Virginia Department of Mines, Minerals & Energy
Division of Mines

Accident Investigation Report
Underground Coal Mine

Fall of Roof/Rib Material
Fatality Investigation Report
August 20, 2009

Big Laurel Mining Corporation
Mine No. 2
Mine Index No. 14744AA
Wise County, Virginia

Contents

FALL OF ROOF/RIB MATERIAL
FATALITY INVESTIGATION REPORT
BIG LAUREL MINING CORPORATION
MINE NO. 2

On August 20, 2009, at approximately 6:18 a.m., an underground fall of rib material accident occurred at Big Laurel Mining Corporation, Mine No. 2, Mine Index No. 14744AA. William Parrott, electrician, was fatally injured in the fall of rib material accident. Mr. Parrott was positioned inby the last open crosscut on the right rib of the No. 4 Entry of the 002 Section when the fall occurred. He was transported to the Wellmont Lonesome Pine Hospital located in Big Stone Gap, Virginia. Mr. Parrott, age 59, had approximately 33 years total mining experience with four years employment at Big Laurel Mining Corporation, Mine No. 2.

The Department of Mines, Minerals and Energy's Division of Mines (DM) was notified of the accident at approximately 7:30 a.m. on August 20, 2009, and a joint investigation with the Federal Mine Safety and Health Administration (MSHA) was initiated the same day. The last regular inspection by DM personnel of the subject mine was completed on March 25, 2009, and another regular inspection was under way at the time of the accident.

COMMENTARY

Big Laurel Mining Corporation, Mine No. 2 is located approximately six (6) miles from Appalachia, Virginia, off State Route 685 on Mud Lick Road. Cumberland Resources Corporation is the parent corporation of Big Laurel Mining Corporation. This underground mine is a two section drift mine developed in the Low Splint Coal Seam. At the time of the accident, the 002 Section was advancing with eight headings and making a left turn to change the section's direction. The mine has five (5) drift openings and an

average mining height of 56 inches. The height on the 002 MMU section at the accident site ranged from 92 inches to 112 inches to facilitate the future installation of a belt drive. This operation employs three surface and fifty-eight underground personnel.

On Wednesday, August 19, 2009, the owl shift 002 crew departed the surface to travel underground at approximately 10:00 p.m. under the supervision of Robert Silcox, section Mine Foreman. Mr. Silcox and the owl shift crew traveled on a diesel powered mantrip to the 002 Section. The 002 Section was located on the 2 West mains and was in the process of changing directions for the 3 West Section. The owl shift crew, consisting of eight personnel, arrived on the section at approximately 10:20 p.m. Upon their arrival at the working section, Mr. Silcox had a short talk with the crew regarding safety and the planned activities for the shift. One Joy mining machine, two Fletcher dual-boom roof bolters, and three Joy shuttle cars were located on the section.

Steven Reasor, second-shift Mine Foreman, had conducted a preshift examination of the 002 Section. The preshift examination results were reported to surface personnel and the results did not include any hazardous conditions. Mr. Reasor stated that while conducting the preshift examination he did not notice any hazards, and any problems appeared to have been taken care of.

After Mr. Silcox's beginning of the shift meeting, the crew dispersed to their job assignments. The miner crew consisting of Ronnie Muse, Miner Operator, and Charles Dean and Bobby Owens, Shuttle Car Operators, located the miner in the #5 Heading and began mining on cycle from right to left. They cut #5 Heading, #4 Heading, the first cut of the 4 Left break, and the #3 Heading. At this point, there was a roof bolting machine (bolter) down in the #2 Heading and the miner crew had to skip over to the #1 Heading. By the time they had finished cutting #1, Mr. Parrott, Electrician, had the bolter repaired and moved out of the way. The miner crew then cut the #2 Heading and 2 Right break before going back to the #1 Heading for a second cut because Mr. Silcox wanted to catch

that area up some. Next, they went to cut the 4 Left break where they were mining at the time of the accident.

The bolter crew, Shawn Head and Carl Pass, located the right bolter in the #6 Heading at the beginning of the shift. They prepped the bolter while waiting for the continuous miner to cut the #5 Heading so they could start bolting there. They bolted #5 Heading, the 4 Left break, and the #4 Heading. At this point, Mr. Silcox instructed them not to bolt the #3 Heading and go directly to the #1 Heading. Mr. Silcox explained to them that the #1 Heading was a little behind and he wanted to double cut it. They parked the right side bolter in #5 and proceeded to the left bolter that was located in #2. They bolted the #1 Heading and moved to the 2 Right break where they were bolting at the time of the accident.

As mining operations began, Mr. Silcox assumed his regular duties as foreman conducting on-shift examinations, directing the workforce, and correcting or preventing hazards. Due to the poor rib conditions on the section, Mr. Silcox spent a significant amount of time setting timbers. Mr. Silcox stated that the night of the accident, both he and Mr. Parrott had timbered most of the shift when not performing their regular duties.

At approximately 5:30 a.m. on August 20th, Mr. Silcox finished conducting the preshift examination and reported it to the surface. This report included overhanging brows in the #4, #5, #6, and #7 entries. It also stated that all entries were being timbered. After calling out the report, Mr. Silcox and Mr. Parrott discussed the timbers that remained to be set. Mr. Silcox asked Mr. Parrott to set the timbers under the brow in #4 Entry while he finished setting timbers at the power center.

The Miner Operator, Mr. Muse, and Shuttle Car Operator, Mr. Dean, were mining in the 4 Left break while Mr. Parrott was just inby them on the right rib of #4 Heading for the purpose of setting timbers. The other Shuttle Car Operator, Mr. Owens, was preparing to pick up the day shift crew using a mantrip from the section. At approximately 6:18 a.m., Mr. Muse was loading the fourth or fifth car from the cut when

Mr. Dean heard something fall and saw a light flash. When they checked to see what had happened, they found that a large piece of rib rock had fallen out, entrapping Mr. Parrott. As they urgently went to find Mr. Silcox, they encountered other members of the crew who also began looking for Mr. Silcox. Mr. Head, Bolter Operator, found Mr. Silcox in the #3 Entry, just outby the fire curtain collecting headers for timbering. Mr. Silcox went directly to the scene and instructed Mr. Head to go to the phone and call outside for an ambulance. Once Mr. Silcox arrived at the accident scene and discovered the extent of the injuries and size of the rock; he then returned to the mine phone and called outside for assistance. Steve Moore, Mine Superintendent; David Arnold, day-shift Foreman, and Billy Marion, day-shift EMT, traveled to the section from outside to assist with the removal of Mr. Parrott. Mr. Parrott was removed from the mine at approximately 7:59 a.m. and arrived at the Lonesome Pine Hospital in Big Stone Gap at approximately 8:36 a.m., where he was pronounced dead from his injuries.

STATEMENTS FROM MINE PERSONNEL AND OTHER FACTORS

Statements from mine personnel interviews and other factors determined during the investigation revealed the following:

1. There were no eye witnesses to the accident. Mr. Muse, Miner Operator, and Mr. Dean, Shuttle Car Operator, were in the area cutting/loading coal. Mr. Dean heard something fall and saw a light flash. They checked to see what had happened and discovered the rib rock on Mr. Parrott.
2. Prior to the accident, the area had been ribboned off by the day-shift Mine Foreman David Arnold on August 19th. The preshift records indicated that Mr. Arnold had ribboned off the area as a hazardous condition because it was wide. The records also indicate that he had corrected other hazardous conditions but not the wide place in #4 Heading.
3. According to the August 19th on-shift records of the evening-shift Mine Foreman, Mr. Reasor, no corrective actions were taken on the wide place in the #4 Heading.
4. According to the August 19th pre-shift records of the evening-shift Mine Foreman, Mr. Reasor, the wide place in #4 Heading was not carried over from the day-shift even though no corrective action had been taken.
5. The following facts were taken from statements of mine personnel:
    - Robert Silcox, third-shift Mine Foreman, stated that during his examinations he found several places where he thought timbers should be set and he and Mr. Parrott had worked on them off and on for most of the shift. He also stated that he did not see anything in the #4 Entry that he considered a hazard and the timbers he was having Mr. Parrott set were a preventative measure. However, the preshift report that Mr. Silcox called out just before

the accident does list the overhanging brow in the #4 Entry as a hazardous condition.

- The Roof Bolter Operators, Mr. Head and Mr. Pass, had bolted cuts in the #4 Heading and 4 Left break during the same shift and prior to the accident. Neither noticed anything hazardous in the area that would later be the accident scene. Mr. Pass, the right side Drill Operator, did notice a broken rib just inby the area that was a concern and he installed two rib brackets there.
- The Scoop Operator, Mr. Pittman, stated that he had scooped the area prior to the accident and that he is always careful not to undercut the ribs. He also stated that he was scooping in the #7 Heading at the time of the accident.
- The Miner Operator, Mr. Muse, and Shuttle Car Operators Mr. Dean and Mr. Owens, had previously cut the #4 Heading and the 4 Left break during the shift prior to the accident and had not seen any problems with the brow. Mr. Muse stated that he had seen the ribbons, checked the rib, and did not see any problems. Mr. Muse stated that he had briefly spoken with Mr. Parrott just before beginning the cut in the 4 Left break. As Mr. Dean pulled his shuttle car in to be loaded, he saw Mr. Parrott on the right rib in #4 Heading by himself. As he was being loaded, he heard something fall and saw a light flash across his face. Mr. Dean and Mr. Muse then checked on Mr. Parrott and discovered the accident.

PHYSICAL FACTORS

The investigation of physical factors revealed the following:

1. The fall of rib material accident occurred on August 20, 2009 at approximately 6:18 a.m. The accident occurred on the 2 West Mains-002 Section in the #4 Heading just inby the last open crosscut approximately 20 ft. inby survey station No. 2742.
2. The rib material that fell broke into two pieces. The first rock, which caused the injuries, measured approximately 26 feet 1 inch long by zero to 2 feet 6 inches wide by zero to 5 feet high. The second rock measured approximately 17 feet 10 inches long by zero to 2 feet wide by zero to 3 feet high.
3. The depth of cover at the accident site was approximately 700 ft., ranging from 600 ft. on the left side of the section to 800 ft. on the right side. The mine is underlain by abandoned workings in the Taggart Seam, approximately 150 ft. below, which is shown by mine maps to have been retreat-mined in the 1940s. Mine maps did not indicate the presence of isolated remnant pillars or gob-solid boundaries in the vicinity of the accident site.
4. The rib rock that fell causing the accident consisted of well bonded gray shale. Statements from three certified mine foremen and three other mining personnel that examined and/or traveled in the No. 4 Entry at and near the accident location prior to the accident revealed they did not observe or detect any unusual or abnormal roof conditions in the area.
5. Two units of equipment were in operation in the immediate area where the accident occurred: a Joy mining machine and a Joy shuttle car.
6. The segment of rib rock that fell causing the accident was partially secured along its side with square metal draw rock shields. The square metal draw rock shields are 18 inches by 18 inches.

7. Very well developed joints that exhibited a strike of N 70-80° W were observed from the faces to four crosscuts outby on the 2 West Mains. The N 65° W azimuth of the 2 West Mains placed the joints in a diagonal "corner to corner" orientation that minimized their impact on instability. When the 3 West Mains was turned in the new orientation of approximately due East, the joints became approximately parallel to the new rib line. In the #4 Entry, where the fatality occurred, a N 65° W joint trended through the right-hand crosscut inby into the #4 Entry, isolating the south pillar corner and defining the tall slab that fell causing the accident.
8. After mining had taken place and with the weak vertical joints located approximately two feet back in the rib, the slab that fell causing the accident separated from the mine roof along a weak plane of fossil material.
9. The faces were driven up farther than they needed to be to turn the section on the new azimuth. When the turn was made in the intersection outby the face of #4 Entry, it created an excessively wide place. Entry width measured with a standard rule ranged from 23' 5" up to 29' 7" at the deepest point of the offset created by the overdriven face.

CONCLUSIONS

On August 20, 2009, at approximately 6:18 a.m., an underground fall of rib material accident occurred at Big Laurel Mine No. 2. Wayne Parrott, Electrician, was fatally injured in the fall of rib material while he had been assigned to set rib timbers in the face area of the #4 Entry on the 002 (2 West) Section. Mr. Parrott received fatal crushing injuries when he was struck by a piece of rock that fell from the right rib.

The investigation revealed very well developed joints in the roof rock that were running almost parallel with the new section azimuth. This did not provide adequate support for the rib rock. This rib rock was unusually thick due to the extra top that had been cut to facilitate a belt drive installation. As the coal support sloughed out from underneath, the weight of the rib rock caused it to break free along a weak plane of fossil material present in the mine roof.

The investigation also revealed that the face of the #4 Entry had been driven past the point of the turn for the new section direction. The method of mining followed in the #4 Entry of the 002 (2 West Mains) Section exposed miners to hazardous conditions caused by excessive widths. The excessive widths were created when changing the direction of advancement of the section resulting in an offset in the right rib. Entry widths measured with a standard rule ranged from 23' 5" up to 29' 7" at the deepest point of the offset. The approved roof control plan states the entry widths will be mined no more than 22' wide for a distance of 200' to facilitate the installation of belt drives.

The August 19, 2009, Pre-shift examination conducted on the second-shift by Mine Foreman Steve Reasor from 8:30 p.m. to 9:30 p.m. for the oncoming shift did not reflect a hazardous condition in the #4 Entry of the 002 (2West) Section. Excessive widths from 23' 5" to 29' 7" were present. These conditions had been

previously observed and recorded during the preceding pre-shift examination conducted by day-shift Mine Foreman David Arnold. No corrective action was taken and it failed to be carried over to the next preshift report.

When the wide place in the #4 Entry was recorded as a hazardous condition, it was also ribboned off according to standard mine procedures. The investigation revealed that this procedure was ineffective due to the fact that no one on the second or third shifts recognized the flagging as a hazardous condition and regular mining activities took place in the area and inby.

ENFORCEMENT ACTIONS

45.1-161.78A

The mine operator or agent failed to report promptly to the Department the occurrence of a mine accident on August 20, 2009. The approved emergency response plan for this mine defines promptly as within fifteen minutes. A serious accident, involving Mr. William W. Parrott, which resulted in fatal injuries, occurred at this mine at approximately 6:18 a.m. on August 20, 2009, and was not reported to the Department until 7:30 a.m. on the same date.

45.1-161.108.B

The method of mining followed in the #4 Entry of the 002 (2 West Mains) Section exposed miners to hazardous conditions caused by excessive widths. The excessive widths were created when changing the direction of advancement of the section resulting in an offset in the right rib. Entry widths measured with a standard rule ranged from 23' 5" up to 29' 7" at the deepest point of the offset. The approved roof control plan states the entry widths will be mined no more than 22' wide for a distance of 200' to facilitate the installation of belt drives. A serious accident occurred resulting in fatal injuries to Mr. William W. Parrott at approximately 6:18 a.m. on August 20, 2009, at this location.

45.1-161.109.A

The approved roof control plan was not being complied with in the #4 Entry, 002 (2 West Mains) Section. The right rib approximately 24' inby spad #2742 was not secured and controlled to protect persons from falls of the roof, face, or ribs. At approximately 6:18 a.m. on August 20, 2009, a rock with an approximate measurement of 24' long, 5' high, and 2' 5" wide fell from the rib causing fatal injuries to Mr. William W. Parrott.

45.1-161.212.A

The August 19, 2009, pre-shift examination conducted on the second-shift by Mine Foreman, Steve Reasor, from 8:30 p.m. to 9:30 p.m. for the oncoming shift, did not reflect a hazardous condition in the #4 Entry of the 002 (2 West) Section. Excessive widths from 23' 5" to 29' 7" were present. These conditions had been previously observed and recorded during the preceding pre-shift examination conducted by day-shift Mine Foreman, David Arnold, and no corrective action had been taken. A serious accident resulting in fatal injuries occurred in the #4 Entry at approximately 6:18 a.m. on August 20, 2009.

45.1-161.214

According to the August 19, 2009, pre-shift examination records, conducted by the day-shift, a hazardous condition was recorded in the #4 Entry of the 002 (2 West) Section in that a wide place was present and had been "dangered" off by company standards. Subsequent mine foremen did not give prompt attention to the removal of the hazardous condition recorded. A serious accident resulting in fatal injuries occurred in the #4 Entry at approximately 6:18 a.m. on August 20, 2009.

45.1-161.116.C

On August 20, 2009, the third-shift Mine Foreman, Robert Silcox, exposed miners to a hazardous condition in the #4 Entry. A cut of coal inby an area of coal rib previously identified as a hazard by company standards was allowed to be mined. Mr. Silcox failed to make the area safe in his presence, under his direction, or to have miners withdraw from such place.

45.1-161.212A

A hazardous condition identified by the day-shift mine foreman during his pre-shift examination was dangered off on August 19, 2009, and entered in the record book for that purpose. Evidence obtained during the fatal accident investigation of William W. Parrott revealed that procedures used by the company to "danger off" a hazardous condition were not adequate and failed to alert and prevent workers from working in or inby the affected area.

RECOMMENDATIONS

1. When developing mine plans, careful attention should be paid to mine geology. If possible, mining directions should not follow rock joint directions. In areas where rock joint directions and section heading are parallel, additional roof and rib control measures should be evaluated.
2. Mining methods must not expose miners to hazardous conditions. When making turns, proper care must be taken to follow projections and avoid wide places.
3. When a hazardous condition is identified, procedures to "danger it off" must be effective and clear to all who enter the area.
4. When a hazardous condition is recognized, mine foremen must give prompt attention to correction of the condition or see that all personnel are withdrawn from the area.
5. All miners should receive regular training on the approved roof control plan and roof control safety issues.
6. Thorough roof/rib examinations and evaluations should be conducted by all affected mining personnel at all times and especially when the mine roof encounters transition zones, high angled slips, and fractured roof.
7. Exposure of miners in the dynamic areas of operation of the continuous mining machine should be limited to the extent possible.
8. When enough mine roof is cut to leave a significant rock brow, installation of brackets and/or other rib support should be performed during initial roof bolting.

SIGNATURE SHEET

This report is hereby submitted by Chris Whitt and approved by Frank Linkous.

Chris Whitt 10/30/09

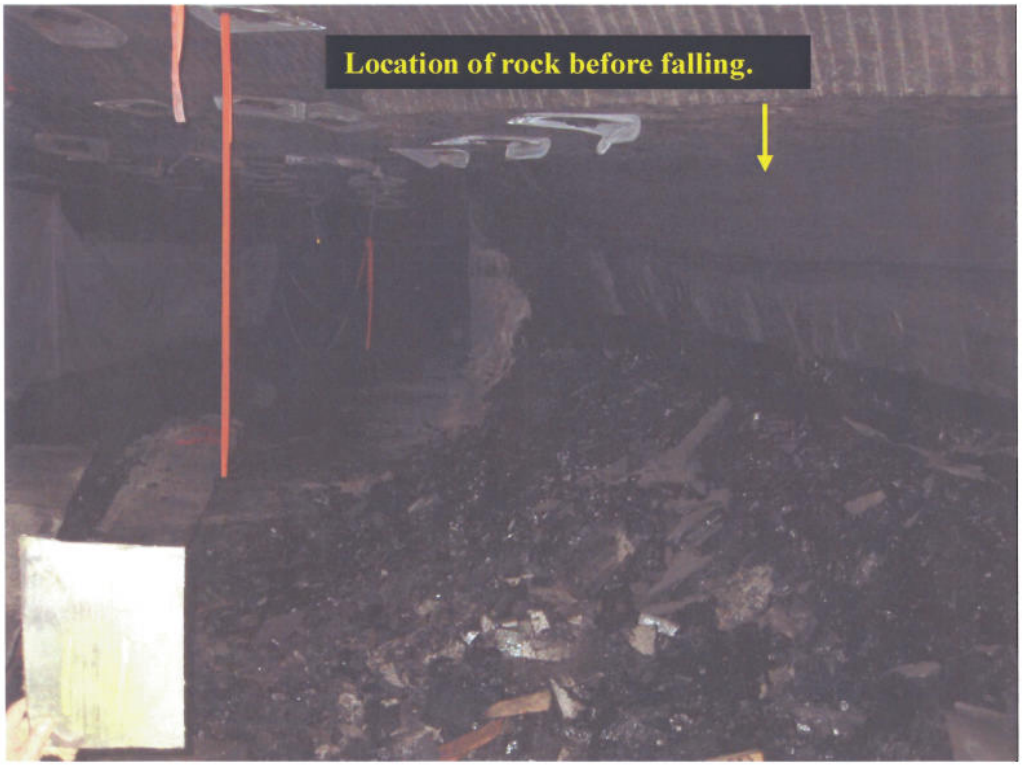
Chris Whitt, Emergency Response Coordinator Date

Frank A. Linkous 10/30/09

Frank A. Linkous, Chief-Division of Mines Date

APPENDIX


Location of victim.
1


Location of rock before falling.

PERSONNEL

The following personnel provided information and/or were present during the investigation:

Big Laurel Mining Corporation

Steve Moore	Superintendent
David Arnold	Section Foreman
Steven Reasor	Section Foreman
James Coker	Section Foreman
Dennis Clark	Section Foreman
Josh Fields	Mining Engineer
Chris Belcher	Surveyor
Robert Silcox	Section Foreman
Ronnie Muse	Miner Operator
Bobby Owens	Shuttle Car Operator
Charles Dean	Shuttle Car Operator
Logan Pittman	Scoop Operator
Shawn Head	Roof Bolter Operator
Carl Pass	Roof Bolter Operator
Billy Marion	Utilityman

Cumberland Resources Corporation

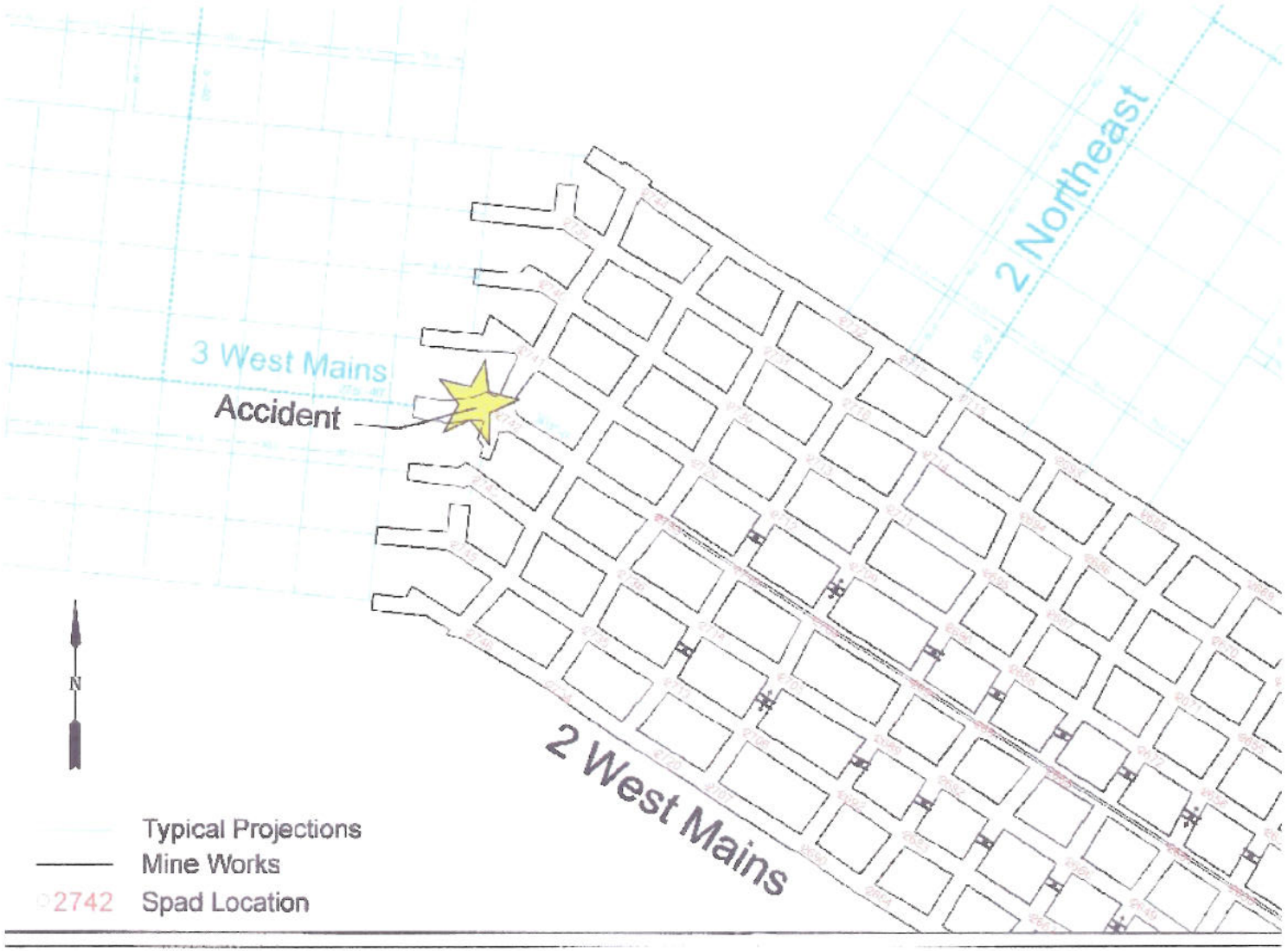
Rick Craig	Vice President of Operations
Tom Asbury	Safety Director
Forrest Lambert	Safety Analyst
Larry Coeburn	Safety Analyst
Melanie Kilpatrick	Attorney
Cameron Bell	Attorney

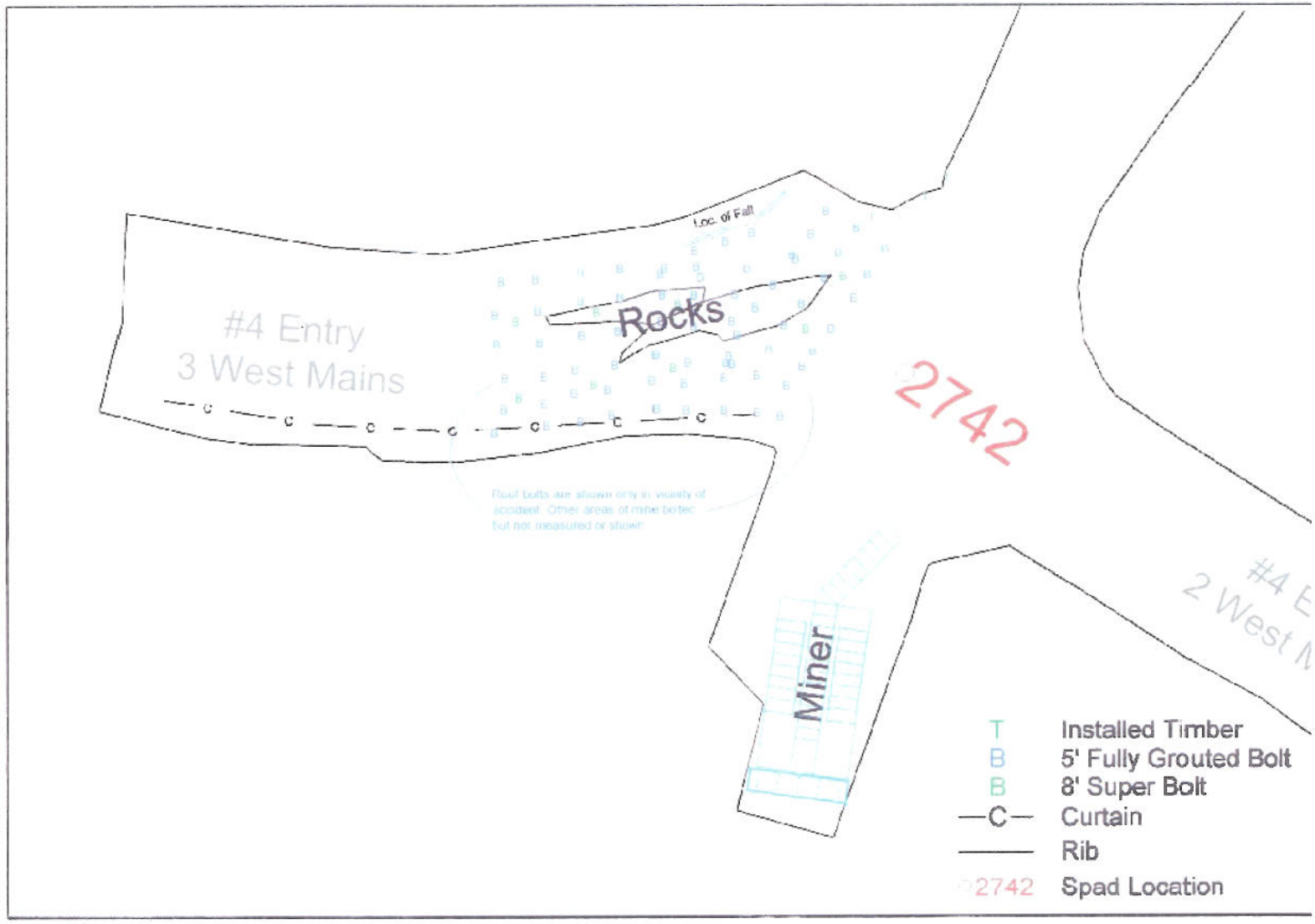
Mine Safety and Health Administration

Ray McKinney	Manager, District 5
Nicholas Rasnick	Assistant District Manager
Greg Meikle	Assistant District Manager
Benjamin Harding	Staff Assistant
Lloyd Robinette	Ventilation Supervisor
James Kiser	CLR Supervisor
Daniel Johnson	Supervisor, Roof Control
Fred Martin	Educational Field Services Specialist
Johnny Turner	Inspector, Roof Control
Scott Beverly	Inspector, Roof Control
Ernie Sexton	Inspector
Russell Dresch	Electrical Engineer
Terry Sheffield	Mining Engineer, Roof Control
Duane Beggs	Mining Engineer, Roof Control

Virginia Division of Mines

Frank Linkous	Chief, Division of Mines
Carroll Green	Mine Inspector Supervisor
Gary Cutting	Coal Mine Technical Specialist
Matt Smith	Coal Mine Technical Specialist
Sammy Fleming	Coal Mine Inspector
Brett Childress	Coal Mine Inspector
Danny Mann	Coal Mine Inspector
Anthony Sturgill	Technical Engineer
Mike Willis	Mine Safety Engineer
Chris Whitt	Emergency Response Coordinator


2 Northeast
3 West Mains
Accident
N
2 West Mains
Typical Projections
Mine Works
2742 Spad Location


Loc. of Fall
Rocks
#4 Entry
3 West Mains
2742
Miner
#4 E
2 West M
T Installed Timber
B 5' Fully Grouted Bolt
B 8' Super Bolt
—C— Curtain
Rib
2742 Spad Location

STEPHEN C. NOLE
DIRECTOR

DIVISIONS
ENERGY
GAS AND O...
MINED LAND RECLAMATION
MINERAL MINES
MINERAL RESOURCES
MINES
ADMINISTRATION

COMMONWEALTH OF VIRGINIA

Department of Mines, Minerals and Energy

Division of Mines
P.O. Drawer 900
Big Stone Gap, Virginia 24219

THIS LICENSE IS NOT TRANSFERABLE

LICENSE TO OPERATE A MINE

Mine Index No. **1474AA**

This is to certify that on this date a license to operate a mine

was issued to (Company) **BIG LAUREL MINING CORPORATION**

Address: **P.O. BOX 2560, WISE, VA. 24293**

for the operation of (Mine Name/Number) **MINE NO. 2 UNDERGROUND**

Person with overall responsibility for operating decisions at the mine:
STEVE MOORE

County: **WISE**

Expiration Date: **JANUARY 06, 2010**
Issue Date: JANUARY 06, 2000
Receipt #: 049786

Pursuant to 45.1-161.57 B of the Coal Mine Safety Laws of Virginia, you are required to renew this license within 15 days of the above expiration date.

ORIGINAL LICENSE MUST BE POSTED NEAR THE MINE ENTRANCE

DEPARTMENT'S FILE COPY

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Rev 1-97