

**IN THE COURT OF COMMON PLEAS  
DAUPHIN COUNTY, PENNSYLVANIA**

**IN RE:** : **SUPREME COURT OF PENNSYLVANIA**  
: **208 M.D. MISC. DKT. 2001**  
**THE NINETEENTH STATEWIDE** :  
: **DAUPHIN COUNTY COMMON PLEAS**  
**INVESTIGATING GRAND JURY** : **NO. 660 M.D. 2001**  
:   
: **NOTICE NO. 40**

**ORDER ACCEPTING AND FILING  
INVESTIGATING GRAND JURY REPORT NO.1**

AND NOW, this \_\_\_\_\_ day of \_\_\_\_\_, 2003, upon review of Investigating Grand Jury Report No.1, and finding that said report proposes recommendations for administrative, executive and/or legislative action in the public interest based upon stated findings, and further finding that said report is based upon facts received in the course of an investigation authorized by the Investigating Grand Jury Act, 42, Pa.C.S. § 4541 *et seq.*, and is supported by the preponderance of the evidence, it is hereby

**ORDERED**

1. That Investigating Grand Jury Report No. 1 is accepted by the Court with the direction that the original be filed as a public record with the Court of Common Pleas of Dauphin County and that a copy be filed as a public record with the Court of Common Pleas of Somerset County.
2. That the Attorney for the Commonwealth deliver copies of the Report to the following:
  - A. The Governor of the Commonwealth of Pennsylvania;
  - B. The Pennsylvania Senate;

- C. The Pennsylvania House of Representatives;
- D. The Secretary of the Pennsylvania Department of Environmental Protection.

BY THE COURT:

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WARREN G. MORGAN  
Supervising Judge

**IN THE COURT OF COMMON PLEAS  
DAUPHIN COUNTY, PENNSYLVANIA**

**IN RE:** : **SUPREME COURT OF PENNSYLVANIA**  
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**THE NINETEENTH STATEWIDE** :  
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**TO THE HONORABLE WARREN G. MORGAN, SUPERVISING JUDGE:**

**REPORT NO. 1**

We, the members of the Nineteenth Statewide Investigating Grand Jury, based upon facts received in the course of an investigation authorized by the Investigating Grand Jury Act, issue this report regarding the Quecreek Mine inundation and proposing recommendations for legislative, executive and administrative action in the public interest. So finding, with no fewer than twelve concurring, we do hereby adopt this Report for submission to the Supervising Judge.

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Foreperson --- The Nineteenth Statewide  
Investigating Grand Jury

DATED: \_\_\_\_\_, 2003

## I. INTRODUCTION

On February 25, 1998, Quecreek Mining, Inc., a subsidiary of PBS Coals, Inc., submitted an application to the Pennsylvania Department of Environmental Protection (DEP) for a permit to operate an underground bituminous coal mine in Lincoln Township, Somerset County, Pennsylvania. The mine permit application was prepared by PBS Coals, Inc. and Musser Engineering, Inc., an independent consulting firm. The permit application was reviewed by various personnel at the DEP Bureau of District Mining Operations and the Bureau of Deep Mine Safety. On March 13, 1999, the DEP issued a permit to Quecreek Mining, Inc. for the Quecreek Mine. Mining operations at the Quecreek Mine commenced in March 2001. In July 2001, the Quecreek Mine permit was revised by the DEP to add the Black Wolf Coal Company as the mine operator.

The Quecreek Mine permit application included maps of the Quecreek Mine which, pursuant to Section 235 of the Pennsylvania Bituminous Coal Mine Act (ACoal Mine Act<sup>≡</sup>), were certified by a professional engineer. The Quecreek Mine permit maps depicted the boundary of the Quecreek Mine and the boundary of the adjacent, abandoned Saxman coal mine.<sup>1</sup>

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<sup>1</sup> 52 P.S. ' 701-235 provides in pertinent part as follows:

AThe operator or the superintendent of any bituminous coal mine shall make, or cause to be made under the direction or supervision of a registered mining engineer or registered surveyor... an accurate map of the mine ...that shall show the following:

- (2) An accurate delineation of the boundary lines between said mines and all adjoining mines or coal lands, and the relation and proximity of the workings of said mine to all adjoining mines or coal lands.<sup>≡</sup>

On July 24, 2002, at 3:00 p.m., a crew of nine coal miners began their work shift in the One Left section of the Quecreek Mine. Just before 9:00 p.m., the miners accidentally cut into a portion of the abandoned Saxman Mine. Within hours, millions of gallons of water from the Saxman Mine flooded into the Quecreek Mine and trapped all nine miners. Three days later, the miners escaped from the Quecreek Mine after a massive rescue effort. At the time of the inundation, the Quecreek Mine permit maps erroneously indicated that the One Left section was nearly 300 feet from the boundary of the Saxman Mine.

## II. APPLICABLE LAW

The criminal penalties for a violation of the Coal Mine Act are found at 52 P.S. §701-703.<sup>2</sup> Section 703 states that any person who violates any of the provisions of the Coal Mine Act is guilty of a misdemeanor. However, Section 703 is silent regarding the *mens rea*, or culpability, required to establish such a criminal violation of the Act. Section 302(c) of the Pennsylvania Crimes Code provides that when the culpability necessary to establish a material element of a crime is not specified by statute, the crime requires

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<sup>2</sup> 52 P.S. ' 701-703. **Criminal Penalties**

Any person who shall intentionally or carelessly disobey any order given in carrying out the provisions of this act, or do any other act whatsoever, whereby the lives or the health of the persons employed, or the security of the mine or machinery, are endangered, or who neglects or refuses to perform the duties required of him by this act, or who makes any false statement in any report required by this act, or who is responsible for failure to comply with any decision made in accordance with this act, **or who violates any of the provisions or requirements thereof**, shall be deemed guilty of a misdemeanor, and shall, upon conviction, thereof in the court of quarter sessions of the county in which the misdemeanor was committed, unless otherwise specified hereinbefore, be punished by a fine not exceeding two hundred dollars (\$200), or imprisonment in the county jail for a period not exceeding three months or both, at the discretion of the court. (Emphasis added)

intentional, knowing or reckless conduct.<sup>3</sup> Accordingly, a violation of the Coal Mine Act is a crime if committed in an intentional, knowing or reckless manner.

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<sup>3</sup> **18 Pa. C.S. ' 302. General requirements of culpability**

**A(c) Culpability required unless otherwise provided** - When the culpability sufficient to establish a material element of an offense is not prescribed by law, such element is established if a person acts intentionally, knowingly or recklessly with respect thereto.≡

The Pennsylvania Crimes Code states that a person is guilty of the crime of risking a catastrophe if he recklessly creates a risk of catastrophe in the employment of fire, explosives or other dangerous means.<sup>4</sup> Accordingly, the *mens rea* necessary to establish the crime of risking a catastrophe is reckless conduct.

The Pennsylvania Crimes Codes states that a person is guilty of the crime of recklessly endangering another person if he recklessly engages in conduct which places or may place another person in danger of death or serious bodily injury.<sup>5</sup> Again, the *mens rea* necessary to establish the crime of recklessly endangering another person is reckless conduct.

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<sup>4</sup> **18 Pa.C.S. ' 3302. Causing or risking catastrophe**

**A(b) Risking Catastrophe** -- A person is guilty of a felony of the third degree if he recklessly creates a risk of catastrophe in the employment of fire, explosives or other dangerous means... A

<sup>5</sup> **18 Pa.C.S. ' 2705. Recklessly endangering another person**

AA person commits a misdemeanor of the second degree if he recklessly engages in conduct which places or may place another person in danger of death or serious bodily injury.≡

Pursuant to the Pennsylvania Crimes Code, a person acts recklessly with respect to a material element of an offense when he consciously disregards a substantial and unjustifiable risk that the material element exists or will result from his conduct. The risk must be of such a nature and degree that its disregard involves a gross deviation from the standard of conduct that a reasonable person would observe in the actor=s situation.<sup>6</sup>

Accordingly, the criminal provisions of the Coal Mine Act and the Pennsylvania Crimes Code applicable to our investigation of the Quecreek Mine inundation require the Commonwealth to establish, *at a minimum*, reckless conduct .

### **III. SAXMAN MINE MAPS**

Prior to submitting the Quecreek Mine permit application to the DEP, Musser Engineering and PBS Coals conducted an extensive search for maps of the abandoned Saxman Mine. Every known mine map

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<sup>6</sup> **18 Pa.C.S. ' 302 General requirements of culpability**

**(b) Kinds of culpability defined. --**

A(3) A person acts recklessly with respect to a material element of an offense when he consciously disregards a substantial and unjustifiable risk that the material element exists or will result from his conduct. The risk must be of such a nature and degree that, considering the nature and intent of the actor=s conduct and the circumstances known to him, its disregard involves a gross deviation from the standard of conduct that a reasonable person would observe in the actor=s situation. A

repository was searched and numerous maps of the Saxman Mine were located. Most of the maps were antiquated and of no practical usefulness. However, the following two significant maps were located during the map search:

1) Both PBS Coals and Musser Engineering located a map of the Saxman Mine at the Office of Surface Mining (OSM) federal map repository in Greentree, Pennsylvania. The Greentree map is dated 1957 but is not marked final or certified by a professional engineer or professional surveyor. The Greentree map depicts the boundary of the Saxman Mine, but does not depict the actual workings of the mine. During the DEP=s review of the Quecreek Mine permit application, a copy of the Greentree map was located by District Mining Operations staff at the DEP=s mine map repository in McMurray, Pennsylvania and by Deep Mine Safety staff at the DEP=s mine map repository in Uniontown, Pennsylvania.<sup>7</sup> The Greentree map was the most current map of the Saxman Mine available at either state or federal mine map repositories prior to the Quecreek Mine inundation.

2) In 1995, Edward Secor, a professional engineer with Musser Engineering, contacted the Consolidated Coal Company (Consol) in Library, Pennsylvania and requested a copy of the most detailed map of the Saxman Mine that Consol had available. Consol previously owned the Saxman Mine coal reserves and leased the reserves to the Saxman Mine operator. In 1992, Consol sold all of its coal reserves in Somerset County, including the Saxman Mine reserves, to an individual named William McIntire. Since

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<sup>7</sup> During the DEP=s review of an underground coal mine permit application, both District Mining Operations and Deep Mine Safety perform their own independent search for mine maps to confirm the accuracy of the maps submitted with the mine permit application.

Consol owned the coal reserves at the Saxman Mine and was entitled to royalties on all coal removed from the mine, it was expected that Consol kept accurate maps of the Saxman Mine. In August 1995, a Consol employee located a map of the Saxman Mine and provided a copy to Musser Engineering. PBS Coals also received a copy of the Consol map. The Consol map depicts the outline of the Saxman Mine workings but does not show the mine workings in detail. The Consol map is not dated or marked final, nor is the map certified by a professional engineer or professional surveyor. However, the Consol map depicts more extensive mining at the Saxman Mine than the Greentree map.

Although the Consol map is not dated or certified, it was the most up-to-date map of the Saxman Mine that could be located and Musser Engineering believed it to be reliable. Accordingly, Musser Engineering used the Consol map to plot the boundary of the Saxman Mine on the Quecreek Mine permit maps. Musser Engineering certified the Quecreek Mine permit maps, which were then submitted by PBS Coals to the DEP as part of the original Quecreek Mine permit application. Following the Quecreek Mine inundation it was determined that the Consol map was not a final map of the Saxman Mine. It is believed that the Consol map depicts mining at the Saxman Mine until approximately 1961, however, mining operations continued at the mine through 1963.

In August 2002, mine accident investigators discovered a map of the Saxman Mine at the Windber Coal Museum in Windber, Pennsylvania.<sup>8</sup> The map is dated 1964 and the word ~~Afinal~~ is written on it, but the map is not certified by a professional engineer or professional surveyor. The map depicts more

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<sup>8</sup> The map located by mine accident investigators at the Windber Coal Museum was donated to the museum in June 2002 by the granddaughter of the former state mine inspector for the Saxman Mine. Apparently, the map was located among the mine inspector's personal effects after he passed away. The map was found lying in a corner of the museum's attic and was not catalogued or indexed.

extensive mining at the Saxman Mine than the Consol map and details mining in the area where the Quecreek miners breached the Saxman Mine.

Section 240 of the Coal Mine Act requires a mine operator to submit a certified final map to the DEP within sixty days of abandonment of a mine.<sup>9</sup> It appears that the final map of the Saxman Mine found at the Windber museum was provided to the Pennsylvania mine inspector for the Saxman Mine. Inexplicably, a copy of this map was not maintained at any of the DEP=s mine map repositories or at the OSM federal mine map repository in Greentree, Pennsylvania. If the final map of the Saxman Mine had been properly maintained by DEP in accordance with the Coal Mine Act, it would have been located by Musser Engineering, PBS Coals or the DEP during their search for maps of the Saxman Mine. If the final map of the Saxman Mine had been located, the Quecreek Mine permit maps would have accurately depicted the boundary of the Saxman Mine and the Quecreek Mine inundation would almost certainly not have occurred.

The DEP maintains annual coal production reports for coal mines in Pennsylvania, including the Saxman Mine. The reports for the Saxman Mine indicate that mining operations ceased in 1963 and that approximately 420,000 tons of coal were mined from 1957 (the date of the Greentree map) through 1963.

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<sup>9</sup> **52 P.S. ' 701-240. Duties upon abandonment of mine**

Whenever a mine is to be abandoned for a period of one year or more, the operator or the superintendent shall notify the mine inspector in the district at once and shall, within sixty days thereafter, extend the said mine inspector=s map to show clearly all worked-out or abandoned territory with all property and boundary lines and elevations as required in this act. The owner or the operator of such abandoned mine shall also, within sixty days after its abandonment, send to the department a tracing or print of said complete original map which shall be kept in the department as a public document. The registered mining engineer or the registered surveyor shall certify that said tracing or print is a true and correct copy of the original map of said mine, and that the original map is a true, complete, and correct map and survey of all the excavations made in such abandoned mine.≡ (Effective July 17, 1961).

Although these coal production reports are available for public inspection, neither Musser Engineering, PBS Coals nor the DEP obtained the production reports for the Saxman Mine prior to the Quecreek Mine inundation.

It has been suggested that if the coal production reports for the Saxman Mine had been checked, it may have been possible to compare the Greentree and Consol maps to determine whether they depicted sufficient mining to account for 420,000 tons of coal. Additionally, if this coal tonnage could not be accounted for by the maps, Musser Engineering, PBS Coals, or the DEP may have been alerted during the mine permitting process that the Consol map was not a final map of the Saxman Mine. However, we cannot conclude with certainty that such a comparison would have proven the Consol map to be inaccurate.

There was no agreement among witnesses regarding the feasibility of using coal production figures to confirm the accuracy of a mine map. Although the coal production reports indicate the amount of coal removed from a mine, they do not indicate from which area of the mine the coal was removed. Mining practices, such as retreat mining, would confound any comparison and lead to speculation.<sup>10</sup> We also note that prior to the Quecreek Mine inundation, neither coal mine operators nor the DEP checked coal production records to attempt to confirm the accuracy of mine maps.

Since the Quecreek Mine inundation, the coal mine industry and DEP have made it a practice to check coal production reports when certified mine maps are unavailable.

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<sup>10</sup> During mining operations at a Aroom and pillar≡ type mine, columns of coal are left in the coal seam as mining progresses in order to maintain the structural integrity of the mine. After mining has progressed to its fullest extent, the mine operators often remove the columns of coal as they Aretreat≡ from the mine. Accordingly, retreat mining can result in substantial coal production but does not alter the perimeter of the mine whatsoever.

We have heard an allegation from a Bureau of Deep Mine Safety engineer that prior to the commencement of mining operations at the Quecreek Mine, a PBS Coals employee claimed to have a certified map of the Saxman Mine. However, the PBS Coals employee does not recall making this statement and claims he has never seen a certified map of the Saxman Mine. Although the Deep Mine Safety engineer may have believed that a certified map of the Saxman Mine existed, he did not take any affirmative steps to obtain the map from PBS Coals. There is no mention in the DEP=s files regarding the possibility that PBS Coals possessed a certified map of the Saxman Mine. Additionally, no attempt was ever made by the Deep Mine Safety engineer to suspend mining at the Quecreek Mine pending receipt from PBS Coals of a certified map of the Saxman Mine. Based on all the information we have reviewed, we are unable to sufficiently corroborate whether any PBS Coals employee represented to the DEP that they possessed a certified map of the Saxman Mine.

It is clear from the information we have reviewed that PBS Coals did not possess a final or certified map of the Saxman Mine prior to the Quecreek Mine inundation. The final map of the Saxman mine found at the Windber museum was not available to anyone searching for mine maps prior to June 2002. A certified map of the Saxman Mine has never been located.<sup>11</sup> The most up-to-date map of the Saxman Mine known to exist during the Quecreek Mine permitting process was the Consol map. That is the map that was relied upon by Musser Engineering and PBS Coals to establish the location of the Saxman Mine on the Quecreek Mine permit maps.

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<sup>11</sup> As noted on page 5, the map of the Saxman Mine found at the Windber Coal Museum in August 2002 is marked Afinal,≡ but is not certified by a professional engineer or professional surveyor.

In light of the fact that the Consol map was not dated or certified, we believe that additional measures, such as vertical or horizontal drilling, could have been taken by PBS Coals and Musser Engineering to verify the accuracy of the Quecreek Mine permit maps. Additionally, a statement could have been placed on the Quecreek Mine permit maps indicating that an undated, uncertified map was used to plot the location of the Saxman Mine. However, based on all the information we have reviewed, we cannot conclude that failure to take these measures amounts to *reckless* conduct. Although PBS Coals utilized a map of the Quecreek Mine that was inaccurate with respect to the location of the Saxman Mine, PBS Coals relied on experts at Musser Engineering to draft accurate maps of the Quecreek Mine. The maps that were prepared by Musser Engineering were certified by a professional engineer. The Consol map used by Musser Engineering to plot the location of the Saxman Mine was the best map of the Saxman Mine that could be located following a thorough search of all known map sources.<sup>12</sup> The fact that the Consol map depicted more extensive mining at the Saxman Mine than any maps at the state or federal mine map repositories, combined with the fact that the Consol map was obtained from the former owner of the Saxman Mine coal reserves, lent a degree of reliability to the Consol map.

Additionally, we note that the Quecreek Mine permit maps submitted to the DEP by PBS Coals clearly depicted more extensive mining at the Saxman Mine than any maps available at the DEP=s mine map repositories. During the DEP=s review of the Quecreek Mine permit application, both District Mining

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<sup>12</sup> The Windber Coal Museum is not a source that would normally be considered during a search for underground coal mine maps. In any event, the Windber map was not available to the public until more than three years after the Quecreek Mine permit was approved.

Operations and Deep Mine Safety staff recognized a discrepancy between the DEP=s maps and the Quecreek Mine permit maps with respect to the boundary of the Saxman Mine. Based on this discrepancy, DEP should have required PBS Coals to verify the exact location of the Saxman Mine prior to issuing a permit. Nonetheless, the Quecreek Mine permit was approved by DEP without requiring any type of drilling to confirm the boundary of the Saxman Mine. Additionally, neither PBS Coals nor Musser Engineering was required to provide the DEP with the map used to plot the Saxman Mine boundary prior to issuance of the Quecreek Mine permit.

Finally, we note that the number of abandoned underground coal mines existing in Pennsylvania is substantial. For the vast majority of these abandoned mines, no certified or final maps exist. We have heard evidence that the DEP has previously approved permits for mines located adjacent to mines for which no certified maps were available. In these instances, the DEP did not require the mine operator to conduct drilling or otherwise verify the location of adjacent mines. We have also heard evidence that prior to the Quecreek Mine inundation, the DEP did not require that a mine permit map contain a statement indicating the information relied upon to depict the location of adjacent mines.

#### **IV. MINING WITHIN 1000 FEET OF AN ADJACENT, ABANDONED MINE**

At the time of the Quecreek Mine inundation, there was no consensus within the Bureau of Deep Mine Safety regarding a coal mine operator=s responsibilities when mining within 1000 feet of an adjacent, abandoned mine. Section 224(b) of the Coal Mine Act requires a mine operator to conduct advance

drilling once the workings of a mine reach within 200 feet of an adjacent, abandoned mine for which no certified map is available.<sup>13</sup>

In 1998, the Director of the Bureau of Deep Mine Safety requested a legal opinion from DEP counsel as to whether Deep Mine Safety could require a mine operator to conduct advance drilling when the workings of a mine were more than 200 feet from an adjacent mine for which there was no certified map. In August 1998, DEP counsel issued a written opinion to the Director suggesting that Section 236 of the Coal Mine Act could be interpreted to require a mine operator to conduct advance drilling when mining within 1000 feet of an adjacent mine for which no certified map is available. However, we have heard conflicting information as to whether this interpretation of Section 236 was ever communicated to Deep Mine Safety staff.

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<sup>13</sup> **52 P.S. ' 224(b)** provides in pertinent part as follows:

A(b) Whenever any working place in the mine approaches within fifty feet of abandoned workings, in such mine as shown by surveys certified by a registered engineer or surveyor, or within two hundred feet of any other abandoned workings of such mine, which cannot be inspected and which may contain dangerous accumulations of water or gas, or within two hundred feet of any workings of an adjacent mine, the mine foreman shall see that a borehole or boreholes shall be drilled to a distance of at least twenty feet in advance of the face of such working place...≡

Based on the information we have reviewed, it is clear that Section 236 has been inconsistently interpreted and applied by DEP mine inspectors in the field.<sup>14</sup> A number of mine inspectors have never interpreted Section 236 to require a mine operator to conduct advance drilling when mining within 1000 feet of an adjacent mine for which no certified mine map is available. Instead, they rely on Section 224(b) of the Coal Mine Act and allow a mine operator to mine up to 200 feet of an adjacent mine if there is no certified mine map available. However, other mine inspectors have utilized Section 236 to require a mine operator to conduct advance drilling when mining within 1000 feet of an adjacent mine for which no certified map is available. The DEP Mine Inspector Supervisors who provided information to the grand jury were also inconsistent regarding their interpretation of Section 236.

We find it important to note that Lynn Jamison, the DEP mine inspector for the Quecreek Mine, did not interpret Section 236 to apply to adjacent, abandoned mines. Jamison interpreted Section 236 to apply to adjacent, active mines only. Accordingly, Jamison allowed the Quecreek Mine operators to mine within 1000 feet of the Saxman Mine without requiring a certified map of the Saxman Mine or advance drilling. Jamison believed that the Quecreek Mine operators were permitted to mine up to 200 feet from the Saxman Mine pursuant to Section 224(b) of the Coal Mine Act.<sup>15</sup>

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<sup>14</sup> In April 2003, the Pennsylvania Office of Inspector General (OIG) was requested by the DEP to conduct an investigation regarding how Section 236 was interpreted by Bureau of Deep Mine Safety staff. The OIG concluded that Section 236 has been consistently interpreted by Deep Mine Safety staff to apply to both active and inactive mines and that this interpretation had been effectively communicated by management to staff. The OIG further determined that the majority of Deep Mine Safety personnel have performed in accordance with this interpretation of Section 236. However, the DEP's final report on the Quecreek Mine inundation, dated July 22, 2003, states that the DEP has historically applied Section 236 to adjacent active mines only and that it is currently the DEP's position that Section 236 only applies to adjacent mines that are active.

<sup>15</sup> We are aware that the Quecreek Mine operators mined **within** 200 feet of the Saxman Mine

The grand jury recognizes that following the Quecreek Mine inundation, Governor Mark Schweiker issued an Executive Order requiring that the operator of an active coal mine that is within 500 feet of an adjacent mine must provide DEP with Acredible evidence≡ verifying the location of the adjacent mine. In the absence of credible evidence, the operator must submit a drill plan for the DEP=s approval.

**V. MINE CONDITIONS PRIOR TO THE INUNDATION**

The grand jury heard from numerous witnesses regarding the conditions in the Quecreek Mine prior to the inundation on July 24, 2002. It was generally agreed that the Quecreek Mine was a wet mine. However, there were vast discrepancies among the witnesses regarding the specific water conditions existing in the Quecreek Mine prior to the inundation, e.g., quantity of water, location of water, water pressure and changes in water conditions. Many of the witnesses believed that the water conditions in the Quecreek Mine were normal, while other witnesses recalled that the water conditions in the mine were poor.

Additionally, there were inconsistencies among the witnesses regarding the roof conditions in the Quecreek Mine prior to the inundation. It was reported by some miners that roof conditions in the One Left section worsened as mining progressed towards the Saxman Mine. They recalled that special roof bolts, known as Acable bolts,≡ were used extensively throughout the One Left section as the roof conditions deteriorated. Other miners claimed that the roof conditions in the One Left section were not unusual. We

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without conducting advance drilling. However, when mining occurred within 200 feet of the Saxman Mine, the Quecreek Mine maps indicated that the One Left section was still nearly 300 feet from the boundary of the Saxman Mine. Prior to the Quecreek Mine inundation, the mine operators believed they were in compliance with Section 224(b) and that advance drilling was not required.

note that after the Quecreek Mine inundation, mine accident investigators inspected the Quecreek Mine and observed a very limited number of cable bolts in the roof of the One Left section. The investigators noted that the Quecreek Mine roof appeared to be in fair to good condition.

The state and federal mine inspectors who frequently inspected the Quecreek Mine did not notice any unusual or dangerous conditions in the mine prior to the inundation.<sup>16</sup> DEP Mine Inspector Lynn Jamison performed an inspection of the One Left section of the Quecreek Mine on July 16, 2002 and did not observe any unusual or dangerous conditions. Federal Mine Inspector Donald Huntley conducted an inspection of the One Left section on July 18, 2002, *six days before the inundation*, and did not observe any unusual or dangerous conditions.

We have reviewed the daily coal production reports for the Quecreek Mine. The production reports do not indicate a significant decline in coal production in the One Left section prior to the inundation. We have also reviewed PBS Coals= daily shift reports for the One Left section of the Quecreek Mine. The shift reports do not indicate any unusual or dangerous conditions in the mine prior to the inundation. Finally, we have reviewed the state and federal mine inspection reports for the One Left section of the Quecreek Mine. Again, these inspection reports do not indicate any unusual or dangerous conditions in the mine prior to the inundation.

Although there was no agreement among the Quecreek miners regarding the conditions in the mine prior to the inundation, most of the miners were aware that the One Left section was heading towards the abandoned Saxman Mine and that the mine was flooded. Nonetheless, the miners who testified before the

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<sup>16</sup> Both the DEP and the federal Mine Safety and Health Administration (MSHA) conducted quarterly safety inspections of the Quecreek Mine beginning in April 2001 and continuing through July 2002.

grand jury indicated that they did not voice any safety concerns to co-workers, supervisors, management, state mine inspectors or federal mine inspectors regarding the conditions in the Quecreek Mine prior to the inundation.

Based on all the information we have reviewed regarding conditions in the Quecreek Mine prior to the inundation, we conclude that there were no clear warning signs present in the mine that would have alerted the mine operators that a breach of the Saxman Mine was imminent or that the Saxman Mine was closer than depicted on the Quecreek Mine permit maps.

## **VI. CONCLUSION AND RECOMMENDATIONS**

As previously discussed in this report, the criminal provisions of the Coal Mine Act and the Pennsylvania Crimes Code applicable to our investigation require the Commonwealth to establish, *at a minimum*, reckless conduct. Accordingly, our investigation is limited to determining whether any reckless acts or omissions contributed to the Quecreek Mine inundation. Based on all the information we have reviewed during this extensive investigation, we conclude that there is insufficient evidence to establish reckless conduct on the part of any individual, entity or organization with respect to the Quecreek Mine inundation. We make no finding as to whether negligent conduct existed in connection with this incident since negligence is not actionable under any applicable criminal statute. However, we note that the federal Mine Safety and Health Administration (MSHA) has determined that PBS Coals, Musser Engineering and Black Wolf Coal were negligent for utilizing inaccurate maps of the Quecreek Mine. MSHA has issued civil citations to each company for their negligent conduct.

Although we conclude that the Quecreek Mine inundation was not the result of criminal conduct, we find that the inundation was the result of a failure of the regulatory system to ensure the safety of mine workers. The current system for regulating underground coal mines in Pennsylvania is in need of significant improvement. Although the grand jury does not possess the requisite expertise to recommend specific changes to the regulatory system, pursuant to the Pennsylvania Grand Jury Act we make the following general recommendations to the Governor of Pennsylvania, the Pennsylvania Senate, the Pennsylvania House of Representatives and the Secretary of the DEP:

! The Pennsylvania Bituminous Coal Mine Act was originally enacted in 1961. It has not been amended in over 42 years. There are numerous provisions in the Coal Mine Act that are antiquated and inadequate. In light of the evolution of the coal mining industry since 1961, there is an urgent need for significant changes to the Coal Mine Act. These changes should be made by the Pennsylvania Legislature after extensive consultation with the Department of Environmental Protection, the coal mining industry and experts in the field of mining.

! Section 224(b) of the Coal Mine Act provides that a mine operator must conduct advance drilling when mining within 200 feet of an adjacent mine for which no certified map is available. Due to the substantial number of abandoned mines in Pennsylvania and the lack of certified maps for those mines, we believe that a 200 foot barrier between mines is insufficient to protect the safety of miners when the boundary of an adjacent mine is in doubt. We have heard evidence that the coal mining industry has effective methods available for conducting long-distance advance drilling. We believe that it is prudent,

feasible and necessary to increase the distance at which advance drilling is required when the boundary of an adjacent mine can not be verified by a certified map. Accordingly, we recommend that Section 224(b) of the Coal Mine Act be amended to provide for an increased barrier between mines when a certified map of an adjacent mine is unavailable.

! Section 235 of the Coal Mine Act requires a mine operator to submit to the DEP a mine map which accurately depicts all adjoining mines. The majority of abandoned mines in Pennsylvania are unmapped or there are no reliable maps available. Currently, Section 235 does not require the engineer or surveyor who prepares a mine map to advise the DEP of the information used to plot the location of an adjacent mine. A mine map is only as good as the information used to draft that map. We believe that it is reasonable and necessary to require an engineer or surveyor to place such a statement on all mine permit application maps. Accordingly, we recommend that Section 235 of the Coal Mine Act be amended to require that a statement be placed on all mine maps submitted to the DEP identifying the information used to plot the location of adjacent mines.

! The criminal penalties contained in the Coal Mine Act are antiquated and do not adequately reflect the serious nature of a violation of the Act. Section 703 of the Coal Mine Act states that any person who violates any provision of the Act is guilty of a misdemeanor punishable by a maximum imprisonment of three months and/or a maximum fine of \$200.<sup>17</sup> We believe that in order to ensure the safety of coal mine workers, it is necessary to establish tougher criminal penalties. Accordingly, we

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<sup>17</sup> Currently, the penalty for a criminal violation of the Coal Mine Act is equivalent to the penalty for a violation of a summary offense.

recommend that the Coal Mine Act be amended to provide for greater fines and increased incarceration for any violation of the Act.

! We recommend that the legislature amend the Coal Mine Act to authorize the DEP to promulgate regulations. The DEP is primarily responsible for enforcing the Coal Mine Act and regulating all aspects of underground coal mining in Pennsylvania. Despite its broad mandate to regulate the coal mining industry, the legislature has not vested the DEP with the authority to promulgate regulations. Because of the complex nature of underground coal mining, it is necessary for the DEP to issue regulations that will provide guidance on how the various provisions of the Coal Mine Act are interpreted and applied by the DEP. Regulations are also necessary to provide the DEP with the authority to initiate civil enforcement actions and issue civil sanctions for violations of the Coal Mine Act. The legislature has given the DEP authority to promulgate regulations with respect to other environmental laws, including the Solid Waste Management Act, Air Pollution Control Act and Clean Streams Law. There is no apparent reason why the DEP should not have similar power to promulgate regulations regarding the Coal Mine Act.

! In addition to recommending legislative action, we believe that the DEP must revise their internal operating procedures with respect to the underground coal mine permitting process. The current permit review system at the DEP for underground coal mines is inadequate to ensure the safety of mine workers.

! Under the current system, the Bureau of District Mining Operations is primarily responsible for reviewing underground coal mine permit applications. Upon receipt of an application for an underground coal mine permit, District Mining Operations forwards a copy of the permit application to the Bureau of Deep Mine Safety for independent review and comment. If Deep Mine Safety does not reply to

District Mining Operations within thirty days after receipt of the permit application, District Mining Operations concludes that Deep Mine Safety has no objection to the issuance of a permit. This system of silent approval by Deep Mine Safety is not advisable in light of the fact that Deep Mine Safety is primarily responsible for enforcing safety at underground coal mines. Accordingly, we recommend that the Bureau of Deep Mine Safety receive a complete copy of an underground coal mine permit application and be required to provide the Bureau of District Mining Operations with a definitive response regarding the safety of the proposed mine.

! Although the Bureau of District Mining Operations reviews an underground coal mine permit application for environmental issues only (e.g. mine discharges, subsidence, hydrology, etc.), it has sole responsibility for approving or denying the permit application. We believe that environmental issues related to an underground coal mine should continue to be an important consideration during the DEP=s permit review process. However, we also believe that the safety of mine workers must be a paramount concern. The ancillary role delegated to the Bureau of Deep Mine Safety during the permit review process is unacceptable. In order to ensure that safety issues are addressed prior to the commencement of mining operations, the Bureau of Deep Mine Safety must be directly and meaningfully involved in the mine permitting process. Accordingly, we recommend that the Bureau of Deep Mine Safety be given authority to deny an underground coal mine permit for any safety issue that has not been satisfactorily addressed during the pendency of the application. Additionally, the mine permit review conducted by the Bureau of Deep Mine Safety should not be limited to engineering staff. We recommend that the mine inspector and the mine inspector supervisor responsible for the proposed coal mine also review the mine permit application and provide comments.

! We note that the coal mining industry and DEP are now checking annual coal production reports for abandoned mines when certified maps are unavailable. Although the grand jury recognizes that this practice may have limited value for determining the accuracy of a mine map, we encourage the DEP and the coal mining industry to make this practice a routine part of the mine permitting process.

The recommendations we have made in this report are not intended to be all-inclusive. Rather, we defer to experts in the field of coal mining to conduct a thorough examination of the current regulatory system and recommend improvements to the DEP and the legislature. We note that the recommendations included in the DEP Report of Investigation (dated July 22, 2003) regarding the Quecreek Mine inundation are promising. We urge that legislative and departmental action be initiated with all due haste to ensure the safety of mine workers in Pennsylvania.