May 21, 2008

MEMORANDUM FOR RICHARD E. STICKLER
Acting Assistant Secretary for
Mine Safety and Health

FROM: CHARLES J. THOMAS
Director, Office of Accountability

SUBJECT: MSHA Office of Accountability Audit, Pineville, West Virginia, Field Office, and

Introduction

This memorandum summarizes the Office of Accountability audit of the subject mine and field office. Audit subjects included the Uniform Mine File, MSHA field activities, level of enforcement, Field Activity Reviews (FARs), MSHA supervisory and managerial oversight, mine plans, Emergency Response Plan, and the conditions and practices at the mine. The audit was conducted during the week of by Jerry Kissell, Arlie A. Webb, and Charles Thomas. Positive findings and issues requiring attention are included in this audit report.

Overview

The audit revealed several positive findings related to MSHA activities, including well written documentation indicative of complete, thorough inspections, identification of root causes of violations, and safety talks. Likewise, there were several positive findings regarding the mine operator’s efforts, including, rock dusting, employee knowledge of approved plans, SCSR training, fire taps being well maintained, the ventilation is adequate as respirable dust sampling completed resulted in no over exposures, and adequate records.

There were also issues that require corrective actions: The ventilation plan has many revisions and needs consolidated. In-mine observations included the emergency response plan not being complied with (this has been addressed). In one instance further investigation by an inspector may have identified the need for the issuance of a

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safeguard. Issues were also identified regarding the uniform mine file, and the peer review process.

**Audit Results (Positive Findings)**

**General**

1. The application of rock dust was well above average in most areas of the mine, including return air courses and at belt transfer points.

2. Interviews conducted on the working section with continuous mining machine operators, roof bolting machine operators, and others, reveal the section crew to be well versed in all applicable plan parameters and safety precautions.

3. An interview with the Atmospheric Monitoring System (AMS) operator indicated he is thoroughly familiar with the procedures to follow in the event of alerts, alarms, and malfunctions of the AMS. The AMS operator also serves as the mine dispatcher and maintained a constant awareness of the location of underground personnel.

4. All inspection reports, notes and other documentation indicate the mine was inspected, in its entirety, each quarter.

5. During the audit of the Pineville, WV, field office, the audit team travelled with All field office personnel conducted themselves in a professional manner and were courteous to the miners and mine management at all times.

6. Damage to shuttle car cables has been reduced by the addition of a cold-rolled, stainless steel covers on the edges of the cable rollers (bat-wings).

**Respirable Dust**

During this audit, respirable dust samples were collected on both active mmus (003-0 and 004-0). The sample results (Attachment A) indicate that, when followed, the current ventilation and dust control plan is adequate to protect miners, and is suitable to current mining conditions and current 20' depth of cut.
Fire Protection

1. Fire suppression and fire-fighting equipment, including deluge systems, fire taps, fire hose, nozzles, etc. were found to be compatible and protected against damage.

2. A pressure test was conducted on a fire hose selected at random during the underground mine visit. The hose with nozzle was connected to the fire valve and pressurized within 1 minute of notification that a test would be done.

Emergency Response Plan (ERP)

1. Lifelines are installed in the primary and alternate escapeways from the working sections to the shaft and slope. Lifelines are equipped with reflectors every 25 feet, as per the company’s ERP.

2. SCSR expectation training and underground storage of SCSR’s are in accordance with the approved ERP. The company utilizes a method of training in which employees are placed in a dark room and must don the SCSR within 2 minutes in order to receive a training certificate.

3. This mine is currently advancing toward a location where a main air shaft will be raise bored. At the time of this audit, the main escapeways terminated in the slope entry and an airshaft equipped with an emergency hoist and escape capsule. During this audit, an unannounced test was conducted of the company’s ability to quickly remove persons from the mine using the emergency hoist. The escape capsule was lowered to the mine workings within 30 minutes of the initial notification.

Seals

1. During this audit, three separate sets of seals were examined. All three sets appeared to be of substantial construction, despite the fact that several are more than 20 feet in height. Cribs on the outby side of the seals are sturdy, and air sampling hoses extend to within 12 inches of the roof to provide a safe means of sampling the mine atmosphere along the face of the seals.

2. An examination of the construction plans for the seals indicate that most are over 25 feet in thickness. The mine surfaces had been scoured down to competent material and there were no cables, roof straps, or other conductive materials observed penetrating any seal.
Record Books

The company record books were reviewed and found to be current for all required documentation and associated maps.

Emergency Response Plan (ERP)

1. The mine operator was not complying with the approved ERP. A communication system was not maintained in the primary escapeway. Item 1(c) of the ERP requires two communication systems, one of which must be in the primary escapeway. The operator had been cited previously for failure to maintain the communication line on insulated hangers. The citation was abated when it was determined that insulated hangers had been installed on the communication line installed in the primary intake escapeway. The operator was maintaining three separate communication lines in the mine when the citation was issued. The operator subsequently elected on his own to remove the line installed in the primary intake escapeway and created a new violation. Additional information is in the Enforcement Section of this report. No action required citation was abated.

2. The alternate escapeway was not being maintained in safe condition due to water accumulations in excess of 14 inches deep were present for approximately 80 feet. The accumulation of water was directly below the lifeline. There was no indication that this condition was present on a previous inspection. No action required citation was abated.

Audit Results (Issues Requiring Attention)

Ventilation Plan

1. As a result of extensive rehabilitation, sealing activities and ventilation changes, the currently approved mine ventilation plan has numerous revisions, addendums, updates, informational letters, and other correspondence dating from February 2005 to February 2008.

   Recommendation – The ventilation plan needs to be consolidated into a single plan to improve the inspector’s ability to enforce the plan as well as the operator’s ability to comply with it. The District staff agreed with this finding and is working towards consolidation of the ventilation plan.
2. One or more of the currently approved ventilation maps contain a disclaimer that relieves the engineering firm of the responsibility for accurately locating surface features, surface structures, surface facilities, gas wells, oil wells, property lines, surface water, water wells, surface mined areas, adjacent underground mining, and mines above or below the active mine. The disclaimer (Attachment A) also describes how the engineering firm will use a “best fit” method for locating gas and oil wells.

Interviews conducted during this audit revealed the district is following a September 01, 2004, memorandum from then Coal Administrator (Attachment B). This memorandum discusses MSHA acceptance of maps with disclaimers, and was apparently in response to a July 20, 2004, memorandum from Alpha Engineering (Attachment C).

Action required – The September 01, 2004, memorandum from then Coal Administrator should be rescinded. The audit team requests that the current mine map needs to be revised to remove the “best fit” language in the disclaimer. The Agency must consider the explosive nature of natural gas (methane), the frequency in which gas and oil wells intersect coal seams, and the potentially catastrophic results of mining into active gas wells, oil wells, abandoned or inaccessible workings, and surface water.

The audit team recommends that mine map certifications be required to include the accurate location of all producing or abandoned oil and gas wells located within 500 feet of such mine and not accept any language that uses a “best fit” method of location mentioned in the disclaimer. Although the mine operator bears the ultimate responsibility for map accuracy, both the mine operator and the engineering firm must be held accountable for accurately locating any and all items that may present a hazard to miners.

Enforcement

Prior to February 25, 2008, enforcement levels and gravity determinations at this mine did not appear consistent with the nature and number of violations cited. Although the level of enforcement and determinations of negligence appear to have escalated since that time, the audit revealed one enforcement issue that still needs to be resolved.

1. While on an E02 inspection, the inspector traveled to the subject mine and was informed by mine management that “...the slope is froze up and the slope car is wrecked...” The inspector left the mine and returned to the field office.

Recommendation – Even though the mine was apparently idle, the inspector should have followed up and interviewed the mine operator or investigated the slope car wreck when conditions allowed safe access. One or more safeguards or citations should have been issued by the inspector, based on his findings.
Mine Visit

During this audit, there were 10 citations and 1 safeguard issued (Attachment D) for the following conditions:

1. Citation No was issued under 30 CFR, §75.370(a) (1) for failure to follow the approved ventilation plan. The roof bolter operating in the face of the No.4 entry had not hung a line curtain to the specifications in the approved ventilation plan, the citation stated that the line curtain was three rows back (outby) the second row of installed bolts.

2. Citation No was issued under 30 CFR, §75.400 for accumulations of coal dust and float coal dust in the crosscut where the 003/004 Section power center was located.

3. Citation No was issued under 30 CFR, §75.370(a) (1) for a failure to follow the approved ventilation plan. Line curtains were not maintained to within 30 feet of three faces on the 004 mmu.

4. Citation No was issued under 30 CFR, §75.1100-3 for failing to maintain a tag on two fire extinguishers in the primary escapeway to indicate when the extinguishers were last examined.

5. Citation No was issued under 30 CFR, §75.364(b)(2) for failure to provide a safe means of examining the left side return. The steps provided for crossing the overcasts (over which the examiner must travel) were constructed of loose concrete blocks and were not provided with handrails.

6. Citation No was issued under 30 CFR, §75.400 for accumulations of coal dust and loose coal up to 4-inches deep under the No.1 belt conveyor.

7. Citation No was issued under 30 CFR, §75.202(a) for failure to support or otherwise control roof. Loose roof was observed at different locations in the belt conveyor entry.

8. Citation No was issued under §316) of the Act for failure to maintain a communication system in the primary escapeway. The operator had removed a previously installed communication system and re-installed it in the belt entry.
9. Citation No. was issued under 30 CFR, §75.380(d)(1) for failure to maintain the alternate escapeway in safe travelable condition. Water, up to 14 inches in depth was present for a distance of approximately 80 feet.

10. Citation No. was issued under 30 CFR, §75.364(b)(4) because the No. 10 seal located in the right return entry could not be safely accessed for examination due to water up to 24 inches deep directly in front of the seal.

11. Safeguard No. was issued under 30 CFR, §75.1403 for failure to provide adequate means of protecting the hoist rope from contacting the track rails.

**MSHA Supervisory/Management Oversight**

1. The spreadsheet provided for tracking of supervisory and managerial mine visits indicates a) the spreadsheet is not being completed in a timely manner by supervisors/managers; and b) columns within the spreadsheet are not being completed sufficiently to allow adequate oversight of supervisory visits by the District Manager, Assistant District Manager, Peer Review teams, and headquarters personnel. The following issues are noted:

   a. Of the five supervisory visits to this mine one did not have an entry in the notes column and two were conducted by the supervisor by himself while on inspection events. The Assistant District Manager for Inspection Division 2 has been to the Pineville field office 5 times since July 2007, and visited the subject mine once.

   b. Specialist supervisors have been to the Pineville field office 8 times since July 2007. These visits were scheduled at other mines.

   *Action Required – Supervisors and managers are required to travel to field offices regularly. They should also visit all problematic and 103(i) mines and mines with excessive violation histories. Ventilation supervisors should make it a priority to conduct FAR’s and AA’s at 103(i) mines. The Administrator for Coal is issuing new guidance to the Districts concerning mine visits, FAR’s, and AA’s.*

2. Analysis of Time and Activity data for inspection activities at the subject mine indicate that the “other” time was above average for this District because the mine was under extensive rehabilitation during the audit period. Numerous very technical plan revisions (base plan, rehabilitation plans, air changes, seal
construction plans, nitrogen injection plans, and other plans) were reviewed and approved. “Other” time would be expected to be above the norm once the District explained this to the audit team. The “other” time has trended downward and appears to be reasonable at this time.

a. During the E01 inspection event for the 3rd quarter of FY 2007, the time distribution was:
   i. MMU 21.4%
   ii. Outby 9.4%
   iii. Surface 21.4%
   iv. Other 36.1%

b. During the E01 inspection event for the 4th quarter of FY 2007, the time distribution was:
   i. MMU 22.6%
   ii. Outby 15.2%
   iii. Surface 20.7%
   iv. Other 29.3%

c. During the E01 inspection event for the 1st quarter of FY 2008, the time distribution was:
   i. MMU 22.3%
   ii. Outby 17.5%
   iii. Surface 21.3%
   iv. Other 21.3%

No action required—Although the percentage of “other” time appears to be decreasing, the audit team reminds District Management to continue key indicator oversight regarding inspection times to reduce “other” time, and to increase the time being spent in the mine and on the mmu. Improved time management by inspectors, supervisors and managers will result in an increase in the inspection completion rate.

3. A review of Field Activity Reviews (FARs) and Accompanied Activities (AAs) conducted in the Pineville office revealed an absence of deficiencies or corrective action by the supervisor. However, the Assistant District Manager responsible for the Pineville office provided documentation to the audit team to show that second level reviews did identify deficiencies and institute corrective actions.

Recommendation—In addition to positive aspects, supervisory Field Activity Reviews must accurately reflect the subordinate’s performance, capabilities and weaknesses. Management second level reviews should provide sufficient corrective actions and oversight to prevent recurrence. If weaknesses and deficiencies are not identified, they will not be corrected.
4. One combination FAR and Accompanied Activity was conducted at a surface load-out operation that was not operating. Miners at the load-out were performing maintenance activities on both days of the accompanied activity. Inspection activities covered the load out, stockpile area, bunker, sediment ponds, and haulroads.

Recommendation – Field Activity Reviews, and especially Accompanied Activities, should include full operation if possible so inspectors and supervisors can accurately evaluate normal work activities.

Uniform Mine File (UMF)

1. Although the UMF was properly maintained at the field office, it was evident that revisions to the Mine File Handbook and associated retention schedules are needed to address current requirements and file retention times. – Uniform Mine File Procedures Handbook

2. Seven outdated 7000-1 forms were in the UMF. Two of the seven reports lacked information regarding the current disposition of the injured miners despite the fact that the injuries occurred in 2005 and 2006. One report did not contain the injured miner’s date of birth. Part 50 – Reportable Accidents

Recommendation – Locally, the UMF must be maintained up to date to provide inspectors and specialists with accurate information upon which to base their enforcement activities.

Peer Reviews

No Peer Reviews were conducted by Headquarters during 2007 because of the internal review being conducted of the Aracoma mine fire. Although Peer Reviews conducted within District 4 appeared thorough and timely, the following issues were noted:

1. Neither the Peer Review spreadsheet nor the district Peer Review memorandum contains a definitive means for measuring the success or failure of the corrective actions.

Recommendation – Headquarters and District Peer Reviews must result in corrective actions that contain means for measuring the success or failure of the remedial actions.
2. The failure to inspect a raw coal draw-off tunnel was documented in the Peer Review as a "...very low risk and understandable omission as miners do not routinely work or travel in this area."

Action required - Failure to inspect the mine in its entirety is not acceptable. Upon reviewing the inspection report, the supervisor should have noted this as a deficiency, and the area should have been inspected immediately. The Peer Review should have noted this as a deficiency and set an corrective action, with means for measuring success or failure.

Attachments

A. Respirable Dust Sample Results

B. Ventilation Map Disclaimer

C. Headquarters Memorandum HQ-04-053-S regarding disclaimers on maps

D. Letter from Alpha Engineering to West Virginia PE Board regarding disclaimers on maps

E. Citations and safeguard issued during this audit

1. 75.370(a)(1)
2. 75.400
3. 75.370(a)(1)
4. 75.1100-3
5. 75.364(b)(2)
6. 75.400
7. 75.202(a)
8. Act 316(b)
9. 75.380(d)(1)
10. 75.364(b)(4)
11. 75.1403
# Attachment A - Respirable Dust Sample Results

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Attachment B - Map Disclaimer

Qualifying Statements for [redacted]

1. A certified final map of the [redacted] dated 10/05/03 and certified by Lynn Morris, WV RPE # 8030, has been reviewed by the undersigned. This map has been scanned, and it is the base map being used for this certification, with the mine now referred to as [redacted] Mine. The mine has been inundated with water, until such time that pumping operations began in April of 2003. This has prohibited limited access to the mine workings as pumping operations have restricted access to the slope only, to a water elevation of approximately 945 +/-.

2. The mapping of the mine workings prior to June 6, 2005 as well as all surface information delineated herein, unless otherwise noted, has been provided by others, and not intended to be included within the definition of "certify" as used within the certification statement. Furthermore, the undersigned does not certify to the accuracy or location of any mine workings (e.g. surface structures, surface facilities, gas wells, oil wells, property lines, surface water bodies, water wells, surface mined areas, etc.) adjacent underground mining, nor mines above or below, unless otherwise noted on the face of this map. Others have provided this information, not under the direct supervision of the undersigned.

3. A search was conducted of the WYMHSF archives on November 7, 2005 for all overlaying and underlying works. There are no known mine workings below the [redacted] Mine. Per the above referenced search of the state's archives, there are mine workings in the following seam:

   Sewell Seam

   690 +/- above Poca 3 Seam

4. An overlay of the mine workings above has been included as an attachment. The orientation and location of these mine workings have been located on the map via the use of "best-fitting" based on topographical features. Seam nomenclature was taken from the Archive Mapping obtained from the state.

5. A search of the DEP website was conducted on August 30, 2006 for any additional gas wells which have been permitted and/or drilled since the submittal of the Final Map. These wells have been placed on the map using topographical data and "best fit" methods. Those wells that have been added and "best fitted" onto the map are shown with broken lines as indicated in the Legend.

6. A well location map was obtained from the Oil and Gas Service Information on June 8, 2006, and used to verify well locations that have been added within the property boundary since the date of the Final Map. Those wells that have been added and "best fitted" onto the map are shown with broken lines as indicated in the Legend.

7. This mine has reportedly not operated from 05/14/82 to 06/08/05.

8. Property Boundaries have been provided by others and are not certified by the undersigned.

9. There are no projections for at least 12 months of anticipated mine development, etc., as required in CFR 75.323(a)(14). The mine has been shut down and abandoned for 20+ years. The mine is flooded with water to an approximate elevation of approximately 945 +/- . This peat level prohibits any exploration of the mine, beyond 900 +/- feet down the slope. All mine-related information, i.e. mine works, ventilation controls, elevations, roof falls, etc., were not prepared under the direct supervision of the undersigned PE. Furthermore, due to the mine being flooded with water, physical examination, nor verification is possible, beyond the information that was shown on the Final Map, as qualified in Item No. 1.

10. The scanned image and information from the Final Map retrieved from the WYMHSF, as referenced in Item No. 1 above, is shown in Black and White. All information, which has been added to this map, is shown in color.

11. The extent and location of all mine workings were furnished to [redacted] company personnel, by [redacted]. The finished drawing was then inserted onto the existing [redacted]
SEP - 1 2004

MEMORANDUM FOR DISTRICT MANAGERS

FROM: RAY MCKINNEY
Administrator for
Coal Mine Safety and Health

SUBJECT: Map Certification

This memorandum is being issued in response to a request for guidance regarding the certification of the annual 30 CFR 75.372, Section 75.1200 and Section 75.1204 Mine Maps. Specifically, whether a certification placed upon a mine map submitted for compliance with these sections by a registered engineer or registered land surveyor was acceptable when a notation/disclaimer identifies only portions or areas of the mine map that were surveyed and mapped by or under the direction of that engineer or surveyor.

Based on discussions with the Office of the Solicitor and research of the Congressional intent for application of these standards, the following determination has been made. The Safety Division has determined that the use of a disclaimer, which specifies the portions of a mine map or mine ventilation map that has been revised or supplemented by or under the direction of the registered engineer or surveyor and who certifies only that portion of the map identified in the notation or disclaimer, is entirely consistent with the regulations and the professional ethics required of registered engineers by state licensing boards.

The ultimate responsibility for assuring the mine maps are accurate rests with the mine operator. Fulfilling the requirement that the mine maps be kept up-to-date by temporary notations and that such maps be revised and supplemented at intervals prescribed by the Secretary on the basis of a survey made or certified by a certified engineer or surveyor is also a mine operator responsibility. Consequently, since each
Attachment C Headquarters Memo No. HQ-04-053-S (cont.)

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... year a mine map is provided to MSHA at the Agency's request, the certification is for the survey and supplemental information added by or under the direction of the certifying registered engineer(s) or surveyor(s) and not the previously provided mapping /information. Nevertheless, the mine operator is responsible for assuring the map /information is accurate and the map and each of its updates, including the final mine closure map, are made by or certified by a registered engineer or registered surveyor.

If you have any further questions regarding this matter, please contact Monty Christo, Mine Safety and Health Specialist at (202) 693-9527.
Attachment D - Alpha Engineering Memo

Alpha Engineering Memorandum

To:       Mr. Frank Gaddy, PE, President, WV PE Board
          Mr. Ed Robinson, PE & PS, Member, WV PE Board

From:     Gary M. Hartsog, PE & PSCH

Date:     Tuesday, July 20, 2004

Re:        Coal Mine Map Certifications

Gentlemen:

For your information, attached is an explanation and analysis of the requirements as set forth in the WV Law and Regulations for Professional Engineers and Professional Surveyors for certifying coal mine maps in West Virginia.

Since the QueCreek Incident in Pennsylvania and the Martin County Impoundment Incident in Kentucky, the West Virginia Office of Miners Health, Safety and Training, MSHA, and many professionals have been taking a close look at the construction and certification of mine maps. Part of this rethinking of the process, along with other experiences and incidents, has brought some mapping professionals to increase the use of disclaimers on their maps to more closely narrow and delineate those areas they are certifying. During our five Underground Mine Mapping and Surveying Seminars in 2003 and 2004, attended by over 150 professionals and interested parties, this was a topic of hot discussion and concern.

We now have MSHA in District 3 (Morgantown) taking the position that they will not allow such disclaimers and require the mapping professional to certify the entire mine map as "correct." I believe this to be in conflict with our governing licensure laws and regulations and with good practice. If you find, informally, that I have erred in my analysis here I would greatly appreciate a call from you to discuss the matter.

Should you have any questions or thoughts on these matters, I am at your disposal for discussion and further research.
Alpha
Engineering
Memorandum

To: Ms. Marilee Bright, Executive Director, WV Surveyors Board
From: Gary M.hartseg, PE & PS (SU)
CC: Mr. Marshall Robinson, PE (SU)
Date: Tuesday, July 20, 2004
Re: Coal Mine Map Certifications

Dear Marilee:

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Should you have any questions or thoughts on these matters, I am at the Board’s disposal for discussion and further research.
Coal Mine Map Certification

Introduction:

In West Virginia, maps of coal mines are required by both Mine Safety and Health Administration (MSHA) and the WV Office of Miners Health, Safety and Training (State), through federal and state laws, to be certified by a Professional Engineer or Surveyor, licensed by the State of West Virginia.

Some within MSHA have recently taken the stance that the MSHA law (30CFR75.1201) requires the entire mine map to be "certified" by the professional, with no limitations or disclaimers. Therefore, according to these persons, the certifying professional is saying by their signature and seal that they vouch the map is "certified" and "correct" without limitation. Some within MSHA take the position that the certifying professional should take at face value the certification of the previous professional(s) and use that as the single basis of belief that the map is "correct".

Background:

The mapping of coal mines is a highly specialized and complicated endeavor that can require knowledge of three dimensional spatial relationships, historical events, surveying, general mining practice and of the West Virginia State and of Federal Laws and regulations. Typically the art and science of creating, maintaining and updating mine maps has been learned through an apprenticeship process. The process requires that the professional exercise a high degree of professional experience and judgment because of the nature of the work and the huge impact on the safety of those working at the operation. While both MSHA and State regulations outline the basic requirements for the mine map, the regulations are vague or silent on many technical points that allow the mapping professional to use professional judgment.

Both State and Federal Laws and Regulations and standards require that the mine map be regularly updated and then be certified by a professional surveyor or engineer licensed by the State.

The certification statement, required by West Virginia Code, Chapter 22A-2-1 (WV Statement), is stated as follows.

"I, the undersigned, hereby certify that this map is correct and shows all the information, to the best of my knowledge and belief, required by the laws of this State, and covers the period ending ____________________________ P. E.

These notes are written in "short form" and are meant for those with a working knowledge of the subject. For additional clarifications, please contact the author.

Page 1 of 8

See Attached Cover Letter

July 19, 2004
The MSHA regulations do not require a specific statement. They require that the map be “made or certified” by a mapping professional. The Code of Federal Regulations requires the following.

30 CFR § 75.1201
Certification.

[STATUTORY PROVISIONS]

Such map shall be made or certified by a registered engineer or a registered surveyor of the State in which the mine is located.

The MSHA Program Policy manual does not provide any additional guidance on this requirement and there are no known policy letters in effect at this time. In addition, the licensing of Professionals is a State function under the police and regulatory powers granted the state under the United States Constitution.

The WV Statement has been required for many years and has been interpreted by most mine mapping professionals as being a highly qualified statement. In other words, the mine mapping professional is stating they know of no reason the mine map is not correct. Both the State and MSHA laws recognize that mine mapping is a highly specialized and individualized endeavor and, while they lay out specific requirements, they leave to the Professional the latitude to decide most questions of degrees of precision. Issues arising in the past few years and changes in state licensure laws have resulted in many mapping professional adding notes or disclaimers to their maps explaining what the professional had generally though was the case in the past.

Coal mine maps range in size from a few acres to tens of thousands of acres, in age from new to scores of years and in the information presented from very simple and straightforward to extremely complex and involved. With almost all coal mine maps, except for only the most simple, the information on the map comes from many different sources. Some of these sources are reproducible and/or confirmable and some are not. For example, a mine map may have any or all of the following:

- Surface features could be represented by USGS Topographical Map Planimetrics, by features from aerial or satellite photography and mapping, information or requirements from environmental permits (prepared by others) or from maps of features or property boundaries or lease lines prepared by others.
Coal Mine Map Certification

⇒ The underground mapping of the old works being certified could be surveyed and mapped by the mine mapping professional’s predecessors dating back to before the professional’s birth. These could be second mined, inaccessible or sealed to preclude any inspection.

⇒ Gas and oil well locations provided by other professionals or others, again, predating the birth of the professional.

Under these circumstances, it would be physically impossible for any one individual to certify an entire mine map and comply with the requirements of their License from the State of West Virginia. For the WV Professional Surveyor (SU), the requirement under the (WV) Code of State Rules, Title 28, is as follows.

7.1. In addition to the reasons for suspension or revocation of a license set forth in W. Va. Code §§30-1-1(a) or 30-13A-8(b), any licensee who has committed any of the following unethical practices may be subject to suspension or revocation of a license:

7.2. Signing or affixing a seal to any document prepared by persons who are not employees under supervision of the licensee. (emphasis added)


8.3. A surveyor shall not affix his or her signature and/or seal to any surveying plan or document dealing with subject matter to which he or she lacks competence by virtue of education or experience, nor to any plan or document not prepared under his or her direct supervisory control. (emphasis added)

For the Professional Engineer in West Virginia, some of the relevant sections of law and rules are in the WV Code, Chapter 3O, and the (WV) Code of State Rules, Title 7, is as follows.

§30-1321. Disciplinary action–Revocation, suspension, refusal to issue, restore or renew, probation, fine, reprimand.

(a) The board may suspend or revoke or refuse to issue, restore or renew a certificate of registration of, or place on probation, fine or reprimand any professional engineer who

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has:

10. Signed or affixed the professional engineer's seal or permitted the professional engineer's seal or signature to be affixed to any specifications, reports, drawings, plans, design information, construction documents or calculations or revisions which have not been prepared or completely checked by the professional engineer or under the professional engineer's direct supervision or control; (emphasis added)

11.3. Seal on Documents

(a) The registrant shall place his or her seal and signature on all specifications, reports, drawings, plans, design information and calculations which he or she presents to a client or any public or government agency to certify that the work was done by the registrant or under the control of the registrant. Registrants shall be numbered, dated, initialed, and sealed by the registrant responsible for the revision. (emphasis added)

(b) When copies are to be made, the registrant's seal and signature on all original, tracings or other documents shall be reproducible.

(c) When the document contains more than one sheet, all registrants involved in preparation of the document or who controlled the work shall sign the first or title page and are responsible for the document. In addition, each sheet shall be sealed and signed by the registrant or registrants responsible for each sheet. When a firm, partnership or corporation performs the work, each sheet shall be sealed and signed by the registrant or registrants who performed the work. For bound documents, the seal of the registrant who performed the work may be affixed to the first sheet of the bound document if that sheet bears a statement as to the number of bound sheets.

(d) Each registrant is solely responsible for the use of his or her seal. Only a registrant shall affix his or her seal to work that is prepared by the registrant or work that is prepared under his or her direct supervision. (emphasis added)

(e) When a registrant of this state examines and verifies the work of an out-of-state registrant, the registrant of this state has complete dominion and control of the design which includes possession of the sealed and signed reproducible construction drawings with complete signed and sealed
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design calculations indicating all changes in design.
(emphasis added)

16.4. Registrant’s Obligation to Employer and Clients.

(b) Registrants shall not affix their signatures or seals to any plans or documents dealing with subject matter in which they lack competence, nor to any plan or document not prepared under their direct control and personal supervision.
(emphasis added)

(c) Registrants may accept assignments for coordination of an entire project, provided that each design segment is signed and sealed by the registrant responsible for preparation of that design segment.
(emphasis added)

The construction of these laws and regulations are direct in their requirement that, in order for the Professional to certify the work, the work must be done either by the Professional or under the Professional’s direct control. In the case of mine maps, this is usually impossible.

However, under 16.4-(c) (above) the regulations do anticipate engagements that may be outside the capabilities of an individual or firm. In these situations, each segment of the work is signed and sealed by the registrant responsible for preparation of that segment.

Discussion:

The construction of the Professional Engineers’ and Professional Surveyors’ licensure laws and regulations appear to be aimed toward the work products that are most typical in the professions: boundary or survey plates, building design and plans, road and bridge designs, drainage design, permit applications, professional opinions, etc. These are typically engagements that one person or one firm can accomplish within a definite time span of weeks or months or, rarely, years. Therefore there is the expectation that one professional or group of professionals can easily complete the assignment and produce a finished product.

With coal mine maps, this is not the case. Mine maps are “works in progress” for many years. The engagement of a professional to supervise the mine mapping at a particular mine will typically be for no more than two to four or five years with many serving for a span of less than two years and few serving more than five years. This is the case for large and small coal companies and for those in private practice. This turnover rate is expected and typical. However, many mines will be active for two to over eighty years and many mines today predates the licensure and certification laws as currently written.
Coal Mine Map Certification

Since MSHA and The State require regular submittal of and keep on file certified copies of each mine map. Each of these submittals could be considered a separate "design segment" with regard to the above regulations.

In addition, many of the required features on a mine map (boundary or lease lines, mining limits, streams, railroads, roads, core holes, gas/oil wells, etc.) come from many and varied sources. It would typically be impossible to re-survey these locations each time there is a change in the certifying professional.

⇒ Some features, for example core holes or exploration boreholes, are required by both State and MSHA regulations to be shown on the map and may be placed on the map only in the most general area of where the core hole may be located because that is the best information available to the professional. (For example, a core hole may be taken from an old, one line description on the log stating it was drilled at the head of a hollow above a certain coal outcrop. This may limit the core hole location to plus or minus 100 yards of the actual location.)

⇒ Some surface features, for example streams, roads and/or structures, may be located by aerial photography and mapping. The State of West Virginia does not license these practitioners and few, if any, of the mine mapping professionals discussed here have more than a basic understanding of aerial mapping and it's practice and could not certify, under their laws and regulations, these results. However, it is common to use such information for mine mapping and permitting.

⇒ Some geologic features required by the regulations (e.g. wents, parting lines, faults that may affect ventilation) may be provided by geologists and may generally fall outside some professional's abilities to delineate.

Potential Resolutions:

Any statement on the mine map needs to be clear and concise to convey its meaning to the reader. The goal is to delineate and describe exactly what the mapping professional is certifying, within the parameters of the practice and professional judgment.

One such statement (first option) appears to be a resolution to the situation.

Information shown hereon prior to <date mapping professional started work on the project> as well as any and all surface
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Information delineated herein has been provided by others, except as noted, and is not intended to be included within the definition of "certify" as used within the certification statement. This information has not been verified nor field checked by the below signed Professional. (See Notes)

Notes:
1) The undersigned Professional Engineer or Surveyor, by signature, hereby certified that the underground mine workings of the <mine name> are accurately located and shown for mining performed after <effective date> in relation to the "permanent points" survey control located as required by law on the surface of the mine (<or to the State Plane Coordinate System described elsewhere>). Furthermore, the said undersigned, does not certify to the accuracy nor the location of surface structures, facilities, gas wells, oil wells, property lines, surface waters, water wells, surface mined areas, adjacent underground mining, nor mines above or below unless otherwise noted. This information has been provided by others not under the direct supervision of the undersigned Professional.

2) Mapping prior to <effective date> of the <mine name> (formerly <former mine name, if applicable> Mine) was performed by other Professionals and is on file with MSHA and the WV Office of Miners Health, Safety and Training. The undersigned relies on these professional certifications in the preparation of this map.

3) Check surveys under the direction and control of the undersigned extend from the mine openings to the location(s) noted on the map showing consistency with the survey and mapping work previously certified by the other Professionals referred to above.

As the mine operates and is extended, there should be instances where the certifying professional will note they have made additions to the map or have used information received from others. The problem becomes, over time, that the maps become cluttered with various notes and disclaimers that result in a decline in map clarity and therefore its usefulness.

A second option may be as follows.

Information shown herein prior to <date mapping professional started work on the project> as well as any and all surface information delineated herein has been provided by others, except as noted, and is not intended to be included within the definition of "certify" as used within the certification statement. This information has not been verified nor field checked by the below signed Professional. Previously certified maps have been submitted to

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...and are on file with the United States Department of Labor, Mine Safety and Health Administration and West Virginia Office of Miners' Health, Safety and Training that provide certification of previous work.

This statement, more compact and concise, may not be adequate under some litigation scenarios.

One potential statement, supported by MSHA, reads as follows:

I, the undersigned, do hereby believe that the underground mine workings prior to <date> shown hereon are accurately depicted, to the best of my knowledge, based upon the previously certified map by <name & PE/PS No.>. However, the subject depicted underground mine workings were not surveyed under my direct supervision or within my responsible charge as defined in CSR 30-13A-3.

This approach is questionable because the mapping professional is basing a belief that the previous work is correct simply on the certification and statement by the previous professional. This does not rise to the standard required by the PE or PS regulations for use of the seal. By the same argument, MSHA has accepted such work in the past by accepting that former professional's work.

Conclusion:

A resolution to this situation is required. Some within MSHA are insisting on statements that put all of the responsibility for the mine map on a single, certified professional that the professional, under the licensure laws of the State of West Virginia, cannot accept.
The operator failed to follow the approved ventilation plan (methane dust control plan). The bolter operating in the face of the #4 entry on the MMU 004 section was observed as not hanging the line curtain on the next to the last row of installed roof bolts as the roof bolting machine advanced. The curtain was hanging 3 rows behind the next to the last row of roof bolts.
Coal dust, including float coal dust deposited on rock dusted surfaces was permitted to accumulate on the mine floor around the power center located on the MMU 003/004 section.

<table>
<thead>
<tr>
<th>Violation</th>
<th>A. Health Safety</th>
<th>B. Section of Act</th>
<th>C. Part/Section of Title 30 CFR</th>
<th>75.400</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Condition or Practice</td>
<td></td>
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</tr>
<tr>
<td>10. Gravity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Injury or illness (less than 2)</td>
<td>No Likelihood</td>
<td>Utility</td>
<td>Slightly Likely</td>
<td>Highly Likely</td>
</tr>
<tr>
<td>B. Injury or illness could reasonably be expected to be</td>
<td>No Lost Workdays</td>
<td>Lost Workdays Or Restricted Duty</td>
<td>Permanently Disabling</td>
<td>Fatal</td>
</tr>
<tr>
<td>C. Significant and Substantial</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Number of Persons Affected</td>
<td>011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Negligence (check one)</td>
<td>A. None</td>
<td>B. Low</td>
<td>C. Moderate</td>
<td>D. High</td>
</tr>
<tr>
<td>12. Type of Action</td>
<td>104(a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Type of issuance (check one)</td>
<td>Citation</td>
<td>Order</td>
<td>Safeguard</td>
<td></td>
</tr>
<tr>
<td>14. Initial Action</td>
<td>A. Citation</td>
<td>B. Order</td>
<td>C. Safeguard</td>
<td>D. Written Notice</td>
</tr>
</tbody>
</table>

15. Area or Equipment:

16. Termination Date | A. Date | B. Time (24 Hr. Clock) | |
| --- | --- | --- | --- |

17. Action to Terminate:

18. Terminated | A. Date | B. Time (24 Hr. Clock) | |

19. Type of Inspection (check one) : E01 | Event Number | Primary or Mill |

20. Signature | A. Number |

In accordance with the provisions of the Small Business Regulatory Enforcement Fairness Act of 1996, the Small Business Administration has established a National Small Business and Agriculture Regulatory Compliance Center and 10 Regional Compliance Centers to provide assistance to small businesses. If you wish to comment on the enforcement actions of MSHA, you may call 1-866-680-MSHA (1-866-680-6742), or write the Compliance Center at Small Business Administration, Office of the National Director, 430 Third Street SW, #C2130, Washington, DC 20410. Please note, however, that your right to file a complaint with the Compliance Center is in addition to any other rights you may have, including the right to contest citations and proposed penalties and obtain a hearing before the Federal Mine Safety and Health Review Commission.
Attachment E - Citations/Safeguard Issued During Audit (cont.)

The operator failed to follow the approved ventilation plan, (methane dust control plan) for the 004 MMU. The line curtain was not maintained to a distance of 30 feet. The line curtains installed in the #3, #4, and #5 faces were pulled up to the top.

#3 face was measured to be 78' to the inby corner of the outby block.

#4 face was measured to be 38' to the inby corner of the outby block.

#5 face was measured to be 38' to the inby corner of the outby block.

The curtains were dropped and ventilation was restored.
Two portable fire extinguishers located in the primary escapeway (one at 19 crosscut and the other at 20 crosscut) do not have a permanent tag attached indicating that they have been examined within the last 6 months.
The operator cannot safely examine the left return for hazardous conditions. Safe access in not provided over the overcasts where the left return crosses the belt and track entries. These overcasts are approx. 7 feet high. There are stops constructed of loose cinder blocks and no hand rail is provided.
Coal dust and loose coal have been allowed to accumulate under the no. 1 belt conveyor from the take-up to the overcast. The coal is damp to wet and is up to 4 inches deep for the width of the conveyor.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time (24 Hour Clock)</th>
<th>Citations/Safeguard Issued During Audit (cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mo Da Yr</td>
<td></td>
<td>Mine Citation/Order</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U.S. Department of Labor</td>
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<tr>
<td></td>
<td></td>
<td>Mine Safety and Health Administration</td>
</tr>
<tr>
<td>1. Date</td>
<td></td>
<td>Section 1 - Citation Date</td>
</tr>
<tr>
<td>2. Time</td>
<td></td>
<td>9. Violation</td>
</tr>
<tr>
<td>3. Citation</td>
<td></td>
<td>A. Health</td>
</tr>
<tr>
<td>Order No.</td>
<td></td>
<td>B. Section</td>
</tr>
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<td></td>
<td></td>
<td>C. Part/Section of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Title of Title 20 CFR</td>
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<tr>
<td></td>
<td></td>
<td>Section 2 - Inspector's Evaluation</td>
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<tr>
<td></td>
<td></td>
<td>A. None</td>
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<td></td>
<td></td>
<td>B. Low</td>
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<tr>
<td></td>
<td></td>
<td>C. Moderate</td>
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<tr>
<td></td>
<td></td>
<td>D. High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E. Reckless Disregard</td>
</tr>
<tr>
<td>12. Type</td>
<td></td>
<td>13. Type of Issuance</td>
</tr>
<tr>
<td>of Action</td>
<td></td>
<td>A. Citation</td>
</tr>
<tr>
<td>14. Initial</td>
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<td>B. Order</td>
</tr>
<tr>
<td>Action</td>
<td></td>
<td>C. Safeguard</td>
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<tr>
<td>15. Altera</td>
<td></td>
<td>D. Written Notice</td>
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<tr>
<td>of Equipment</td>
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<td></td>
<td></td>
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<tr>
<td>16. Termination Due</td>
<td></td>
<td>17. Action to Terminate</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>18. Terminated</td>
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<td></td>
<td></td>
<td>19. Section 4 - Accepted Citation Date</td>
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<td></td>
<td></td>
<td>20. Event Number</td>
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<tr>
<td></td>
<td></td>
<td>21. Primary or Mill</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>22. Signature</td>
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<tr>
<td></td>
<td></td>
<td>23. 4R Number</td>
</tr>
</tbody>
</table>

See Continuation Form (MSHA Form 7000-3a)
Attachment E - Citations/Safeguard Issued During Audit (cont.)

The roof of areas where persons work or travel is not supported or otherwise controlled to protect persons from hazards related to falls of the roof along the no. 1 belt conveyor. There is loose roof material located between no. 9 and no. 10 crosscut measuring 4 feet by 2 feet by 6 inches thick. Also, there is loose rock at no. 12 crosscut.
The operator is not following their approved Emergency Response Plan (ERP). A communication system is not being maintained in the primary escapeway. Section 1, c of the operator's ERP states that two independent communication systems from each working section to the surface will be maintained at all times. One of the communication systems will be located in the primary escapeway.
The secondary escapeway is not being maintained in a safe condition to always assure passage of anyone, including disabled persons. Approximately 100 feet inby seal no. 13 there is water in excess of 14 inches deep for approximately 80 feet.

**Mine Citation/Order**

<table>
<thead>
<tr>
<th>Section</th>
<th>Violation</th>
<th>U.S. Department of Labor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Date</td>
<td>Mo Da Yr</td>
<td>Mine Safety and Health Administration</td>
</tr>
<tr>
<td>2. Time (24 Hr. Clock)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Citation/Order Number</td>
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<td></td>
</tr>
<tr>
<td>4. Issuing official</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Title</td>
<td></td>
<td></td>
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<tr>
<td>6. Citation/Order Number</td>
<td></td>
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<tr>
<td>7. Mine ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Location or Project</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Continuation Form MSHA Form 7000-7a

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**Mine Citation/Order**

<table>
<thead>
<tr>
<th>A. Health Safety Other</th>
<th>B. Section of Act</th>
<th>C. Part/Section of Title 30 CFR</th>
<th>75.380(b)(1)</th>
</tr>
</thead>
</table>

**Gravity:**

- A. Injury or illness (days): No Likelihood [ ] Unlikely [X] Reasonably Likely [ ] Highly Likely [ ] Occurred [ ]
- B. Injury or illness could reasonably be expected to be: No Lost Workdays [ ] Lost Workdays Or Restricted Duty [X] Permanently Disabling [ ] Fatal [ ]
- C. Significant and Substantial: Yes [ ] No [X]

**Negligence:**

- A. None [ ] B. Low [X] C. Moderate [ ] D. High [ ] E. Reckless Disregard [ ]

**Type of Action:**

- 104(a) [ ] 13. Type of Issuance (check one) Citation [X] Order [ ] Safeguard [ ]

**Initial Action:**

- A. Citation [ ] B. Order [ ] C. Safeguard [ ] D. Written Notice [ ]

**Area or Equipment:**

**Termination Due:**

- A. Date: Mo Da Yr  |
- B. Time (24 Hr. Clock) |

**Action to Terminate:**

---

**Section IV - Automated System Data**

<table>
<thead>
<tr>
<th>16. Type of Inspection (activity code)</th>
<th>20. Event Number</th>
<th>21. Primary or Mill</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>22. Signature:</th>
<th>23. AR Number</th>
</tr>
</thead>
</table>
The operator cannot safely examine seal no. 16 located in the right return (secondary escapeway). Water has accumulated in excess of 24 inches deep in front of the seal.
The slope car is not provided with an adequate means to protect the hoist cable from damage caused by contact with the track rails and crossties. This slope car is used daily to transport men in and out of the mine.

This is a Notice to Provide Safeguard requiring an adequate means to protect the hoist cable to be installed and maintained.