



# **OFFICE OF MINE SAFETY AND LICENSING**

**DEPARTMENT FOR NATURAL RESOURCES  
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET**

## **FATAL ACCIDENT REPORT KENTUCKY DARBY, LLC DARBY NO. 1**

**ERNIE FLETCHER, GOVERNOR  
COMMONWEALTH OF KENTUCKY**

**TERESA HILL, SECRETARY  
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET**

**SUSAN BUSH, COMMISSIONER  
DEPARTMENT FOR NATURAL RESOURCES**

**JOHNNY GREENE, ACTING EXECUTIVE DIRECTOR  
OFFICE OF MINE SAFETY AND LICENSING**

**1025 CAPITAL CENTER DRIVE  
FRANKFORT, KY 40602-2244**

**EXPLOSION ACCIDENT**

**HARLAN DISTRICT**

**KENTUCKY DARBY, LLC  
DARBY NO. 1**

**STATE FILE NO. 18355-1**

**DECEDENTS: AMON BROCK  
JIMMY D. LEE  
ROY MIDDLETON  
GEORGE W. PETRA  
PARIS THOMAS, JR.**

# TABLE OF CONTENTS

**ACCIDENT REPORT ..... A**

**PHOTOGRAPHS ..... B**

**CITATIONS ..... C**

**SKETCHES OF ACCIDENT ..... D**

**ACCIDENT REPORT  
COMMONWEALTH OF KENTUCKY  
OFFICE OF MINE SAFETY AND LICENSING  
P.O. BOX 2244  
FRANKFORT, KY 40602-2244  
PHONE: (502)573-0140 FAX: (502) 573-0152**

[ X ] Chargeable

[ X ] Fatal

Company: Kentucky Darby, LLC Mine Name or Number: Darby No. 1

Mine Location: Holmes Mill County: Harlan File No. 18355-1

Daily Production: 1200 Tons Name of Coal Seam: Darby

Seam Thickness: 52 to 96 Inches Company Official: Ralph Napier

Address: P.O. Box 2561 Middlesboro, Kentucky 40965

No. of Employees: 34 Type of Mine (UTC, etc.): UTC

Workers Compensation Carrier: National Union Fire Insurance Co.

\*\*\*\*\*  
\*\*

Multiple Victims: [ X ] Yes [ ] No Number of Victims: Five (5)

Names of Victims: Amon Brock, Jimmy D. Lee, Roy Middleton, George W. Petra,  
and Paris Thomas, Jr. [ X ] Males [ ] Females

\*\*\*\*\*  
\*\*

Date and time OMSL was notified: May 20, 2006, at approximately 12:50 a.m.

By whom (title and affiliation): Jeffery Scott Coker – Second Shift Scoop Operator

Date and time of investigation: May 20, 2006, at 1:40 a.m.

Date of sworn statement session: May 31, June 1, 2, 28, 2006

Coroner: Philip Bianchi County Harlan

Address: P.O. Box 148, Harlan, KY 40831 Phone No. (606) 573-3030

Classification of accident: Methane Explosion

Name and Certificate Number of: Mine Foreman: Amon Brock A-978-78

Section Foreman: George W. (Bill) Petra A-436-85

B-59 (Rev. 06/27/01)  
KENTUCKY DARBY, LLC  
DARBY NO. 1  
FILE NO. 18355-1  
FATAL ACCIDENT REPORT

Superintendent: Ralph Napier A-705-81

\*\*\*\*\*  
\*\*

PERSONAL HISTORY OF THE VICTIMS

Name of Victim: Amon "Cotton" Brock

Miner I.D. No.: [REDACTED]  Certified Miner

Age: 51 Marital Status: Married Dependents: Wife Yes Children 0

Shift accident occurred on: Third shift

Occupation when injured: Mine Foreman Regular occupation: Mine Foreman

Total mining experience: 37 years At this occupation: 26 years At this mine: 5 years

Instructor who trained: George Carr

Victim's activity at the time of accident: Amon Brock and Jimmy Lee had used an acetylene and oxygen cutting torch (open flame) to cut a metal roof strap that intersected the No. 3 return seal. A methane explosion occurred, that blew out the seal and fatally injured the victims.

Other factors contributing to this accident: The victim was located near the No. 3 return seal - which had been constructed in the left crosscut between spad Nos. 531 and 1136 - at the mouth of A Left panel. The construction of the return seals was contrary to the ventilation plan and apparently allowed the seal to leak methane gas.

Date and time of accident: May 20, 2006 at approximately 12:47 a.m.

Date and time of death: May 20, 2006 at approximately 1:00 a.m.

Name of Victim: Jimmy D. Lee

Miner I.D. No.: [REDACTED]  Certified Miner

Age: 33 Marital Status: Married Dependents: Wife Yes Children 4

Shift accident occurred on: Third shift

KENTUCKY DARBY, LLC  
DARBY NO. 1  
FILE NO. 18355-1  
FATAL ACCIDENT REPORT

Occupation when injured: Maintenance Work Operator Regular occupation: Shuttle Car Operator

Total mining experience: 15 Years At this occupation: 10 Years At this mine: 3 Years

Instructor who trained: George Carr

Victims activities at the time of accident: Amon Brock and Jimmy Lee had used an acetylene and oxygen cutting torch (open flame) to cut a metal roof strap that intersected the No. 3 return seal. A methane explosion occurred that blew out the seal and fatally injured the victims.

Other factors contributing to this accident: The victim was located near the No. 3 return seal – which had been constructed in the left crosscut between spad Nos. 531 and 1136 – at the mouth of A Left panel. The construction of the return seals was contrary to the ventilation plan and apparently allowed the seal to leak methane gas.

Date and time of accident: May 20, 2006 at approximately 12:47 a.m.

Date and time of death: May 20, 2006, at approximately 1:00 a.m.

Name of Victim: Roy Middleton

Miner I.D. No.: [REDACTED]  Certified Miner

Age: 35 Marital Status: Married Dependents: Wife Yes Children 2

Shift accident occurred on: Third shift

Occupation when injured: Repairman/Electrician

Regular occupation: Repairman/Electrician

Total mining experience: 12 Years At this occupation: 10 Years At this mine: 3 Years

Instructor who trained: George Carr

Victim's activity at the time of accident: The victim was attempting to exit the mine after a

methane explosion.

Other factors contributing to this accident: The victim traveled through high

KENTUCKY DARBY, LLC  
DARBY NO. 1  
FILE NO. 18355-1  
FATAL ACCIDENT REPORT

concentrations of carbon monoxide, while wearing a CSE-100 self-contained self-rescuer  
(SCSR).

Date and time of accident: May 20, 2006, at approximately 12:47 a.m.

Date and time of death: May 20, 2006, at approximately 1:00 a.m.

Name of Victim: George W. (Bill) Petra

Miner I.D. No.: [REDACTED]  Certified Miner

Age: 49 Marital Status: Married Dependents: Wife Yes Children 2

Shift accident occurred on: Third shift

Occupation when injured: Section Foreman Regular occupation:  
Welder/Repairman

Total mining experience: 26 Years At this occupation: 20 Years At this mine: 4  
Years

Instructor who trained: George Carr

Victim's activity at the time of accident: The victim was attempting to exit the mine after  
a

methane explosion.

Other factors contributing to this accident: The victim traveled through high

concentrations of carbon monoxide, while wearing a CSE-100 self-contained self-rescuer  
(SCSR).

Date and time of accident: May 20, 2006, at approximately 12:47 a.m.

Date and time of death: May 20, 2006, at approximately 1:00 a.m.

Name of Victim: Paris Thomas, Jr.

Miner I.D. No.: [REDACTED]  Certified Miner

Age: 53 Marital Status: Married Dependents: Wife Yes Children 1



Mike Haines	Office of Legal Services	OMSL
Tamara J. Patrick	Attorney	OMSL
Thomas E. Light Jr.	Lead Investigator	MSHA
Richard Herndon KENTUCKY DARBY, LLC DARBY NO. 1 FILE NO. 18355-1 FATAL ACCIDENT REPORT	Special Investigator	MSHA
Anthony Guley	Accident Investigator	MSHA
Mark Odom	Accident Investigator	MSHA
Jerry Cook	Accident Investigator	MSHA
Bob Bates	Electrical Supervisor	MSHA
Mark Schroeder	Accident Investigator	MSHA
Chuck Campbell	Accident Investigator	MSHA
Mark R. Malecki Solicitor	Attorney	Office of the
MaryBeth Bernui Solicitor	Attorney	Office of the
Max Kennedy	International Representative	UMWA
Edger "Butch" Oldham	International Representative	UMWA
Tony Oppegard	Attorney	Miner Representative
Kent Hendrickson	Attorney	Ralph Napier
Billy Shelton	Attorney	Kentucky Darby LLC
Bill Sharp	MSHA Union Representative	Stanley Sturgill
Norman Page	District Manager	MSHA

**PERSONS INTERVIEWED**

<b><u>NAMES</u></b>	<b><u>TITLE</u></b>	<b><u>REPRESENTING</u></b>
Jamie Johnson	Section Foreman	Darby Mine Employee
Paul Ledford	Maintenance	Darby Mine Employee

<b>Lee Payne Employee</b>	<b>Repairman/Electrician</b>	<b>Darby Mine</b>
<b>Scott Middleton</b>	<b>Miner Operator</b>	<b>Darby Mine Employee</b>
<b>Gary Lewis</b>	<b>Miner Helper</b>	<b>Darby Mine Employee</b>

**KENTUCKY DARBY, LLC  
DARBY NO. 1  
FILE NO. 18355-1  
FATAL ACCIDENT REPORT**

<b>Isom Smith</b>	<b>Roof Bolter Operator</b>	<b>Darby Mine Employee</b>
<b>Bill Ledford</b>	<b>Roof Bolter Operator</b>	<b>Darby Mine Employee</b>
<b>Stacy Huff</b>	<b>Shuttle Car Operator</b>	<b>Darby Mine Employee</b>
<b>Kevin Burkhart</b>	<b>Shuttle Car Operator</b>	<b>Darby Mine Employee</b>
<b>Billy Maddon</b>	<b>Scoop Operator</b>	<b>Darby Mine Employee</b>
<b>Mark Sizemore</b>	<b>Outby Foreman</b>	<b>Darby Mine Employee</b>
<b>Tom Lunsford</b>	<b>Mine Examiner</b>	<b>Darby Mine Employee</b>
<b>Darrell Burgan</b>	<b>Supplyman</b>	<b>Darby Mine Employee</b>
<b>James Roark</b>	<b>Beltman</b>	<b>Darby Mine Employee</b>
<b>Tony Bledsoe</b>	<b>Beltman</b>	<b>Darby Mine Employee</b>
<b>Jack Clem</b>	<b>Outside</b>	<b>Darby Mine Employee</b>
<b>Richard Ledford</b>	<b>Loader</b>	<b>Darby Mine Employee</b>
<b>Randy Fields</b>	<b>Miner Operator</b>	<b>Darby Mine Employee</b>
<b>James Philpot</b>	<b>Assistant Foreman</b>	<b>Darby Mine Employee</b>
<b>Clark Cusick</b>	<b>Roof Bolter Operator</b>	<b>Darby Mine Employee</b>
<b>Chris Napier</b>	<b>Roof Bolter Operator</b>	<b>Darby Mine Employee</b>
<b>Kevin Dixon</b>	<b>Roof Bolter Operator</b>	<b>Darby Mine Employee</b>
<b>Travis Blevins</b>	<b>Shuttle Car Operator</b>	<b>Darby Mine Employee</b>
<b>Jeffery Scott Coker</b>	<b>Scoop Operator</b>	<b>Darby Mine Employee</b>
<b>Patrick Cupp</b>	<b>Beltman</b>	<b>Darby Mine Employee</b>
<b>Jerry Mink</b>	<b>Outside Person</b>	<b>Darby Mine Employee</b>

<b>Tony Payne</b>	<b>Section Foreman</b>	<b>Darby Mine Employee</b>
<b>Charles Penny</b>	<b>Roof Bolter Operator</b>	<b>Darby Mine Employee</b>
<b>Ralph Napier</b>	<b>Superintendent/Owner</b>	<b>Kentucky Darby, LLC</b>

**KENTUCKY DARBY, LLC  
DARBY NO. 1  
FILE NO. 18355-1  
FATAL ACCIDENT REPORT**

<b>Ronnie Hampton</b>	<b>District Supervisor</b>	<b>OMSL</b>
<b>Patrick Turner</b>	<b>Roof Inspector</b>	<b>OMSL</b>
<b>Todd Middleton</b>	<b>Inspector</b>	<b>OMSL</b>
<b>*Stanley Sturgill</b>	<b>Inspector</b>	<b>MSHA</b>

**\*Note: During the interview with Sturgill, only the MSHA representative Richard Herndon was allowed to ask questions. The other parties (OMSL, UMWA and the Miner Representative) submitted questions in writing, but not all questions submitted were asked.**

**KENTUCKY DARBY, LLC  
DARBY NO. 1  
FILE NO. 18355-1  
FATAL ACCIDENT REPORT**

**GENERAL MINE INFORMATION**

The Kentucky Darby LLC, Darby No. 1 mine was first licensed on April 6, 2001, as Jericol Mining Inc., Darby No. 4 mine. The license was changed to Kentucky Darby LLC, Darby No. 1 mine, on May 18, 2001. The mine is located off Highway 38 at Holmes Mill, in Harlan County, Kentucky.

The mine is licensed as an underground truck coal (UTC) mine and the company official is Ralph Napier. According to records on file with the Kentucky Division of Mine Permits, Kentucky Darby LLC is owned by Ralph Napier, Jack Ealy and John D. North. The Darby mine is permitted under the surface mining law for 1,150 underground acres of coal extraction and 9.40 acres of surface disturbance for a total acreage of 1,159.4 acres.

The mine had a single section with two production shifts and a maintenance shift. The first production shift had 17 employees, the second production shift had 11, and the third maintenance shift had six employees.

The underground works to the mine are accessed from the surface through five openings (portals). The fan was located in the No. 1 portal and was offset to the left of the No. 2 portal (See Photo No. 1). The explosion doors were located in the No. 2 portal and the conveyor belt was in the No. 3 portal. The No. 4 portal was neutral and the main air intake was through the No. 5 portal (See Photo No. 1).

The mine used four conveyor belts to deliver coal from the active working section of the mine to the surface. The active section was located at the B-Left panel, approximately 4,800 feet from the surface. The section used a continuous miner with shuttle car haulage. The mine produced approximately 1,200 tons of coal per day from the Darby coal seam, which ranges in height from 52 inches to 96 inches. The mine utilized a walk-through roof bolter drill to install bolts and roof straps for roof control.

The mine had two sets of seals; both constructed with Omega 384 blocks. The first set was built on the intake air course side, at the end of the No. 1 conveyor belt, approximately 1,227 feet underground. This set of seals consisted of six individual seals constructed around November of 2002.

The second set of seals was built on the return air course side, at the mouth of A-Left panel, approximately 3,200 feet underground. This set of seals was built across from the No. 3 conveyor belt and consisted of three individual seals constructed around March 18, 2006. The layout of the Kentucky Darby Mine No. 1 is illustrated on Sketch No. 1.

#### **INVESTIGATIVE PROCESS**

Following the explosion at the Darby No. 1 Mine, an intensive investigation was undertaken by the Kentucky Office of Mine Safety & Licensing (OMSL) in cooperation with the federal Mine Safety & Health Administration (MSHA). The purpose of OMSL's investigation was to gather facts surrounding the accident through interviews, physical examination of the accident scene and review of mine records to determine the actions and events that led up to and initiated the mine explosion. This information is used by OMSL to prevent similar occurrences at this or another mine, and to determine if violations of mine safety laws were a contributing factor.

Both OMSL and MSHA have separate authority to conduct post-accident investigations and to prepare reports of their findings. OMSL and MSHA cooperated to the extent possible in conducting all phases of the investigation. Information was gathered through witness interviews, physical examinations of the mine and a review of mine records. All relevant equipment and mining systems were also carefully examined.

On Saturday, May 20, 2006, the Chief Accident Investigator for OMSL, Tracy Stumbo, was notified that an explosion had occurred that morning at Kentucky Darby LLC, Darby No. 1 mine. Chief Investigator Stumbo mobilized OMSL's Accident Investigation Team and directed them to report on Monday, May 22, 2006, to the Harlan District Office.

The investigation team included three inspectors from the Harlan Office - Ernest Hawkins, Patrick Turner and Todd Middleton- and one inspector from the Hazard Office, Tim Fugate.

On Monday, May 22, 2006, the state investigation team went to the Kentucky Darby No. 1 mine to review and examine all relevant mine books, papers, mine plans and maps. Most of these items were taken into custody by MSHA Special Investigator, William H. Sharp, and were not available to the OMSL investigation team. The personal effects of the victims, such as their self-contained self-rescuers (SCSRs) had also been taken into custody by MSHA Special Investigator, Guy Fain. The SCSRs were sent to MSHA's Technical Support Group for testing and examination.

Upon arrival, Chief Accident Investigator Tracy Stumbo conferred with MSHA's Emergency Response Specialist, Virgil Brown, regarding the current conditions in the mine. Mr. Brown advised that the air quality in the mine was good and plans were being made to reestablish ventilation controls within the mine. MSHA ordered the coal company to construct new seals in front of the existing seals in the intake air course. While company personnel were building the new seals, OMSL's initial underground physical examination of the mine began. During the initial physical investigation, OMSL's team photographed and logged the location of all items found at the accident scene before potential contamination by workers reestablishing ventilation. Investigators constantly monitored air quality in the mine to ensure safe conditions were maintained.

On May 22, 2006 at 2:30 p.m., OMSL's investigation team conducted a recorded interview with the lone survivor of the Kentucky Darby explosion, Mr. Paul Ledford. Mr. Ledford explained to investigators his understanding of the conditions in the mine before and after the explosion and his recollection of the location of employees within the mine.

On Tuesday, May 23, 2006, OMSL and MSHA teams entered the mine and reestablished ventilation to the A-Left panel. George Johnson from OMSL and Virgil Brown from MSHA directed the work. Mark Sizemore, Outby Foreman for Kentucky Darby LLC, traveled with the teams to reestablish ventilation. OMSL's Chief Investigator checked and examined the accident scene, specifically the area of the No. 3 return seal,

for imminent dangers. Darby's First Shift Section Foreman, Jamie Johnson, accompanied the Chief Investigator to answer questions about mine conditions and workplace practices.

On Wednesday, May 24, Chief Investigator Stumbo met with MSHA's lead investigator, Thomas E. Light, Jr., at the mine site. Mr. Light said that headquarters wanted MSHA's investigation team to wait until new seals were completed to conduct their physical investigation. The investigation team from OMSL entered the mine and examined the main entries, A-Left and B-Left panels. Jamie Johnson, Section Foreman, and MSHA inspectors Jim Langley and Tony Sturgill accompanied the OMSL team.

The following day OMSL's investigation team continued the physical investigation and began to sketch, map and measure relevant areas of the accident scene. Employees from Kentucky Darby LLC - Jamie Johnson, Scott Middleton and Darrell Burgan - and three MSHA personnel - Tony Sturgill, Chuck Barton, and Greg Isom - began preliminary work to build new intake seals, which consisted of cutting a trench in the mine floor and ribs with an air jack hammer. During OMSL's preliminary physical investigation of the mine, debris piles and evidence found at the scene were not disturbed. Removal of debris piles and collection of physical items from the accident scene would begin in conjunction with MSHA when their physical investigation of the mine was conducted.

The OMSL investigation team decided that sufficient information had been gathered through the initial physical examination of the accident scene to initiate preliminary interviews. On May 26, 2006, subpoenas were issued to 27 employees of Kentucky Darby LLC to provide sworn statements to the OMSL investigative team. The preliminary interviews were needed to provide information on normal operation of the mine, work assignments of individuals, and the events that occurred before and after the mine explosion on the morning of May 20. In addition, many items of evidence had been covered by the blast debris and the preliminary interviews would provide information on what items were missing, who they belonged to and where they might be located (See Photo No. 3).

The OMSL investigation team prepared questions, sketches and photographs of the accident scene, along with a wall map of the mine layout for use in the preliminary interviews. In addition, the team continued to review Kentucky Darby's ventilation plan and payroll time sheets to determine when the return seals were built. Bills of sale and purchase orders were reviewed to check the materials used in the construction of the seals and to determine the brand of some equipment (sealant, buggies, torch, methane detectors, SCSR's, etc). A small pocket notebook, found near the No. 3 return seal with four pages of entries, was also examined.

Preliminary interviews were conducted from Wednesday May 31 through Friday June 2 at the South East Community College, Harlan Campus. Questions were asked by OMSL investigation team members Tracy Stumbo, Ernest Hawkins, and General Counsel Mike Haines. The interviews were observed by MSHA employee Richard Herndon and MaryBeth Bernui, an attorney from the Department of Labor Solicitor's Office. The employees from Kentucky Darby were interviewed under oath and the interviews were transcribed by a court reporter. MSHA was provided with copies of all transcripts from the preliminary interviews conducted by OMSL.

OMSL also participated in MSHA's formal interview process that began the afternoon of June 2. They were held at the MSHA Harlan Field Office and witnesses were questioned by MSHA investigator Richard Herndon. The OMSL investigators, Tracy Stumbo and Ernest Hawkins, were allowed to ask follow-up questions. Representatives from the United Mine Workers of America (UMWA), Max Kennedy and Edgar Oldham, attended and were allowed to ask follow-up questions. Miner Representative, attorney Tony Opegard, attended the interviews and was also allowed to ask follow-up questions. Attorneys Kent Hendrickson and Billy Shelton, representing Ralph Napier and Kentucky Darby, were also present as observers during the MSHA interview process. The information gleaned during the OMSL preliminary interviews and participation in the MSHA formal interviews was utilized to target key areas of the accident scene for further physical investigation.

During the week of June 12, a systematic process of digging through the blast debris in the mine began. The process began at the No. 3 return seal and followed the explosion path across the main entries. Relevant items were identified, examined, measured and logged by the investigation teams of OMSL, MSHA, and UMWA's Max Kennedy. Many of the items recovered, such as the cutting torch, water trap, cut roof strap and tank regulators were taken into custody by MSHA to be examined by the Technical Support Group.

On June 27, the OMSL Chief Investigator, UMWA representative Butch Oldham and Miner Representative Tony Opegard, were allowed by MSHA to review the inspection notes of MSHA Inspector Stanley Sturgill. Mr. Sturgill was represented by American Federation of Government Employees Representative Bill Sharp. Mr. Sturgill had been in the process of an inspection of the Kentucky Darby mine on May 15, 16 and 17, the week of the explosion. OMSL investigators were not allowed to directly question Mr. Sturgill, but were required to write questions down and give them to MSHA investigator, Richard Herndon, to be asked. Mr. Herndon did not ask Mr. Sturgill all of the questions that were given to him by investigators. Following this interview, the Kentucky Department for Natural Resources (DNR) made a formal request to MSHA to allow inspector Stanley Sturgill to be interviewed by OMSL's investigation team. In addition, OMSL requested copies of inspector Sturgill's notes and transcripts of the MSHA formal interviews. MSHA verbally declined the request for an interview, but advised DNR that Mr. Sturgill would reply to a written set of questions. DNR prepared a list of questions for Mr. Sturgill and forwarded them to MSHA; however, neither a response to these questions nor copies of the inspectors notes have been received as of the date of this report.

Following the physical investigation of the debris piles found at the accident scene, OMSL investigators conducted follow-up interviews with four Kentucky Darby employees. The four witnesses called were: Mitchell Tom Lunsford, foreman; James Philpot, assistant foreman; Mark Sizemore, outby foreman; and Jack Clem, an employee who had not been interviewed during the first session. These interviews were conducted on June

28, under oath in the presence of a court reporter. MSHA representatives Richard Herndon and MaryBeth Bernui participated as observers. Attorneys Kent Hendrickson and Billy Shelton were present as representatives for all witnesses with the exception of Mitchell Tom Lunsford, who appeared without counsel. OMSL investigators asked detailed questions regarding the metal roof straps, mine seal construction, items found at the accident scene, and the mine examinations that were conducted.

### CHRONOLOGY OF EVENTS

This chronology of events is based on the information gathered during the physical investigation of the accident scene, review of pertinent mine records, and interviews conducted by OMSL and MSHA. The chronology attempts to reconstruct the events leading up to the accident, the accident, and the rescue and recovery efforts.

#### A. Construction of Return Air Course Seals

Approximately two to three weeks before the three return air course seals were built (around March 18, 2006), Tom Lunsford, mine examiner, was sent to take measurements at the location where the seals were to be constructed. Ralph Napier, mine superintendent, wanted to know how large the area was so he could order the necessary OMEGA blocks to construct the seals. According to Mr. Lunsford, when he reported back to Mr. Napier at the mine office, Mr. Amon Brock, second shift foreman, was also present. Mr. Lunsford said that he gave Mr. Napier and Mr. Brock the measurements and told them that several roof straps were in the area. Mr. Lunsford stated that “Mr. Napier responded that he would take care of it.”

Witness statements and payroll records indicate that on or about Saturday, March 18, 2006, the No. 1 return seal was built and the No. 2 seal was partially constructed. The No. 2 and 3 seals were completed during the following week. Amon Brock was in charge when the second shift crew built the No. 1 and 2 seals. Kevin Dixon stated in his interview that they stacked the block and did not put any material between the blocks. Dixon further

stated that they used cap wedges on top and sprayed some sealant on the outside of the seals, before the spray machine broke down.

Mark Sizemore was in charge when the No. 3 return air course seal was built. Mr. Sizemore stated that Tony Bledsoe, Darrell Burgan, and James Roark helped construct the No. 3 seal. Mr. Bledsoe stated that the No. 3 return seal blocks were “dry stacked” with a single row. He said the last block placed on top of the seal had been sawed to fit, and cap wedges were driven between the roof and the top row of blocks. Evidence at the accident scene supported this statement as one wooden cap wedge was stuck to the roof with sealant where the No. 3 seal had been built (See Photo No. 11). Mr. Bledsoe said a steel pipe with a valve was placed through the seal near the bottom, which would serve as the water trap (See Photo No. 12).

Mr. Sizemore stated that TC-spray (Pyro-Chem) was applied to the outside of the seal. According to the MSHA approved ventilation plan for the mine, this sealant was not approved for use with the OMEGA 384 blocks used to construct the seals. Mr. Sizemore said the backside of the No. 3 return seal – toward the sealed area – had not been treated with any sealant.

Four corrugated metal roof support straps intersected the No. 3 return seal. The straps were used as part of the roof support system and are approximately six inches wide with two parallel ridges running down either side. The roof straps are manufactured or may be cut to different lengths, usually in lengths of four, eight and twelve feet. Most of the metal straps in the Darby No. 1 mine were untreated; however, during the investigation, it was found that a few were galvanized (See Photo No. 5).

During his routine weekly examination of the seals Mark Sizemore stated that when he put his methane detector close to the No. 3 return seal, it detected 2 to 3 tenths percent methane.

## **B. Day of Accident**

On Friday, May 19, 2006, at approximately 4:30 a.m., Ralph Napier, the superintendent and part owner of Kentucky Darby LLC, Darby Mine No. 1, arrived at the mine. The second shift mine foreman, Amon "Cotton" Brock, arrived at the mine at around 2:00 p.m. Mr. Napier and Mr. Brock met in the mine office to discuss normal production procedures for the second shift that day.

At approximately 3:30 p.m., after preshift mine examiner Tom Lunsford had completed his examination of the mine, Amon Brock and shuttle car operator Jimmy Lee traveled underground. Mr. Brock and Mr. Lee rode a battery-powered personnel carrier to the No. B-Left working section.

At approximately 3:45 pm, second shift crewmembers Randy Fields, Travis Blevins, Scott Coker and Clark Cusick traveled underground with assistant foreman, James Philpot. The crew rode a battery-powered mantrip, which they referred to as the green machine. The crew also went to the No. B-Left working section of the mine. One other employee, Patrick Cupp, took a small battery-powered four-wheel buggy underground to check and service the conveyor belt drives (beltheads).

The second shift crew arrived on the No. B-Left working section after ten to fifteen minutes travel time. James Philpot said that he parked the green machine at the section power center. Amon Brock and Jimmy Lee were already at the section. Mr. Philpot said in his interview that Amon Brock usually set up the continuous miner for production and sometimes operated it.

According to James Philpot, the second shift production on May 19 was routine. Scott Coker stated that the continuous miner broke a conveyor chain and that Amon Brock and Jimmy Lee repaired it. Mr. Coker said that a repairman was not assigned to the second shift and therefore, Amon "Cotton" Brock was the boss, miner man and repairman.

The regular hours for the second shift crew were from 4:00 p.m. to 1:00 a.m. At approximately 12:40 a.m., on May 20, the second shift crew began to assemble at the section power center for the ride outside. The mantrip was located between spad Nos.

1220 and 1230. James Philpot, the mantrip operator, and four employees, Randy Fields, Scott Coker, Travis Blevins and Clark Cusick, loaded onto the mantrip for the ride outside.

Before the mantrip left the section, Amon Brock and Jimmy Lee also walked to the power center. The battery - powered buggy they brought inside was also parked at the power center. Scott Coker stated in his interview, that while Amon Brock was sitting on the buggy at the power center, Brock told Jimmy Lee that the job they were going to stay late to do “would only take ten or fifteen minutes.” After hearing this, Jimmy Lee decided to work late with Amon Brock. James Philpot told investigators that Amon Brock had to get something done because a federal inspector, Stanley Sturgill, would be back at the mine on Monday.

As the mantrip started outside, Amon Brock and Jimmy Lee separated from the group and traveled toward the section face. The third shift foreman, Bill Petra, and repairman, Roy Middleton, arrived on the section, riding one of the small four-wheel buggies. On their way in, they passed the second shift mantrip leaving the mine, said hello, and proceeded on toward the section face.

When the second shift mantrip got one crosscut past the power center, they met two more third shift employees, Paris Thomas and Paul Ledford. The second shift mantrip crew spoke briefly with the two men and then proceeded to the outside. Paul Ledford had gone underground at 10:55 p.m. and worked around the No. 3 head drive. At 12:36 a.m., Ledford left the head drive and picked up Paris Thomas at the No. 4 head drive to go to the section face.

### **C. Time of Accident**

The travel time to reach the surface for the second shift mantrip took about twelve to fifteen minutes. Patrick Cupp had arrived on the surface about fifteen minutes prior to the arrival of the second shift mantrip. The second shift mantrip came out of the No. 5 entry portal at approximately 12:55 a.m. and prepared to park near the No. 4 portal. Before the mantrip parked, the crew heard a loud noise and saw rock and debris blowing out of

the mine portals. The rock and debris blowing out of the portals ruptured oil cans and broke mirrors on parked vehicles, but no one on the surface was seriously injured.

Jerry Mink, second shift outside man, called Ralph Napier at approximately 1:00 a.m. to report that there was a problem at the mine. Ralph Napier asked to talk to one of the second shift employees. Jeffery Scott Coker was in the office and began talking to Mr. Napier. Coker told Napier that “stuff was blowing out of every portal,” and there was a strong odor of smoke. Mr. Napier said to Coker, “maybe the seals have blown out and we’ve had an explosion.” Napier said he would call Bob Rhea (MSHA) and told Jeffrey Scott Coker to call George Johnson (OMSL). After making the phone call to MSHA, Napier drove to the mine.

Since George Johnson (OMSL) was not at home, Coker left a message and then called OMSL inspector Sherrill Fouts at 12:50 a.m. Inspector Fouts immediately notified OMSL District Supervisor Ronnie Hampton to report the accident. Ronnie Hampton mobilized the members of the Harlan Rescue Team and dispatched them to the mine. Inspector Fouts arrived at the mine at approximately 1:40 a.m. Ralph Napier was in the mine office when Inspector Fouts arrived. In addition to the OMSL rescue teams, a team from the nearby Lone Mountain Huff Creek mine and MSHA personnel responded to the accident following the explosion.

According to Mr. Ledford, when the explosion occurred, he and Roy Middleton were on the working section preparing to move a shuttle car. Mr. Ledford stated that he felt the pressure against his body but didn’t know what had happened; he thought a huge roof fall had occurred. Paris Thomas was cleaning around the section feeder and acting section foreman, Bill Petra, was making a “danger run” (examination of the section faces for hazards). The regular section foreman, Tony Payne, had taken the day off.

Paul Ledford stated that Bill Petra got the crew together and told them he believed that an explosion had occurred because Amon Brock and Jimmy Lee had taken tanks and torches down into the return air course. Paul Ledford said that Bill Petra told them that they should get out of the mine. The four crew members left the face area on two

four-wheel buggies and proceeded down the intake roadway. Just past the section power center, they encountered smoke. They stopped at a crosscut between spad Nos. 1195 and 1193 and all four men donned and activated their SCSRs (models CSE SR-100).

Mr. Ledford said that all of the SCSR's inflated and worked okay. All four men (Paul Ledford, Bill Petra, Roy Middleton and Paris Thomas) got on one four-wheel buggy and started traveling toward the outside on the intake roadway. They had traveled five crosscuts when the buggy ran up onto a ventilation overcast structure and became stuck (See Photo No. 2). The ventilation overcast structure had blown down during the explosion and had blocked the roadway to mobile equipment. At this point, the crew decided to proceed out of the mine on foot.

Paul Ledford stated that as the smoke became dense, limiting visibility, the four men decided to use the electrical power cable to guide them to the surface. The power cable was hanging from the roof along the No. 5 neutral entry and the conveyor belt was in the No. 4 entry. Paul Ledford said that he removed the mouth piece of his SCSR and told the others that he had found the power cable. Roy Middleton was close behind him, but Bill Petra and Paris Thomas were further back. Mr. Ledford stated that Roy Middleton yelled back to him that he was going to find the power center. Paul Ledford continued walking toward the outside by holding onto the power cable. Ledford said that he became tired and began to crawl, and at some point passed out or went to sleep. He said that when he woke up he saw a door that had been blown out of a permanent stopping. He crawled toward the door into the main intake air course, where the air was clear. Ledford said that he saw a light - some distance away toward the outside of the mine - coming toward him.

On May 20, 2006, at approximately 2:30 a.m., Todd Middleton (OMSL), Bob Rhea, Dale Jackson, Kevin Doan (MSHA), Tom Lunsford and Mark Sizemore (Kentucky Darby employees) entered the No. 5 portal. At 3:08 a.m., MSHA supervisor John Pyle ordered everyone out of the mine. At 3:12 a.m., Todd Middleton (OMSL) found Paul Ledford alive,

two crosscuts outby the No. 3 belt head drive. Ledford was found wearing his SCSR - with the mouth piece in - he was in the fresh air intake at this point. The fan was pulling fresh air into the mine at this time.

The rescue team phoned outside for a transport to take Paul Ledford to the surface. Ralph Napier drove a small buggy inside the mine, picked up Paul Ledford and returned to the surface. Paul Ledford told the rescue team that he last talked to Paris Thomas, Roy Middleton and Bill Petra at the No. 4 belt head drive.

At 4:00 a.m., OMSL's mine rescue team - Jim Owens, Ronnie Hampton, Sherrill Fouts and Charlie Kirk - went underground with BG-4 apparatus to travel with Todd Middleton. Todd Middleton had been the third shift foreman at Kentucky Darby No. 1 mine prior to joining OMSL and knew the workers and the lay-out of the mine.

At 4:32 a.m., Lone Mountain's mine rescue team- Ronnie Smith, John Rutherford, Jude Johnson, Tim Goodin and Charles Barton with MSHA - went underground. Lone Mountain Safety Director Jim Vicini went underground to direct the team from the fresh air base.

At 5:00 a.m. Charlie Kirk reported that a body was found near the No. 3 belt head drive, one crosscut outby spad No. 517. The body of Paris Thomas was identified by Todd Middleton. Paris Thomas was found wearing his SCSR.

At 5:16 a.m., Ronnie Hampton and Todd Middleton reported that two bodies, identified as Bill Petra and Jimmy Lee, were found inby spad No. 526. Bill Petra was found wearing his SCSR with the mouth piece near his mouth. Jimmy Lee was found without an SCSR.

At 8:45 a.m., Amon Brock was found in a crosscut between spad Nos. 525 and 526 near where Jimmy Lee was found. Amon Brock was also found without an SCSR. Roy Middleton was located at 8:45 a.m. between spad Nos. 521 and 522. Mr. Middleton was wearing his SCSR.

Todd Middleton (OMSL) transported victims Paris Thomas, Roy Middleton and Bill Petra on a mine personnel buggy to the surface, while Mark Sizemore (Kentucky Darby)

transported victims Jimmy Lee and Amon Brock to the surface. Once on the surface, the victims were turned over to Harlan County Coroner Phillip Bianchi. The coroner left the mine site with the victims at 11:10 a.m., Saturday, May 20, 2006.

## FINDINGS

1. A methane explosion occurred at the Kentucky Darby LLC, Darby No. 1 mine, at approximately 12:47 a.m., on May 20, 2006. The explosion originated at the No. 3 return seal, which was located between spad Nos. 531 and 1136. The seal was built at the mouth of the A-Left panel approximately 3,200 feet underground (See Photo No. 4).
2. On the night of the accident, Amon Brock and Jimmy Lee were attempting to remove a metal roof strap that intersected the No. 3 seal by cutting it with an acetylene torch (See Photo No. 6). Mr. Philpot stated in his interview that Amon Brock told him that “Stanley would be back on Monday and he (Amon Brock) needed to get something done.”
3. Approximately two to three weeks before the three return seals were built, around March 18, 2006, Mr. Tom Lunsford alerted mine management that metal roof straps were present in the area where the return seals were to be constructed. Information provided in the interview process and the physical examination of the accident scene revealed the return seals were not constructed in accordance with the mine’s MSHA approved ventilation plan. Specifically, the OMEGA blocks were dry stacked and there was no evidence that the blocks had been hitched (connected or attached) six inches into the mine floor as required by the ventilation seal plan. Four corrugated metal roof support straps were also found to have intersected the top of the No. 3 return seal.
4. Sherrill Fouts OMSL inspector, and first responder to the accident scene, stated that a storm had occurred in Harlan County on Friday, at 10:45 p.m., May 19, 2006. The lower barometric pressure associated with the storm allows gases at a higher pressure

behind sealed areas to migrate out through any openings in the seal, a process known as “out-gassing.”

5. A pocket note pad was found near the area where the No. 3 return seal was built.

According to Jamie Johnson and James Philpot, the note pad belonged to Amon Brock.

The notation written on the first page was: “cut straps 2 bulkhead seals” (See Photo No. 13). Because this notation was written on the first page, it would indicate that it was written before the shift events of May 19.

6. The acetylene and oxygen tanks, along with a cutting torch, had been removed from the section maintenance buggy. The tanks, torch, and torch striker were found scattered across the blast area, outby where the No. 3 return seal had been located. The regulator valves for the acetylene and oxygen tanks were found in the open position. The torch was found with the fuel valve turned toward the “off” direction and one of the two valves for the oxygen was turned toward the “off” direction. Both valves were still in a position that would have allowed the flow of fuel to the torch, and it is possible that the valve positions were moved as a result of the explosion.
7. Evidence at the accident scene indicated that a portion of metal roof strap had been cut and removed from a strap that intersected the No. 3 return seal on the left outby side (See Photo No. 7). There were torch burn marks on the strap and on the piece that was removed (See Photos No. 9 and 10). The portion of metal that had been cut and removed from the roof strap was found in the No. 5 main entry. Sealant was found on the cut piece, and on the straps at the No. 3 return seal (See Photos No. 8 and 10). When tested by investigators, the cut piece would fit into the space from where a section had been removed from the left strap, at the No. 3 return seal.
8. According to statements made by Paul Ledford and physical evidence at the accident scene, four second shift crewmembers traveled along the power cable in the No. 5 entry in an effort to exit the mine. Ledford said the entry had dense smoke with limited or no visibility. The men (Paul Ledford, Roy Middleton, Paris Thomas and Bill Petra)

traveled by holding and touching the power cable. Other obstacles such as equipment, coal, rock and debris were scattered along the entry, which made it difficult to walk.

9. The SCSRs donned by the survivor and three of the victims, and one found at the accident scene, were taken into custody by MSHA. The testing of the SCSRs was performed by NIOSH and CSE Corp. in the presence of MSHA and Kentucky DNR personnel. Preliminary test results received by OMSL indicate that the oxygen had been activated and the SCSRs did produce oxygen. Testing also revealed the amount of potassium super oxide (KO<sub>2</sub>) (oxygen producing chemical) consumed in each SCSR was as follows:

(Paul Ledford SN. 93609 – Manufactured 7/02 - Spent KO<sub>2</sub> = 30%)

(Roy Middleton SN. 84784 – Manufactured 6/01 - Spent KO<sub>2</sub> = 23%)

(Paris Thomas SN. 89962 – Manufactured 1/02 - Spent KO<sub>2</sub> = 75%)

(George Bill Petra SN. 105936 – Manufactured 6/01 - Spent KO<sub>2</sub> = 10%)

One SCSR was found near the No. 3 seal area unopened and it had been assigned to Amon Brock (SN. 84698 pending future test). One other SCSR was found badly damaged, near the body of Jimmy Lee.

10. According to the coroner's report, Roy Middleton, Bill Petra, and Paris Thomas died from carbon monoxide poisoning with smoke and soot inhalation. Amon Brock and Jimmy Lee died from multiple blunt force trauma and thermal injuries caused by the initial methane explosion.

#### CONCLUSION OF THE STATE INVESTIGATING COMMITTEE

On May 20, 2006, at approximately 12:47 a.m., Amon Brock and Jimmy Lee were fatally injured at the Kentucky Darby LLC, Darby No. 1 mine as a result of a methane explosion. Amon Brock and Jimmy Lee had used an acetylene cutting torch (open flame)

to remove a metal roof strap that intersected the No. 3 return seal. The seal had been poorly constructed - contrary to the approved ventilation plan - and was leaking methane. During the process of removing the strap, methane was ignited by the acetylene torch, resulting in a methane explosion that originated at the No. 3 return seal. Amon Brock and Jimmy Lee died from multiple blunt force trauma and thermal injuries caused by the force of the methane explosion.

Following the methane explosion, Roy Middleton, Bill Petra, and Paris Thomas died from carbon monoxide poisoning with smoke and soot inhalation, as they attempted to exit the mine. Mr. Paul Ledford was rescued by the Mine Rescue Team while attempting to exit the mine.

#### **RECOMMENDATIONS MADE AND DISCUSSED**

- 1. The investigation revealed that the mine seals had not been properly constructed, and that the individuals working to construct the seals were not familiar with the MSHA approved seal plan. Mine seals must be constructed according to the approved mine ventilation plan to ensure the seals function properly. Employees must be properly trained and familiar with the requirements of the seal plan.**
- 2. Return air courses function to remove hazardous gases and dust from the working sections of the mine. Acetylene cutting torches or any ignition source is prohibited in the return air course of a mine.**
- 3. Equipment that is not intrinsically safe shall not be taken into the return air course to prevent ignition of gases or dust that may be present.**
- 4. Immediate corrective action shall be taken whenever methane readings around seals indicate that methane may be leaking from behind the seals. Leaking mine seals can create an explosive mixture of methane and oxygen.**

#### **NOTICE OF NON-COMPLIANCE/CLOSURE ORDERS**

- 1. KRS 352.180 - Closure Order for entire mine - Investigation for fatal accident-methane**

**explosion.**

- 2. KRS 352.210: Non-Compliance No. 0629024 - The No. 3 intake seal was not constructed according to the approved ventilation plan.**
- 3. KRS 352.210: Non-Compliance No. 0629025 - The return seal No. 1 was not constructed according to the approved ventilation plan.**
- 4. KRS 352.210: Non-Compliance No. 0629026 – The return seal No. 2 was not constructed according to the approved ventilation plan.**
- 5. KRS 352.210: Non-Compliance No. 0629027 - The No. 3 return seal was not constructed according to the approved ventilation plan.**
- 6. KRS 352.210: Non-Compliance No. 0629028 - An acetylene-oxygen cutting torch was taken and used in the return air course.**
- 7. KRS 352.230 (1): Non-Compliance No. 0629029 - Non-permissible four (4) wheel buggies were taken into the return air course.**
- 8. KRS 352.230 (1): Non-Compliance No. 0629030 - A non-permissible four (4) wheel buggy was taken into the return air course on May 20, 2006.**
- 9. 805 KAR 7: 050 Section 1 (1) (2) (d) (e): Non-Compliance No. 0629031 – Employees were not properly task trained on the ventilation plan (seal construction).**

SUBMITTED BY:

Ernest Haukimo  
ACCIDENT INVESTIGATOR

[Signature]  
ACCIDENT INVESTIGATOR

[Signature]  
CHIEF ACCIDENT INVESTIGATOR

DATE: Nov. 29, 2006

APPROVED BY:

Johnny Greene  
JOHNNY GREENE  
ACTING EXECUTIVE DIRECTOR  
OFFICE OF MINE SAFETY AND LICENSING

DATE: 11-21-06

Susan Bush  
SUSAN BUSH, COMMISSIONER  
DEPARTMENT FOR NATURAL RESOURCES

DATE: 11-21-06