J21 Pit area involved scrapers, a water truck, a grader, and a bulldozer. The Skanska topsoil removal crew utilized Channel 7 on the company two-way radios for communications among the members of the crew. The rest of the mine, including Black, used channel 1. The scrapers were being used to remove topsoil (topsoil cut area), in advance of the pit, and haul it eastward in a counterclockwise direction to place the topsoil into Topsoil Stockpile 27 (see Appendix D). The scrapers would continue in the counterclockwise direction and return to the topsoil cut area via the haul road between ramps 38 and 40, as shown on Appendix D. This route created a circular traffic pattern for the scrapers that was approximately 2.5 miles long and took about 10 minutes per trip. The scraper road intersected ramp 38 from the left and a high berm separated the two roads (See Appendix E). This caused the scrapers to travel on the left side of the road. The scraper operators would continue on the left side on the haul road until the operators were sure no vehicles were approaching from the left. The scraper operators would then travel to the right side.

Appendix E shows the position of Scraper #217 on the left side of the haul road at the collision site. The haul road was approximately 80 feet wide at that point. The haul road varied in width from 100 feet at ramp 38 to 150 feet at the west end. At ramp 40, it was relatively flat in slope.

The location of bulldozer #332 and the route that Black's service truck traveled is depicted on Appendix D. The service truck traveled approximately 900 feet westerly and the scraper traveled easterly about 650 feet on the haul road before the collision.

During the recovery activities, a bulldozer was used to pull the scraper back to separate the vehicles. Both vehicles were then loaded on trailers and transported offsite for further testing and examinations.

The bench haul road and scraper topsoil haul roads were in good condition and had been graded and watered prior to the accident. The weather was not a factor in the accident.

Work Place Examinations

The topsoil removal operations at the J21 Pit area were not examined by a certified person for hazardous conditions during the shift. Skanska and Peabody Western mine management were aware that the regularly-assigned supervisors (certified surface mine foremen) would not be on the mine site on this day. The supervisors were scheduled to attend an annual meeting in Cortez, Colorado during the shift. The fill-in supervisor was not a certified mine foreman and the daily on-shift examination was conducted by a non-certified person. This condition has been cited five times in the last two years at this mine (three to the operator, two to the contractor, Skanska)

Vehicles

The vehicles involved in the accident were a 2009 Peterbilt Model 348 Fuel/Lube Service Truck, with a Vehicle Identification Number (VIN) of 797542 stamped on the frame; and a 1997 Caterpillar 631E Scraper, Serial No. 1AB01738 (The Fuel/Lube Service Truck was owned by the mine and the scraper was owned by Skanska, Contractor ID No. VH8. Both vehicles were operated by Peabody personnel.)

General Service Truck Information

The model 348 Peterbilt Fuel/Lube truck was equipped with a diesel fuel storage tank that was 10 feet long, 8 feet wide and 4 feet, 10 inches high; and four smaller tanks containing lubricants and service fluids. The diesel fuel storage tank had a capacity of 2,500 gallons. The four small tanks ranged in size from 75 gallons to 250 gallons. The truck was equipped with a PACCAR PX 8, turbocharged and after-cooled diesel engine, rated at 330 HP at 2,200 rpm, and an Allison 3000 RDS-P automatic 6-speed transmission. The truck had a Dana Spicer DSH44 tandem rear axle and was provided with an engine compression release brake which acts as a retarder.

The maximum Gross Vehicle Weight Rating (GVWR) for the truck as specified by Peterbilt was 64,000 lbs (20,000 lbs for the steering axle, and 22,000 lbs for each of the two drive axles). The fully loaded weight of the truck (all tanks full) was within the 64,000 lb weight rating. However, the exact weight at the time of the accident could not be determined since most of the fuel and service fluids were consumed in the fire.

Service Brake System Description – Service Truck

The service brake system consisted of a cam-operated, air-applied, expanding shoe type drum brake at each wheel. The steering axle was equipped with type 24 brake chambers, and both drive axles were equipped with type 30-30 brake chambers. All the axles were equipped with automatic slack adjusters.

Each of the type 30-30 brake chambers provided both service and parking brake capability. The forward chamber provided service braking capability and the rear chamber provided parking brake capability. The type 24 brake chambers on the steering axle provided only service brake capability. When compressed air entered the service brake chambers, the pushrods extended from the chambers and applied the service brake. The truck was equipped with a desiccant type air dryer.

Parking Brake System Description – Service Truck

An internal spring inside the parking brake sections of the type 30-30 brake chambers provided spring-applied, air-released parking brake capability. The parking brake was manually applied with a push-pull control in the cab and was designed to apply automatically upon loss of air pressure.

General Damage Caused by the Accident

The leading edge of the tractor portion of the scraper overrode the bumper of the fuel truck and pushed five feet into the cab of the truck, where it came to rest after the accident. One of the truck's fenders and metal shards from the truck's oil pan were found approximately 10 to 15 feet forward from the leading edge of the truck after it came to rest, and a metal shard from the service truck was found under the front left scraper tire. The service truck's transmission was torn from the frame and was found under the front axle of the truck. The truck engine was also torn from the frame in the impact. The ensuing fire entirely engulfed the truck and destroyed the cab, brake hoses and other brake components. The fire was hot enough to melt aluminum components on the truck. The melting point of aluminum is approximately 1,220 degrees, Fahrenheit. The parking brake sections of all four type 30-30 brake chambers separated during the fire and the four parking brake springs were found in the accident area.

After the accident, the front bumper of the truck, which was still attached to the truck, was found 2 inches away from the leading edge of the front left scraper tire. The tractor portion of the scraper, including the engine, operator cab controls, steering hoses, brake

components, and transmission Electronic Control Module (ECM) were also damaged in the impact and subsequent fire.

Nearly all of the diesel fuel in the service truck's fuel storage tank as well as all the servicing fluids in the four smaller tanks were consumed in the fire. After the accident, all the tanks were empty or contained only residual amounts of fuel, lubricants, and water. Approximately 33,000 gallons of water from two water trucks was used to extinguish the fire.

Wheel by Wheel Evaluation – Service Truck

All the wheels and brake drums were removed to allow inspection of the drums and linings.

The truck was equipped with 16.5 inch by 7 inch drum brakes on all six wheels. The inside diameters of all the brake drums were measured and ranged from 16.528 inches to 16.580 inches which were all within the maximum allowable diameter of 16.620 inches which was stamped on the drums. All the brake linings were measured and ranged from $\frac{3}{8}$ inch thick to $\frac{3}{4}$ inch thick. Other than fire related damage, no defects were found.

Steering System Evaluation – Service Truck

All of the service truck steering linkage was intact. When the input shaft to the steering gearbox was rotated the front wheels turned. A functionality test on the steering linkage was performed after the accident. Free play was not specifically measured.

General Scraper Information

The Caterpillar 631E Scraper was powered by a Caterpillar 3408 turbocharged and aftercooled diesel engine rated at 490 Net HP at 2,000 rpm. The scraper was an articulated machine and had a load rating of 75,000 lbs. The Gross Vehicle Weight of the complete machine was 172,460 lbs and the empty weight was 97,460 lbs. The transmission had eight forward speeds and one reverse speed. The maximum rated travel speed in a forward direction was 33.2 mph.

Service Brake System Description – Scraper

The service brake consisted of a cam-operated, air-applied, expanding shoe type drum brake at each of the four wheels. Each wheel was equipped with a dual-chamber brake actuator and a manual slack adjuster. The brake actuators contained an internal spring section that provided for a spring-applied, air-released parking/secondary brake. The scraper was equipped with a desiccant type air dryer.

Parking/Secondary Brake System Description – Scraper

The parking/secondary brake consisted of the activation of the service brake shoes by the spring sections of the four brake actuators. The parking/secondary brake was

manually applied with a push-pull knob on the instrument panel. The parking/secondary brake system was designed to provide an audible warning if the brake system air pressure fell below 60 psi and to automatically apply if the air pressure fell below 40 psi.

Brake Tests - Scraper

The scraper engine, the front brake air tanks, the retarder control valve and the parking/secondary brake control valve were damaged in the fire. To allow testing, leaks to the damaged components were stopped and a regulated input pressure from a service truck was connected to the service brake valve which was still functional. The regulated pressure from the service truck was also used to keep the parking/secondary brakes released. The tests were done with an input pressure of 120 psi, which was within the rated operating air pressure for the scraper.

The brake actuator pushrod movement at each of the four wheels, upon service brake application, was measured and found to comply with the Caterpillar service manual for the scraper. The pushrod movements were 2 1/2 inches at the front-left brake, 2 5/8 inches at the front-right brake, 3 inches at the rear-left brake, and 2 1/4 inches at the rear-right brake. A pushrod movement of 3 inches or less is considered to be acceptable according to the service manual. All four brakes were therefore adjusted within this specification. The brake linings were 0.50 inch thick on the front axle (tractor section), and 0.71 inch thick on the rear axle (scraper section) which were acceptable according to the service manual. All the brake drums and linings were dry with no grease or oil contamination.

The scraper was inspected for audible air leaks. One small air leak was found at a threaded connection at the front-right brake actuator. This small air leak would not have impaired any brake performance. At the time of the accident, a normally operating compressor could maintain the rated brake pressure despite the leak. No other audible air leaks were found.

Transmission Evaluation - Scraper

The transmission's internal rotary selector spool was inspected and found to correspond to the transmission gear selector position of second gear. It could not be determined if the driver moved the gear selector during or after the collision.

Steering System Description and Evaluation - Scraper

The scraper was equipped with a steering wheel that was connected to a metering pump. The metering pump sent control pilot pressure to the main steering valve which in turn operated the two hydraulic steering cylinders.

Except for damage caused by the fire, the steering system was intact. The metering valve was removed from the truck and bench tested. The operation of the metering valve was consistent with the specifications in the Caterpillar service manual. The oil level in the hydraulic tank was above the “add” mark, as specified in the service manual.

Bowl Control Lever - Scraper

The scraper operator stated he had problems lowering the bowl from time to time. He had to push and/or pull the bowl control lever to lower the bowl. The scraper operator continued to operate the scraper with this defect without notifying the maintenance department.

January 31, 2011 was the last day the scraper was operated before the accident. Tom Decheene was the scraper operator on the January 31, 2011 shift and for the previous 7 shifts. Decheene had over 20 years experience in operating a scraper, and all of his experience was at this mine.

Decheene stated that he noticed problems in the operation with of the bowl for several weeks to months. During the mornings, when the hydraulic system was cool, the bowl functioned adequately. However, as the system warmed later in the day, he noticed the bowl intermittently "jerking" as it was raised. Also the bowl was slow, or not dropping at all, when the lever was used. Decheene said he never reported this to management or maintenance and was not aware of any other scraper operators reporting it to management or maintenance."

After the accident, the bowl control lever was moved. The control operated smoothly and the bowl handle spring returned to “neutral” when moved to the bowl “lower” or “raise” position. The bowl control lever was still connected to the hydraulic control value and it was used to operate the bowl to make it easier to raise and lower the bowl with a forklift during testing.

Summary

The brake and steering systems on both vehicles were inspected. One minor air leak was found in the scraper brake system. Aside from fire related damage, no other braking, steering, or bowl control lever defects were found.

Training and Mining Experience

Roy Black was a seasoned miner with a lengthy career at the Kayenta Mine. Black’s mining experience totaled 30 years and 8 months, all at Kayenta. A review of training records indicated Black had been task trained in a number of occupations and he was task trained on the fuel/service truck.

Dickson Hoshnic was also a seasoned miner with a long career at the mine. Hoshnic's mining experience totaled 31 years and 2 months, with 16 years and 2 weeks as a scraper operator, all at the Kayenta Mine. A review of training records indicated Hoshnic had been task trained on the scraper. The most recent annual refresher training was conducted on March 13, 2010 for both Black and Hoshnic. Black's and Hoshnic's training complied with Part 48 training requirements.

After the occurrence of the accident, Hoshnic was transported to and treated at the Kayenta Health Center Emergency Room in Kayenta, Arizona. A toxicology test was not performed, although Kayenta Mine protocol requires a toxicology test after an accident.

Black's blood toxicology was tested during an autopsy. The analysis indicated negative results for all substances except caffeine.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted. Root causes were identified that could have prevented the accident or mitigated its severity. Listed below are root causes identified during the analysis and their corresponding corrective actions to prevent a recurrence of the accident.

Root Cause: The traffic pattern of the topsoil removal operations caused the scrapers to stay to the left side when entering the east side of the haul road because of the high berm and possible traffic approaching from the right side. The road was not marked clearly with signage to ensure that equipment operators clearly knew which vehicle had the right of way.

Corrective Action: Mine management has ordered and received sign brackets that are placed on skids for mobility. The mine management has also ordered the manufacturing of signs indicating traffic pattern in the work area, the radio channel used by the work crew. Mine management has also instructed any driver entering the area to announce on the company radio to the work group that they are entering the area. The signs are also designed to indicate traffic rights of way, yielding responsibilities, and stopping requirements.

Root Cause: The operator of the scraper had problems with the operation of the lever that raises and lowers the bowl, causing him to look back to ensure its operation and distracting him from maintaining full control of the vehicle. The operator failed to report this condition to the maintenance department or his immediate supervisor for repair.

Corrective Action: Mine management has reiterated through safety contacts the requirement of reporting any defects developing during the operation of the equipment to management. Equipment operators were instructed to park the equipment if there are defects affecting the safe operation of the equipment.

Root Cause: Management did not have procedures in place for persons who desire to enter a work area to contact personnel already working in that area. The mine has several work areas that communicate on different radio channels and changing radio channels could distract the operator of mobile equipment.

Corrective Action: On February 20, 2011, Mine Manager, Barry Grass, issued a memorandum to Supervisor of Training, Joe Holgate, to institute a comprehensive program to be included in the annual refresher training outlining radio channels in use on the mine property, where the channels are used, and the requirement to use the correct channel when entering the different work groups. Miners will be required to

announce their presence on the appropriate channel when entering a different work area. The next annual refresher training was held on March 16, 2011.

Root Cause: The work place examination for the daily on-shift examination was not conducted by a certified person. Management was aware of a planned absence by the regularly assigned certified examiner, but took no initiative to ensure an adequate work place examination was completed.


Corrective Action: On March 1, 2011, Skanska supervisors and Kayenta Mine Reclamation Project supervisors were called to a meeting with Barry Grass, Production Manager at the mine. They were informed that when absences occur by any member of the team, there will be sufficient communication to ensure coverage for the required workplace examinations.

CONCLUSION

The accident occurred when a fuel/service truck collided with a scraper traveling in the opposite direction on the wrong side of the haul road. The accident occurred because the traffic pattern of the scrapers caused them to stay to the left side when entering the east side of the haul road. A high berm limited visibility of intersecting traffic from the right side. The road was not marked clearly with signage to ensure that equipment operators knew unmistakably, which vehicle had the right-of-way.

The operation of the scraper with a safety defect contributed to the operator not having full control of the vehicle and colliding with the service truck. Also contributing to the accident was management's lack of proper procedures for contacting the personnel working in that area before entering into that work area.

Approved by:



Allyn C. Davis
District Manager

10-14-2011
Date

ENFORCEMENT ACTIONS

1. A 103(j) Order, Number 8465888, was issued to Peabody Western Coal Company to ensure the safety of persons at the accident site until an investigation could be conducted and operations could be safely resumed. The 103(j) Order was modified to a 103(k) Order after the MSHA inspector Arrived at the mine.
2. A 104(a) Citation, Number 6688934, was issued to Peabody Western Coal Company for a violation of 30 CFR § 77.1607(b). The scraper operator did not have full control of the vehicle, causing a head on collision that fatally injured a service man that was driving a fuel/service truck. Scraper #217 was traveling on the wrong side of the two-way haul road when the scraper struck the fuel/service truck head-on. While slowing down for a toilet break, the scraper operator had problems with the operation of the lever (bowl control lever) that raises and lowers the bowl causing him to look back to ensure its operation and distracting him from maintaining full control of the vehicle. On February 11, 2011, a fatal accident occurred when Caterpillar 631E Scraper #217 (Serial No. 1AB01738) collided with Model 348 Fuel/Lube Service Truck (VIN 797542) on the haul road at the J21 Pit Area, ramp 38. The condition of the faulty bowl control lever constitutes a violation of 30 CFR 77 § 404(a), and a citation was issued to the contracting company, West States Skanska.
3. A 104(d)(1) Citation , Number 6688935, was issued to Peabody Western Coal Company for a violation of 30 CFR § 77.1600(b). Signage was absent to clearly indentify which vehicle had the right of way at the intersection of ramp 38 haul road and the scraper road and also at the west end intersection of this scraper road and the haul road near ramp 40. The traffic pattern of the topsoil removal operations caused the scrapers to stay to the left side when entering the intersection at ramp 38. The scrapers traveled on the left side because of a high berm separating the roadways and possible traffic approaching from the right side. The scrapers had been using this traffic pattern for approximately two weeks. On February 11, 2011, a fatal accident occurred when a Caterpillar 631E Scraper #217 (Serial No. 1AB01738) collided with a Model 348 Fuel/Lube Service Truck (VIN 797542) on the haul road at the J21 Pit Area, ramp 38. This violation is an unwarrantable failure to comply with a mandatory standard.
4. A 104(d)(1) Citation , Number 6688936, was issued to West States Skanska, Inc. for a violation of 30 CFR § 77.1600(b). Signage was absent to clearly indentify which vehicle had the right of way at the intersection of ramp 38 haul road and the scraper road and also at the west end intersection of this scraper road and the haul road near ramp 40. The traffic pattern of the topsoil removal operations caused the scrapers to stay to the left side when entering the intersection at ramp 38. The scrapers traveled on the left side because of a high berm separating the roadways

and possible traffic approaching from the right side. The scrapers had been using this traffic pattern for approximately two weeks.. On February 11, 2011, a fatal accident occurred when a Caterpillar 631E Scraper #217 (Serial No. 1AB01738) collided with a Model 348 Fuel/Lube Service Truck (VIN 797542) on the haul road at the J21 Pit Area, ramp 38. This violation is an unwarrantable failure to comply with a mandatory standard.

5. A 104(a) Citation, Number 6688937, was issued to West States Skanska, Inc. for a violation of 30 CFR § 77.404(a). Scraper #217 was not being maintained in a safe operating condition, in that the bowl control lever was malfunctioning during the shift. The scraper operator had to look backward to ensure its operation, and this distracted him and caused him to not maintain full control of the vehicle. On February 11, 2011, a fatal accident occurred when a Caterpillar 631E Scraper #217 (Serial No. 1AB01738) collided with a Model 348 Fuel/Lube Service Truck (VIN 797542) on the haul road at the J21 Pit Area, ramp 38. The condition of not maintaining full control of the vehicle constitutes a violation of 30 CFR § 77.1607(b), and a citation was issued to Peabody Western Coal Company. Due to the accident, Scraper #217 was removed from service.
6. A 104(d)(1) Order, Number 6688938, was issued to West States Skanska, Inc for a violation of 30 CFR § 77.1713(a). There was an inadequate examination for hazardous condition conducted at the topsoil removal operations in the J21 Pit area. A hazardous condition existed when signage was absent to clearly control the traffic patterns in the scraper topsoil removal work area. The scrapers had been using this traffic pattern for approximately two weeks (See Citation # 6688936). Inadequate examinations have been cited twice before to Skanska at this mine during the last two years. The foremen for Skanska, Leo Martinez and George Adams, engaged in aggravated conduct in that neither of them conducted an adequate required workplace examination for approximately the previous two weeks. This violation is an unwarrantable failure to comply with a mandatory standard. On February 11, 2011, a fatal accident occurred when a Caterpillar 631E Scraper #217 (Serial No. 1AB01738) collided with a Model 348 Fuel/Lube Service Truck (VIN 797542) on the haul road at the J21 Pit Area, ramp 38. A non-certified person conducted the daily on-shift examinations on February 11, 2011.
7. A 104(d)(1) Order, Number 6688939, was issued to Peabody Western Coal Company for a violation of 30 CFR § 77.1713(a). There was an inadequate examination for hazardous condition conducted at the topsoil removal operations in the J21 Pit area. A hazardous condition existed when signage was absent to clearly control the traffic patterns in the scraper topsoil removal work area. The scrapers had been using this traffic pattern for approximately two weeks. (See Citation # 6688935). Inadequate examinations have been cited five times in the last two years at this mine (three to the operator, two to the contractor, Skanska). The

foreman for Peabody Western Coal Company, Keith Peaches, engaged in aggravated conduct in that he did not conduct an adequate required workplace examination for approximately the previous two weeks. This violation is an unwarrantable failure to comply with a mandatory standard. On February 11, 2011, a fatal accident occurred when a Caterpillar 631E Scraper #217 (Serial No. 1AB01738) collided with a Model 348 Fuel/Lube Service Truck (VIN 797542) on the haul road at the J21 Pit Area, ramp 38. A non-certified person conducted the daily on-shift examinations on February 11, 2011.

Appendix A:

List of Persons Participating in Investigation

PEABODY WESTERN COAL COMPANY OFFICIALS

Daniel Ashike	Site Safety Manager
William Beaver	Regional Director of Safety
Olaf Jacobson	Forensic Engineer
Christopher G. Peterson	Attorney Representing Peabody Energy

WEST STATES SKANSKA

Richard S. Endres	Attorney Representing West States Skanska
Herschel Hampson	Project Manager
Robert Larson	Managing Engineer
Clark Peterson	Corporate Safety Manager

NAVAJO NATION, DEPARTMENT OF MINERALS

Ben Gilmore	Safety Representative
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UNITED MINE WORKERS

Justin Tsosie	International H&S Representative/organizer
Phil Russell	International H&S Representative/organizer

NAVAJO NATION, DIVISION OF PUBLIC SAFETY

Reeder Nez	Criminal Investigator
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MINE SAFETY AND HEALTH ADMINISTRATION

Allyn C. Davis	District Manager
Ronald Gehrke	Coal Mine Safety and Health Engineer
Jeff (Bill) Scott	Coal Mine Safety and Health Inspector
Ruth Williams	Coal Mine Safety and Health Inspector
William E. Vetter	Coal Mine Safety and Health Supervisor
Dan Vetter	Coal Mine Safety and Health Special Investigation Supervisor
Ronald Medina	Mine Safety and Health Technical Support Mechanical Engineer

Appendix B:

Persons Interviewed during Investigation

PEABODY WESTERN COAL COMPANY

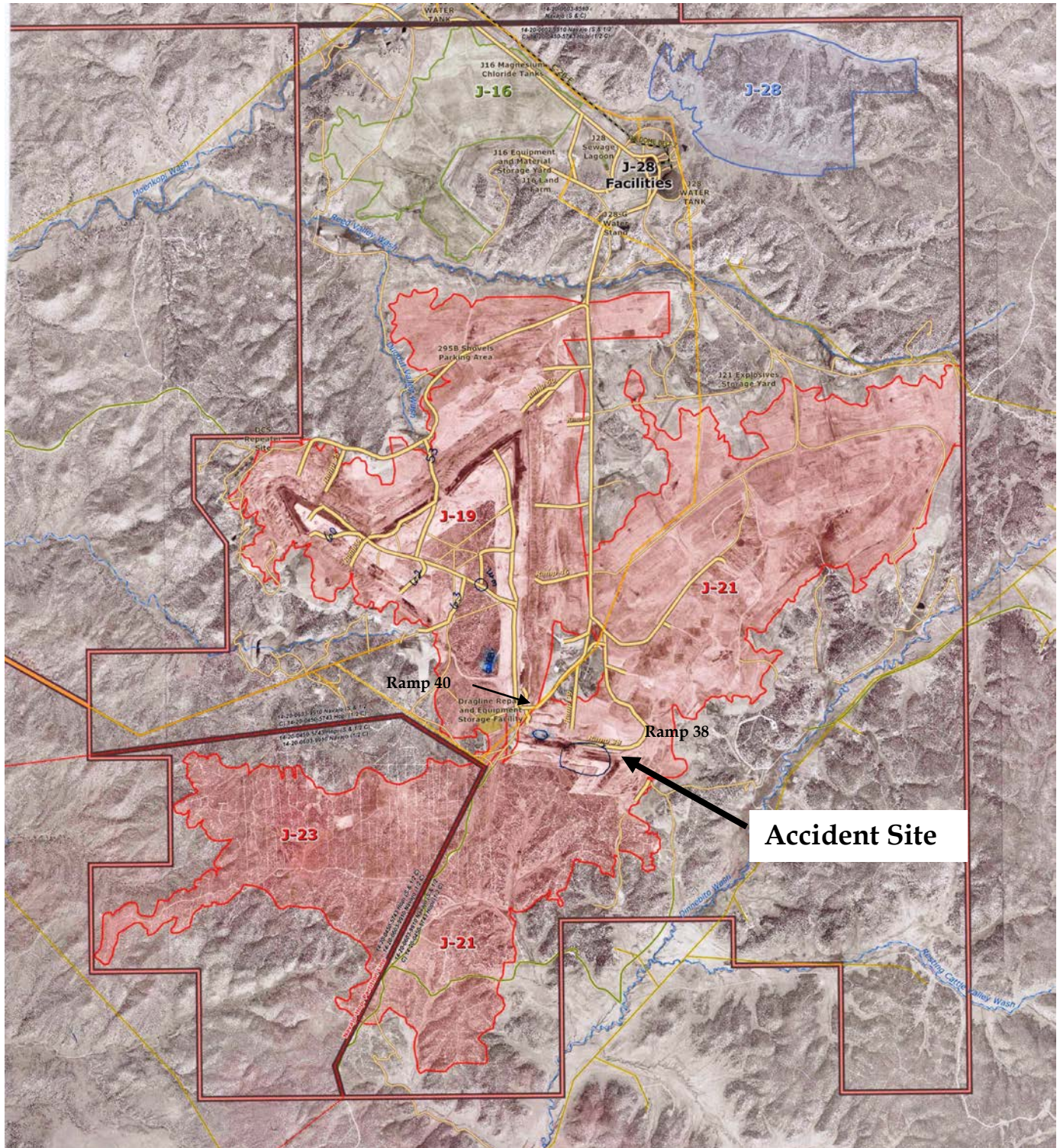
Courtney, Kent	Clinic Supervisor and First Responder Trainer
Draper, Leroy	Mobile Equipment Manager
Etsitty, Phillip	Loader Operator/UMWA Safety Committee Member
Harrison, Herbert	Scraper Operator
Holgate, Joe	Safety and Training Supervisor
Hosnic, Dickson	Scraper Operator
James, Robert	Service Truck Operator
Iyau, James	Project Mechanic
Manymules, Watson	Scraper Operator
Murphy, Alfred	Drill Operator
Peaches, Keith	Reclamation Compliance Crew Supervisor
Pavinyama, Spencer	Mobile Equipment Maintenance Supervisor
Secody, Sam	Mechanic
Sneddy, Norman	Production Supervisor
Whitla, Robert	Dozer Operator
Williams, Scott	Operations Manager
Osif, Alex	Core Driller/UMWA Safety Committee Member/1 st Responder

WEST STATES SKANSKA

Martinez, Leo	Reclamation Supervisor
Curnutte, Keith	Maintenance Supervisor/Step up Reclamation Supervisor

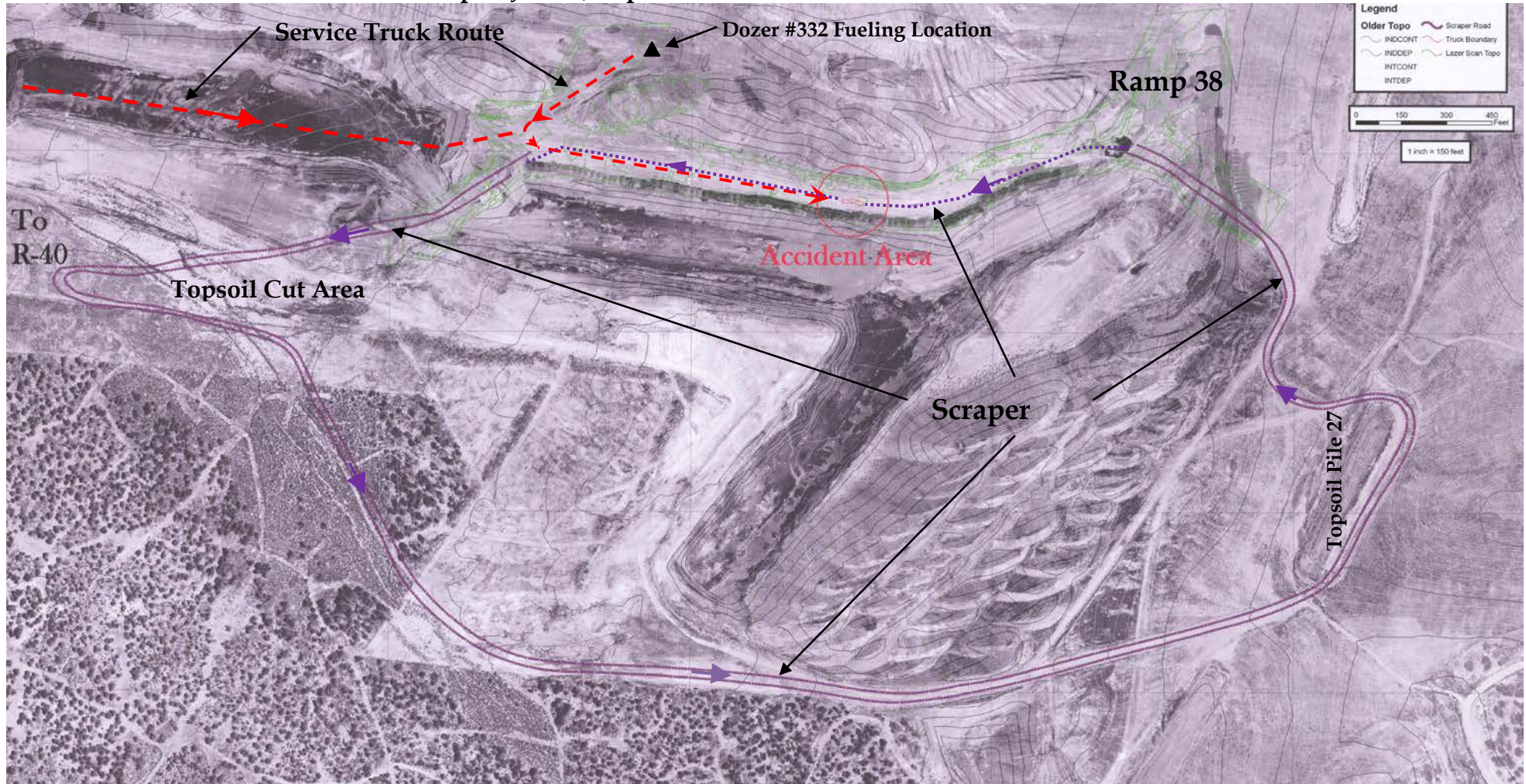
Appendix C:

General Location of Accident

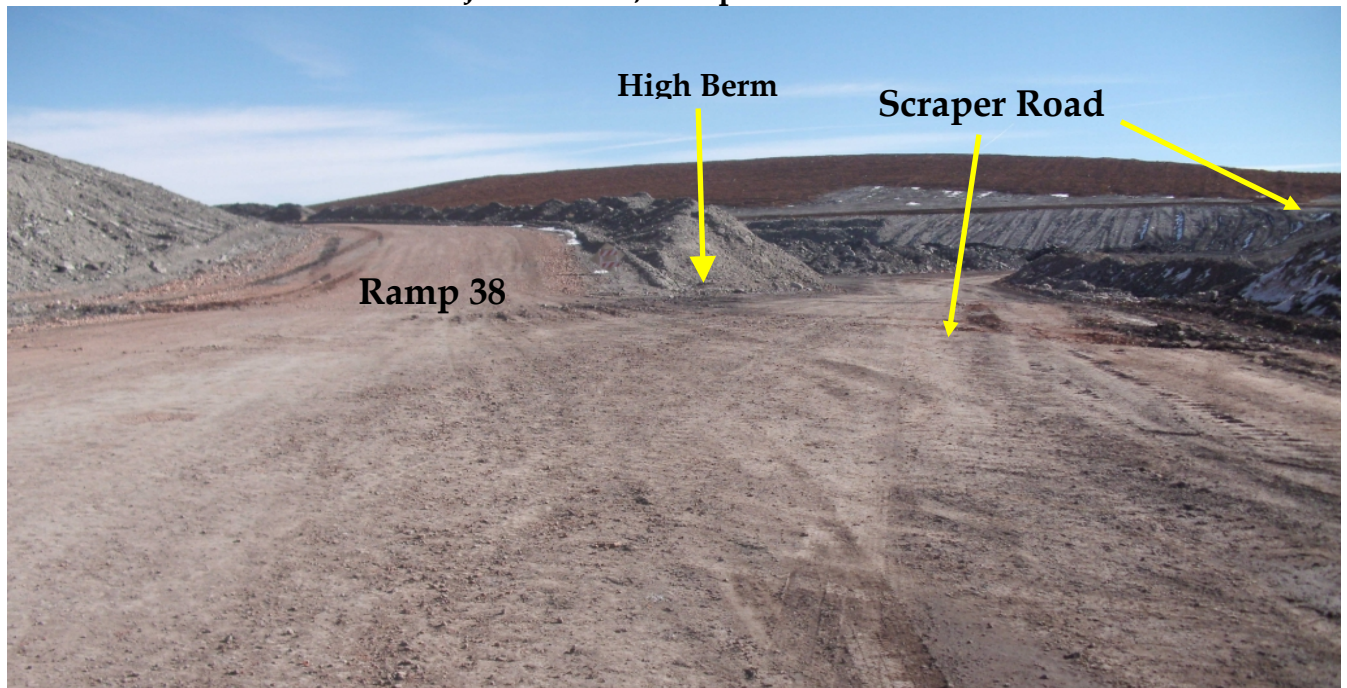


Appendix D:

Map of J21 Pit, Topsoil Removal Area and Accident Scene



**Appendix E:
Photos of J21 Pit Area, Ramp 38 Haul Road**



Intersection of Scraper Road and Ramp 38, looking easterly



Scraper on Left side of Haul road at collision site, looking westerly

Appendix F:

Victim Information

Accident Investigation Data - Victim Information

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



Event Number: 4482083

Victim Information: 1

1. Name of Injured/Ill Employee: <i>Roy L. Black</i>		2. Sex <i>M</i>	3. Victim's Age <i>55</i>	4. Degree of Injury: <i>01 Fatal</i>	
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 02/11/2011 b. Time: 18:40</i>				6. Date and Time Started: <i>a. Date: 02/11/2011 b. Time: 8:00</i>	
7. Regular Job Title: <i>104 Lube/fuel truck operator</i>		8. Work Activity when Injured: <i>071 operating service truck</i>		9. Was this work activity part of regular job? <div style="text-align: right;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></div>	
10. Experience a. This Work Activity: <i>30</i> <i>34</i> <i>1</i>		b. Regular Job Title: <i>30</i> <i>34</i> <i>1</i>		c. This Mine: <i>30</i> <i>34</i> <i>1</i>	
11. What Directly Inflicted Injury or Illness? <i>110 collision with scraper</i>		12. Nature of Injury or Illness: <i>370 thermal and blunt force</i>			
13. Training Deficiencies Hazard: <input type="checkbox"/> New/Newly-Employed Experienced Miner: <input type="checkbox"/> Annual: <input type="checkbox"/> Task: <input 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 type="checkbox"/> First-Aid: <input type="checkbox"/> CPR: <input type="checkbox"/> EMT: <input checked="" type="checkbox"/> Medical Professional: <input type="checkbox"/> None: <input type="checkbox"/>					
16. Part 50 Document Control Number: (form 7000-1)				17. Union Affiliation of Victim: <i>2555 United Mine Workers of Amer.</i>	