2 FOREWORD

2.1 Description of Mine

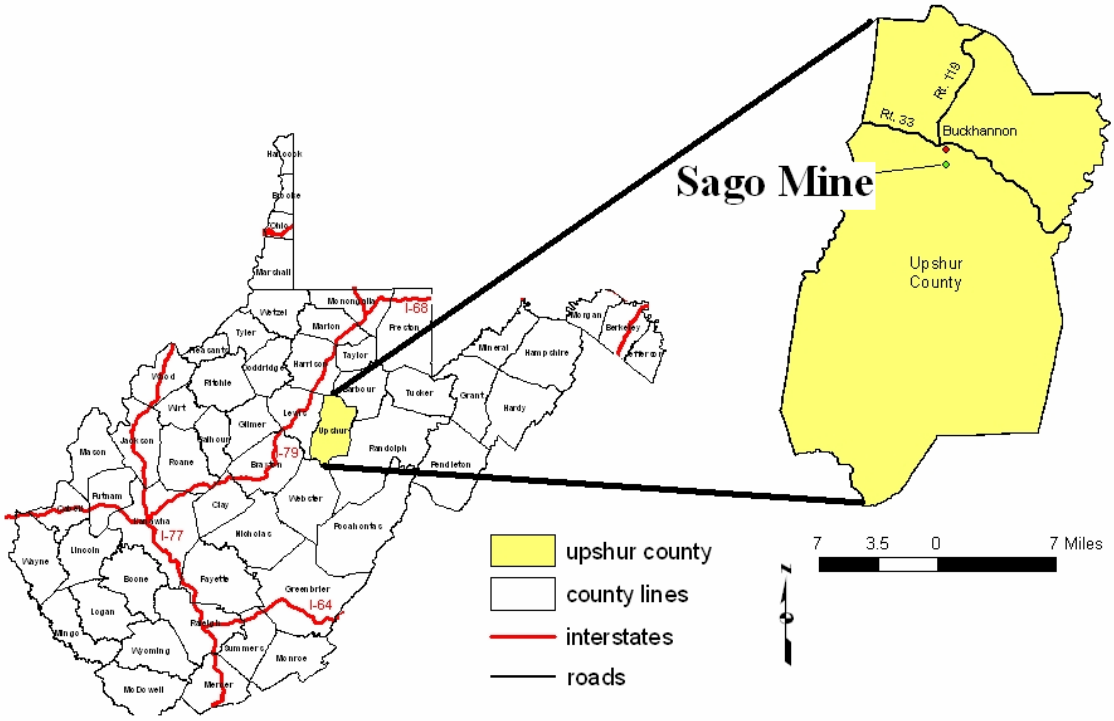
2.2 Report Preparation Process

2.3 General Acknowledgements

2.1 Description of the Mine

The unincorporated village of Sago is located in Upshur County, West Virginia. Upshur County covers an area of 350 square miles in north central West Virginia with gentle hills and streams.

This mine was first permitted as BJM Coal Company, Spruce No. 2 Mine, Permit Number U-2016-98 on 09/03/1999 and closed out on 11/26/2001. On 11/26/2001 the mine was permitted as Anker West Virginia Mining Company, Spruce No. 2 Mine, Permit Number U-2016-98A and closed out on 11/12/2003.



The Anker West Virginia Mining Company, Sago Mine, Permit Number U-2016-98B was issued on 11/12/2003 and is opened into the Middle Kittanning Coal Seam through (5) five drift type openings developed from a box cut type opening on the surface. The average coal seam height is 60 inches, however the mined height ranges from approximately 72 inches to (10) ten

feet or more in some areas. This is due to both adverse roof and bottom conditions. The mine is usually very wet with soft bottom conditions.

On May 12, 2006 this mine was re-permitted as Wolf Run Mining Company, Sago Mine, permit number U-2016-98C.

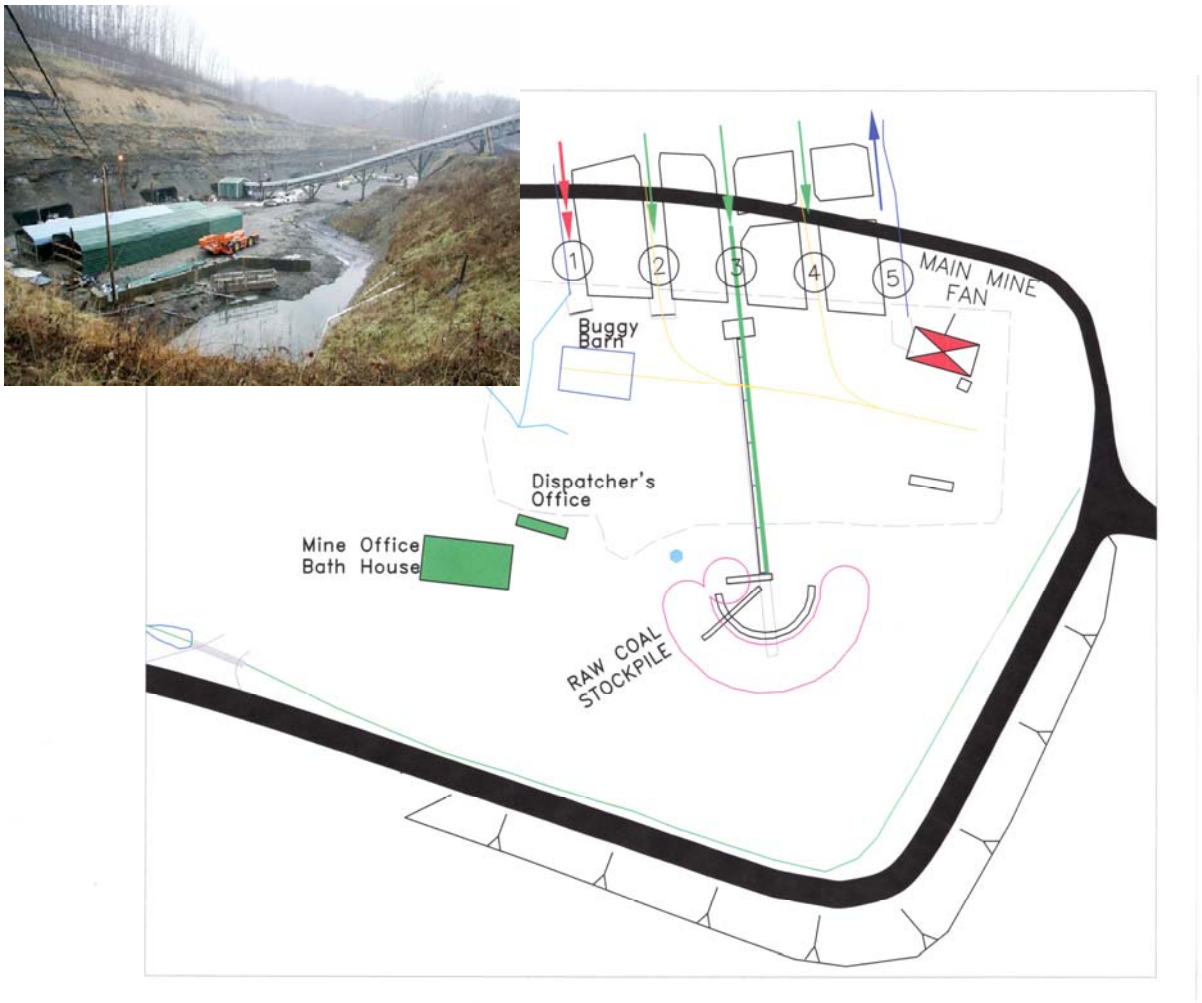
The mine is ventilated by a blowing fan located at the #5 drift opening producing approximately 168,162 cubic feet of air per minute. The working faces are ventilated using line curtains installed in a blowing ventilation manner so as to accommodate the scrubbers of the continuous mining machines. The mine liberates approximately 90,577 cubic feet of methane in a 24 hour period. Normally only 0.1 to 0.2 percent of methane is detected in the working faces.

View of Sago mine portals to the left and the "hill" to the right with bathhouse and offices at far right.

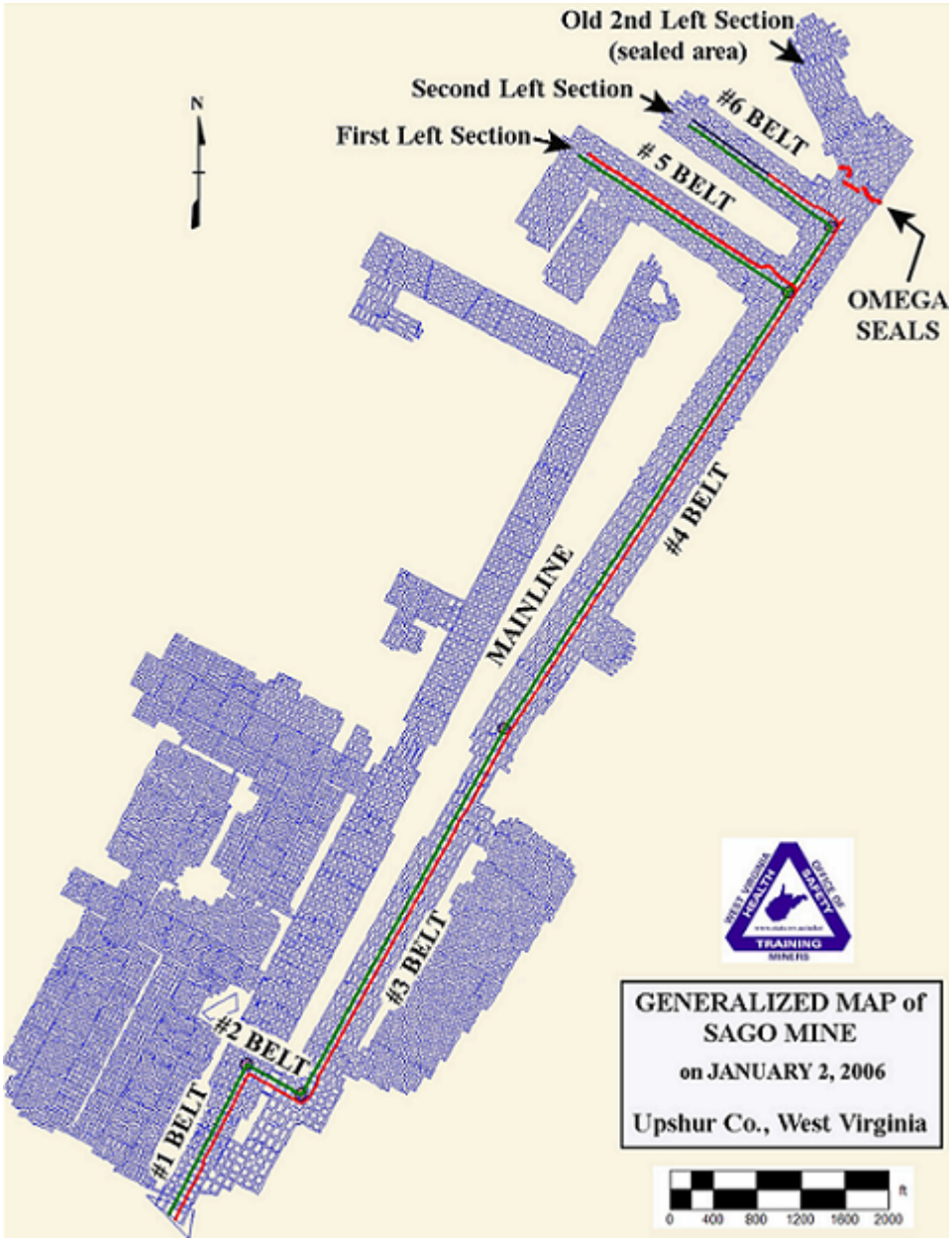
The mine normally employs approximately 145 employees, works (2) two production sections, (2) two shifts per day, and (1) one maintenance shift Monday through Thursday and (1) one production shift and (1) one maintenance shift Friday through Sunday. The working sections are located approximately (2) two miles from the surface.

Coal is produced using remote controlled extended cut continuous mining machines, with shuttle car type face haulage. The coal is then transported to the surface via belt conveyors and removed from the surface of the mine by truck haulage. The roof is supported using dual head roof bolting machines and the roof supports usually consist of a combination of resin grouted rods, oversized plates, roof screen, rib tenders, cable bolts, and spider plates. Battery powered scoops are used on

the sections and man-trip and supply haulage is accomplished by battery powered track equipment.



Sago mine pit area showing major structures discussed in the report.



Sago underground mine works with major features identified.

At this mine 492,507 tons of coal were produced during 2005, the mine worked 285,756 man-hours, sustained 14 lost time injuries and ended the year with a lost time frequency rate of 9.75 compared to a nationwide rate of 9.26 rate for underground mines.[1]

[1] Injury Experience in Coal Mining -2005, MSHA, page 263

MINE INFORMATION

COMPANY ANKER WEST VIRGINIA MINING COMPANY, INC

MINE NAME SAGO MINE PERMIT NUMBER U-2016-98B

ADDRESS RT. 9 BOX 507, BUCKHANNON, WEST VIRGINIA, 26201

COUNTY UPSHUR PHONE NUMBER 473-1676

DATE PERMIT ISSUED 11/12/2003 WORKING STATUS A

LOCATION 5 MILES SOUTHWEST OF BUCKHANNON NEAR SAGO

MINE FOREMAN CARL CRUMRINE CERT. NUMBER 25993

SUPERINTENDENT JEFFERY TOLER

NON-UNION X DAILY PRODUCTION 7000 TONS

ANNUAL PRODUCTION 2005 492,507 TONS

NAME OF COAL SEAM MIDDLE KITTANNING SEAM HEIGHT 60”

TOTAL NUMBER OF EMPLOYEES 145 SHIFTS 3

ACCIDENT FREQUENCY RATE 9.75 LOST TIME ACCIDENTS 14

TYPE OF HAULAGE BELT, SHUTTLE CAR, TRACK MANTRIP/SUPPLY

WV OFFICE OF MHST INSPECTOR JOHN COLLINS, DISTRICT INSP. #2

DATE OF LAST REGULAR INSPECTION NOVEMBER 2, 2005

DATE OF LAST CHECK INSPECTION DECEMBER 12, 2005

NOTIFIED OF ACCIDENT BY JOHN B. STEMPLE, JR.

DATE AND TIME OF NOTIFICATION JANUARY 2, 2006 AT 7:46 A.M.

CMSP ANNIVERSARY DATE OCTOBER 31, 2006

CMSP CONTACT PERSON JAMES A. SCHOONOVER, SAFETY DIRECTOR

2.2 Report Preparation Process

The report process began as soon as the West Virginia Office of Miners' Health Safety and Training (OMHS&T) was notified of the accident. OMHS&T personnel arrived on the site within minutes of being notified. Logs critical to the drafting of the report, were maintained throughout the rescue and mine recovery phases.

During the rescue and mine recovery OMHS&T, the US Mine Safety and Health Administration (MSHA) and the company - International Coal Group (ICG) participated as one team. Decisions were made by agreement and records kept.

After the mine was safe to enter teams were formed to collect evidence to help understand what had happened. Each team had participation from each organization and was often joined by representatives from the United Mine Workers. These teams focused on; overview, flames and forces, electrical, mapping, photography, records review, and rock dust. Separately the WV medical examiner developed a report on the victims. Also during this time, the process began of collecting sworn testimony of more than eighty individuals.

As the investigation teams completed their work they began the process of analysis within their area. At this point the ICG members' direct participation was reduced, and subject matter experts were brought in as government agencies began focusing on individual responsibilities.
With the bulk of the evidence collected synthesis and hypothesis development began. In this process evidence and initial analysis from multiple disciplines was correlated for relevance and initial hypotheses were developed, tested against the evidence and accepted or rejected. Both MSHA and OMHS&T are charged under law with conducting independent investigations. As a

result during this period the OMHS&T functioned predominately alone while reaching out to MSHA, NIOSH, ICG, and experts as needed.

The final stage of the process involves drafting documents and developing recommendations. This process called for the dedication of a core of the investigation team to focus exclusively on compilation of all that was learned into an effective narrative.

The Sago report does not follow the standard outline for OMHS&T accident reports. The magnitude of the accident, its complexity, and the massive investigative effort dictated a level of detail not normally associated with such reports.

It would be impossible to acknowledge all those who have contributed to information in this report. Of particular note must be Brian Mills, OMHS&T Inspector at Large for the region in which Sago lies, who led the effort for OMHS&T, John Collins the OMHS&T Mine Inspector normally assigned to the Sago mine was involved on a day-to-day basis as was Monte Hieb, the OMHS&T Chief Engineer, and John Scott, electrical inspector.

2.3 General Acknowledgements

The WVOMHS&T gratefully acknowledges the cooperation and efforts of the representatives of OMHS&T, Anker West Virginia Mining Company, Inc (ICG), Sago Mine, and the UMWA during this investigation. The WVOMHS&T also gratefully acknowledges the numerous others who have assisted, in so many ways, our efforts throughout the investigation.

This report prepared by:

John Collins, District Underground Inspector

John Cruse, Engineer

Randall Harris, Consultant

Monte Hieb, Chief Engineer

Dr. E. Philip Krider, Consultant

John Meadows, District Surface Inspector

Brian Mills, Inspector at Large

John Scott, Electrical Inspector

Ron Wooten, Director

December 11, 2006