FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION

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December 6, 2013

DOMINION COAL CORPORATION, Contestant,	:	CONTEST PROCEEDINGS
	:	Docket No. VA 2011-335-R
	:	Citation No. 8179158; 03/07/2011
	:	
	:	Docket No. VA 2011-336-R
	:	Citation No. 8179159; 03/07/2011
v.	:	
	:	Docket No. VA 2011-337-R
	:	Citation No. 8179160; 03/07/2011
	:	
	:	Docket No. VA 2011-405-R
SECRETARY OF LABOR	:	Citation No. 8182676; 04/04/2011
MINE SAFETY AND HEALTH	:	
ADMINISTRATION (MSHA),	:	Mine: No. 36
Respondent	:	Mine ID: 44-06759
	:	
	:	
SECRETARY OF LABOR,	:	CIVIL PENALTY PROCEEDING
MINE SAFETY AND HEALTH	:	
ADMINISTRATION (MSHA),	:	Docket No. VA 2012-163
Petitioner	:	A.C. No. 44-06759-275366-01
	:	
v.	:	
	:	
DOMINION COAL CORPORATION,	:	Mine: No. 36
Respondent	:	

DECISION

Appearances: David J. Hardy, Esq. & Wm. Scott Wickline, Esq., Hardy Pence PLLC, Charleston, WV for Respondent

Winfield J. Wilson, Esq, Jacob Hargraves, Esq., & Jason Grover, Esq., U.S. Department of Labor, Office of the Solicitor, Arlington, VA for the Secretary

Before: Judge Steele

STATEMENT OF THE CASE

This civil penalty proceeding is conducted pursuant to the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 801 *et seq*. (2000) (the "Mine Act" or "Act"). This matter concerns Order Nos. 8179158, 8179159, 8179160, and 8182676. Order No. 8179158 was issued under Section 104(d)(1) for failure to comply with 30 C.F.R. § 75.1700. Order No. 8179159 was issued under Section 104(d)(1) for failure to comply with 30 C.F.R. § 75.1200. Order No. 8179160 was issued under Section 104(d)(1) for failure to comply with 30 C.F.R. § 75.372. Finally, Order No. 8182676 was issued under Section 104(d)(2) for failure to comply with 30 C.F.R. § 75.360(a)(1). All four Orders were served on Dominion Coal Corporation ("Dominion" or "Respondent."). The Secretary seeks civil penalties in the amount of $216,400.00. A hearing was held in Grundy, VA between February 20, 2013 and February 22, 2013 where the parties presented testimony and documentary evidence. After the hearing, the parties submitted Post Hearing Briefs.

Order Nos. 8179158, 8179159, and 8179160 concern an incident in which a continuous miner intersected a gas well and will be considered together. Order No. 8182676 concerns an unrelated pre-shift examination and will be considered separately.

STIPULATIONS

The parties have stipulated to the following:

1. Dominion is an "operator" as defined in Section 3(d) of the Mine Act, 30 U.S.C. § 803(d), at Mine No. 36.

2. Respondent's Mine No. 36 is a "mine" as that term is defined in Section 3(h) of the Mine Act, 30 U.S.C. § 803(h).

3. Operations at Respondent's Mine No. 36, where the instant Orders were issued, are subject to the jurisdiction of the Mine Act.

4. This proceeding is subject to the jurisdiction of the Federal Mine Safety and Health Review Commission and its designed Administrative Law Judges pursuant to §§ 105 and 113 of the Mine Act, 30 U.S.C. §§ 815 and 823.

5. The total proposed penalty for the Orders in this proceeding will not affect Respondent's ability to continue in business.

6. The Orders at issue in this proceeding were issued by an authorized representative of the Secretary.

7. Timothy "TJ" Howington was an "agent" of the Respondent for Mine Act purposes at the time Order No. 8182676 was issued.

GAS WELL ORDERS

1. Order No. 8179158

a. Contents of the Order

On March 7, 2011 at 9:45 a.m., Inspector John A. Hughes ("Hughes) issued to Respondent Order No. 8179158. Hughes found:

> The Mine Operator's failure to establish and maintain a 300 foot safety barrier around a known gas well resulted in an accident on February 24, 2011 that had the reasonable potential to cause death. At approximately 12:55 p.m. an inundation of methane gas occurred on the 004-0 MMU. The continuous mining machine located in the No. 4 heading unintentionally cut into an active gas well damaging the well casings. An explosive mixture of 8.9% methane was released from the well, detected by the continuous mining machine and observed by the miners working on the 004-0 MMU. An emergency evacuation of the mine was initiated and all miners were safely removed from the mine. Evidence gathered during the accident investigation shows the Operator was aware of the well's presence but failed to keep track of it. The Operator's projection map which was submitted prior to mining and received by MSHA on May 18, 1994 has the affected well's location plotted. On subsequent annual maps the well's location is not shown and disappears from the record. The accident that resulted from this condition was a near miss and could have resulted in a catastrophic event affecting all of the miners underground on February 24, 2011. The Operator's inattention to the well's location is a serious impediment to the safety of the miners placed under his care. The Operator's inadvertence toward such a serious safety hazard and the potential consequences for failing to do so shows a serious lack of care or due diligence on the Operator's behalf. The mine operator has engaged in aggravated conduct constituting more than ordinary negligence. This violation is an unwarrantable failure to comply with a mandatory standard. This D-1 Order is being issued in conjunction with D-1 Orders No. 8179159 and 8179160 for failure to plot a known gas well on the Operator's Certified Annual Mine Map required by 30 CFR sub-part 75.1200 and the Operator's Certified Mine Ventilation Map required by 30 CFR sub-part 75.372.

Government's Exhibit 15 (Hereinafter GX-15). Hughes noted that the gravity of this violation was "Highly Likely," "Fatal," and would affect ten persons. *Id.* The Order was marked as Significant and Substantial ("S&S"). *Id.* He further marked that Respondent exhibited "High" negligence with respect to this violation. *Id.*

b. Legal Standards

Order No. 8179158 was issued under Section 104(d)(1) of the Mine Act. That provision provides the following:

> If, upon any inspection of a coal or other mine, an authorized representative of the Secretary finds that there has been a violation of any mandatory health or safety standard, and if he also finds that, while the conditions created by such violation do not cause imminent danger, such violation is of such nature as could significantly and substantially contribute to the cause and effect of a coal or other mine safety or health hazard, and if he finds such violation to be caused by an unwarrantable failure of such operator to comply with such mandatory health or safety standards, he shall include such finding in any citation given to the operator under this Act. If, during the same inspection or any subsequent inspection of such mine within 90 days after the issuance of such citation, an authorized representative of the Secretary finds another violation of any mandatory health or safety standard and finds such violation to be also caused by an unwarrantable failure of such operator to so comply, he shall forthwith issue an order requiring the operator to cause all persons in the area affected by such violation, except those persons referred to in subsection (c) to be withdrawn from, and to be prohibited from entering, such area until an authorized representative of the Secretary determines that such violation has been abated.

The Order deals with an alleged violation of 30 C.F.R. § 75.1700 (titled "Oil and gas wells"). That section provides the following:

> Each operator of a coal mine shall take reasonable measures to locate oil and gas wells penetrating coalbeds or any underground area of a coal mine. When located, such operator shall establish and maintain barriers around such oil and gas wells in accordance with State laws and regulations, except that such barriers shall not be less than 300 feet in diameter, unless the Secretary or his authorized representative permits a lesser barrier consistent with the applicable State laws and regulations where such lesser barrier will be adequate to protect against hazards from such wells to the miners in such mine, or unless the Secretary or his authorized representative requires a greater barrier where the depth of the mine, other geologic conditions, or other factors warrant such a greater barrier.

30 C.F.R. § 75.1700.

2. Order No. 8179159

a. Contents of the Order

On March 7, 2011 at 9:46 a.m., Inspector John A. Hughes ("Hughes) issued to Respondent Order No. 8179159. Hughes found:

> The Operator's official, certified mine map located in the mine foreman's office does not show the location of active gas well No. 2559. The well's location was left off the mine map and on February 24, 2011 at approximately 12:55 p.m. an inundation of methane gas occurred on the 004-0 MMU when the continuous

> mining machine located in the No. 4 heading unintentionally cut into the gas well, damaging the well casings. An explosive mixture of 8.9% methane was released from the well, detected by the continuous mining machine and observed by the miners working on the 004-0 MMU. An emergency evacuation of the mine was initiated and all miners were safely removed from the mine. Evidence gathered during the accident investigation shows the Operator was aware of the well's presence but failed to keep track of it. The Operator's projection map which was submitted prior to mining and received by MSHA on May 18, 1994 has the affected well's location plotted. On subsequent annual maps the well's location is not shown and disappears from the record. The accident that resulted from this condition was a near miss and could have resulted in a catastrophic event affecting all of the miners underground on February 24, 2011. The Operator's inattention to the well's location is a serious impediment to the safety of the miners placed under his care. The Operator's inadvertence toward such a serious safety hazard and the potential consequences for failing to do so shows a serious lack of care or due diligence on the Operator's behalf. The mine operator has engaged in aggravated conduct constituting more than ordinary negligence. This violation is an unwarrantable failure to comply with a mandatory standard. This D-1 Order is being issued in conjunction with D-1 Orders No. 8179158 and 8179160 for failure to plot a known gas well on the Operator's Certified Mine Ventilation Map required by 30 CFR. sub-part 75.372 and failure to establish and maintain a 300 foot safety barrier around a known gas well required by 30 CFR sub-part 75.7100.

(GX-16). Hughes noted that the gravity of this violation was "Highly Likely," "Fatal," and would affect ten persons. *Id*. The Order was marked as S&S. *Id*. He further marked that Respondent exhibited "High" negligence with respect to this violation. *Id*.

b. Legal Standards

Order No. 8179159 was also issued under Section 104(d)(1) of the Mine Act. It deals with an alleged violation of 30 C.F.R. § 75.1200 (titled "Mine Map"). That section provides, in pertinent part, the following:

> The operator of a coal mine shall have in a fireproof repository located in an area on the surface of the mine chosen by the mine operator to minimize the danger of destruction by fire or other hazard, an accurate and up-to-date map of such mine drawn on scale. Such map shall show…
>
> (k) Either producing or abandoned oil and gas wells located within 500 feet of such mine and any underground area of such mine; and,

30 C.F.R. §75.1200.

3. Order No. 8179160

a. Contents of the Order

On March 7, 2011 at 9:47 a.m., Inspector John A. Hughes ("Hughes) issued to Respondent Order No. 8179160. Hughes found:

> The Operator's official, certified mine ventilation map located in the mine foreman's office does not show the location of active gas well No. 2559. The well's location was left off the mine map and on February 24, 2011 at approximately 12:55 p.m. an inundation of methane gas occurred on the 004-0 MMU when the continuous mining machine located in the No. 4 heading unintentionally cut into the gas well, damaging the well casings. An explosive mixture of 8.9% methane was released from the well, detected by the continuous mining machine and observed by the miners working on the 004-0 MMU. An emergency evacuation of the mine was initiated and all miners were safely removed from the mine. Evidence gathered during the accident investigation shows the Operator was aware of the well's presence but failed to keep track of it. The Operator's projection map which was submitted prior to mining and received by MSHA on May 18, 1994 has the affected well's location plotted. On subsequent annual maps the well's location is not shown and disappears from the record. The accident that resulted from this condition was a near miss and could have resulted in a catastrophic event affecting all of the miners underground on February 24, 2011. The Operator's inattention to the well's location is a serious impediment to the safety of the miners placed under his care. The Operator's inadvertence toward such a serious safety hazard and the potential consequences for failing to do so shows a serious lack of care or due diligence on the Operator's behalf. The mine operator has engaged in aggravated conduct constituting more than ordinary negligence. This violation is an unwarrantable failure to comply with a mandatory standard. This D-1 Order is being issued in conjunction with D-1 Orders No. 8179158 and 8179159 for failure to plot a known gas well on the Operator's Certified Mine Map required by 30 CFR sub-part 75.1200 and failure to establish and maintain a 300 foot safety barrier around a known gas well required by 30 CFR sub-part 75.7100.

(GX-17). Hughes noted that the gravity of this violation was "Highly Likely," "Fatal," and would affect ten persons. *Id*. The Order was marked as S&S. *Id*. He further marked that Respondent exhibited "High" negligence with respect to this violation. *Id*.

b. Legal Standards

Order No. 8179159 was also issued under Section 104(d)(1) of the Mine Act. It deals with an alleged violation of 30 C.F.R. § 75.372 (titled "Mine Ventilation Map"). That section provides the following:

(a) (1) At intervals not exceeding 12 months, the operator shall submit to the district manager 3 copies of an up-to-date map of the mine drawn to a scale of not less than 100 nor more than 500 feet to the inch. A registered engineer or a registered surveyor shall certify that the map is accurate.

(2) In addition to the informational requirements of this section the map may also be used to depict and explain plan contents that are required in §75.371. Information shown on the map to satisfy the requirements of §75.371 shall be subject to approval by the district manager.

(b) The map shall contain the following information:

(1) The mine name, company name, mine identification number, a legend identifying the scale of the map and symbols used, and the name of the individual responsible for the information on the map.

(2) All areas of the mine, including sealed and unsealed worked-out areas.

(3) All known mine workings that are located in the same coalbed within 1,000 feet of existing or projected workings. These workings may be shown on a mine map with a scale other than that required by paragraph (a) of this section, if the scale does not exceed 2,000 feet to the inch and is specified on the map.

(4) The locations of all known mine workings underlying and overlying the mine property and the distance between the mine workings.

(5) The locations of all known oil and gas wells and all known drill holes that penetrate the coalbed being mined.

(6) The locations of all main mine fans, installed backup fans and motors, and each fan's specifications, including size, type, model number, manufacturer, operating pressure, motor horsepower, and revolutions per minute.

(7) The locations of all surface mine openings and the direction and quantity of air at each opening.

(8) The elevation at the top and bottom of each shaft and slope, and shaft and slope dimensions, including depth and length.

(9) The direction of air flow in all underground areas of the mine.

(10) The locations of all active working sections and the four-digit identification number for each mechanized mining unit (MMU).

(11) The location of all escapeways and refuge alternatives.

(12) The locations of all ventilation controls, including permanent stoppings, overcasts, undercasts, regulators, seals, airlock doors, haulageway doors and other doors, except temporary ventilation controls on working sections.

(13) The direction and quantity of air—

(i) Entering and leaving each split;

(ii) In the last open crosscut of each set of entries and rooms; and

(iii) At the intake end of each pillar line, including any longwall or shortwall.

(14) Projections for at least 12 months of anticipated mine development, proposed ventilation controls, proposed bleeder systems, and the anticipated location of intake and return air courses, belt entries, and escapeways.

(15) The locations of existing methane drainage systems.

(16) The locations and type of all AMS sensors required by subpart D of this part.

(17) Contour lines that pass through whole number elevations of the coalbed being mined. These lines shall be spaced at 10-foot elevation levels unless a wider spacing is permitted by the district manager.

(18) The location of proposed seals for each worked-out area.

(19) The entry height, velocity and direction of the air current at or near the midpoint of each belt flight where the height and width of the entry are representative of the belt haulage entry.

(20) The location and designation of air courses that have been redesignated from intake to return for the purpose of ventilation of structures, areas or installations that are required by this subpart D to be ventilated to return air courses, and for ventilation of seals.

(c) The mine map required by §75.1200 may be used to satisfy the requirements for the ventilation map, provided that all the information required by this section is contained on the map.

30 C.F.R. §75.372.

4. Summary of Testimony

a. Testimony of Daniel Lee Shortridge:

At the time of the hearing Daniel Shortridge was employed as an outby foreman at Dominion Coal. (Transcript Vol. I, p. 185).[1] He was foreman on the U-Section day-shift the day the gas well was struck in February of 2011. (Tr. I, 185-186). There were seven people on the section and over 30 people in the mine in total. (Tr. I, 185-186).

Before Shortridge started mining that shift he checked the Section 75.1200 mine map, as he always did to see what had been mined the day before. (Tr. I, 194-195). He does not check the mine map for hazards, not even gas wells because they are usually recorded. (Tr. I, 195). The map is located in the foreman's office and the gas well was not on that map. (Tr. I, 195).

There was quite a bit of air on the section that day because all the air that was on the line was going past the four heads. (Tr. I, 200). There had to be over seven or eight thousand, but maybe more because there was a "twenty-some thousand" line at the crosscut.[2] (Tr. I, 200).

Shortridge was 15-20 feet from the gas well when he heard the continuous miner hit something. (Tr. I, 188). He was in a closed space in the mine. (Tr. I, 194). The continuous miner raised up at the front when it hit the gas well. (Tr. I, 188). The collision resulted in steel-on-steel contact, between the miner and the pipe. (Tr. I, 193-194). He could not tell how deep the well case was cut because the ripper head was still against the miner. (Tr. I, 199). He later learned it just cut into the outer casing, not into the production line. (Tr. I, 199). It is common for there to be sparks when a miner is operating. (Tr. I, 194). However, when they cut into the well, water was released and also the miner had 27 water sprays. (Tr. I, 200).

The collision caused the continuous miner to "gas off," shut down, as a result of methane release. (Tr. I, 190-191). Miners will gas off at 1.5% methane. (Tr. I, 191). The miner will also produce a reading, but Shortridge did not see the reading here. (Tr. I, 191-192). However, he later learned that Kevin Stiltner, a miner, saw a reading of 8.9% methane. (Tr. I, 192). The explosive range for methane is 5-15%. (Tr. I, 205). Shortridge did not know if the monitor on the continuous miner could accurately read 5%. (Tr. I, 200, 204-205). He knew that during calibration it was tested at 2.5%. (Tr. I, 204-205). He recalled the methane reader on the continuous miner went as high as 2.5%, but he did not recall it testing at 5%. (Tr. I, 204). He was also aware that water can cause a false reading. (Tr. I, 201). Sometimes when the "sniffer" is located right up against the coal it will gas off even if no gas is detected. (Tr. I, 201). He had not read the manual for the monitor. (Tr. I, 205).

The collision liberated enough methane to set off Shortridge's spotter.[3] (Tr. I, 188-189).

[1] Hereinafter the transcript be cited as "Tr." followed by the volume and page number.

[2] It is unclear from the transcript what these numbers mean.

[3] A methane detector, in this case an M-20 methane detector, is interchangeably referred to as a

Shortridge was sure that methane was released into the mine. (Tr. I, 189, 194). He was wearing his spotter on his shirt and his alarm went off, as did Electrician Roger Clark's. (Tr. I, 189). The spotter has a "low and high" alarm, a low alarm has a slow beep at 0.5% of gas and a high alarm at 1%. (Tr. I, 189-190). The alarm after the well was struck sounded like a high alarm. (Tr. I, 190). The spotters produce a reading for methane, but Shortridge never looked at his because he was trying to evacuate. (Tr. I, 190). Other people reported methane readings. (Tr. I, 194).

After the collision, Shortridge evacuated everyone from U-Section. (Tr. I, 192-193). Later, after he called outside, the rest of the mine was evacuated. (Tr. I, 192-193). Respondent evacuated the mine because a well was struck, which is very dangerous and not a normal situation. (Tr. I, 193).

After the evacuation Shortridge, James Stacy, and Greg Ratliff went back in to check the mine and view the gas well. (Tr. I, 195-196). Respondent was issued an imminent danger order for this incident, which means that no one is supposed to go back into the mine to work. (Tr. I, 196, 203). It would be permissible to go into the mine with a certified person or if directed to do so by a federal official. (Tr. I, 203).

As they went into the mine, Shortridge checked the return for methane and he did not detect any. (Tr. I, 196-197). They went to the gas well, he got a gas reading by holding the detector up against the outer casing of the gas well, and he found that it was liberating a small amount, but not enough to set off an alarm. (Tr. I, 197, 201). Inside the outer casing was a smaller pipe and water was bubbling up and he would not get a gas reading unless he held it close. (Tr. I, 201). Holding the monitor that close is not a legal check; he was just seeing what was coming out.[4] (Tr. I, 202). He found about three or four tenths of a percent of methane. (Tr. I, 202-203). That is not much; it is possible to get more at the coal seam. (Tr. I, 203). He then took a legal check and did not measure any methane. (Tr. I, 202). However, these checks were hours after the accident. (Tr. I, 204).

At the time of this accident, the mine was on a 10-day spot inspection. (Tr. I, 198). A spot inspection sets a schedule for inspecting methane and dust parameters based on how much gas is liberated. (Tr. I, 198).

b. Testimony of Robert Earl Weaver, Jr.

At the time of the hearing Robert Weaver was employed by SunCoke, the parent company of Jewell Smokeless. (Tr. I, 206-207). At the time of the accident, he was chief engineer of Respondent's engineering department, also a SunCoke subsidiary.[5] (Tr. I, 206-207).

"spotter." (Tr. I, 189).

[4] A "legal check" of methane is one in which the monitor is held 12 inches back from the source. (Tr. I, 202).

[5] Weaver is not sure how much coal the mine produced. (Tr. I, 209-210). SunCoke is a medium-sized company with between 1,000 and 2,000 employees. (Tr. I, 210). The mine is a

As chief engineer Weaver managed a staff of seven people. (Tr. I, 210). He had the power to hire and fire employees and direct the workforce. (Tr. I, 208-209). He held that position from May 2006 to July 2010. (Tr. I, 208). Weaver was then general manager of Jewell Coke Company. (Tr. I, 207).

Weaver had a bachelor's degree in mining engineering from Penn State University, a bachelor's degree in inter-disciplinary studies, and a master's degree in education with an emphasis on math and science from Old Dominion University. (Tr. I, 238-239). After receiving his engineering degree, he worked for two years under two other professional engineers ("PEs") for Consolidation Coal Company. (Tr. I, 239). Weaver sat for the Virginia professional engineer examination with a focus on mining engineering in 1983. (Tr. I, 239). He passed the exam on his first attempt. (Tr. I, 239-240). He was also licensed in Pennsylvania. (Tr. I, 240). He was not a licensed professional in surveyor in Virginia. (Tr. I, 240). Professional engineers have to renew their licenses; every year in West Virginia and every other year in Virginia. (Tr. II, 5). To renew the license, an engineer must take at least eight professional development hours of continuing education, including AutoCAD applications.[6] (Tr. II, 5).

Weaver first worked for Consol's Renton Mine from 1979 to 1983. (Tr. I, 240). He was then transferred to Bailey Mine as chief engineer for the initial layout of the mine and worked there for two years. (Tr. I, 241). After that he began production work. (Tr. I, 241). In 1993 he went to Enlow Fork as a mine foreman in charge of underground operations and in 1996 he went to VP-8 as an assistant superintendent. (Tr. I, 241). When working for Consol he certified maps. (Tr. I, 241). He would work with the engineering department on future mine plans. (Tr. I, 241-242). At VP-1 engineering department was under his supervision. (Tr. I, 242).

In 2006, Weaver went to work for Respondent. (Tr. I, 242). There were 8 people in the engineering department including Weaver. (Tr. I, 247). Respondent also contracted with an outside surveying and engineering firm: D.R. Price Engineering of Virginia. (Tr. I, 247, Tr. II, 17-18). Respondent was working with D.R. Price before 2006 and was still working with them at the time of the hearing; they had been working together for over 20 years. (Tr. I, 247-248). D.R. Price is a well-respected engineering firm, familiar with the standard of care in Virginia, and it has a lot of experience in mining. (Tr. I, 248, Tr. II, 18). They have policies and procedures for certifying mine maps and locating/plotting gas wells. (Tr. II, 18-19). Weaver oversaw the work conducted by D.R. Price. (Tr. II, 27).

In his time working for Respondent Weaver certified all of Respondent's mine maps and was responsible for mapping at six Dominion mines and five contractor mines. (Tr. I, 207, 211, 214, 243). He handled hundreds of maps. (Tr. 243). This task included preparing the maps, checking accuracy, and certification.[7] (Tr. I, 207, 211). MSHA requires mine maps to be

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big mine and it is currently "hot idle," meaning it is not producing right now. (Tr. I, 238).

[6] CAD stands for "computer-aided drafting." (Tr. III, 18).

[7] Besides mine maps, Weaver's duties as chief engineer included mine, roof control, ventilation, fire-fighting and evacuation plans, keeping up escapeway maps, and showing the location of

certified by a professional engineer or surveyor. (Tr. I, 213). Weaver was a professional engineer in Virginia. (Tr. I, 213, 237). There are several ways to get a professional engineering license. (Tr. I, 213-214). Those methods include getting a bachelor's degree in engineering and passing an exam or engineering training with a mentorship program for four years and taking an exam. (Tr. I, 213-214). Weaver was familiar with the standard of practice for certifying mine maps in Virginia and felt that he complied with that standard, as well as state and federal rules. (Tr. II, 7, 11).

Respondent's mine maps were made in a software program called AutoCAD, which is a type of drafting software. (Tr. I, 211-212). The mining industry started to use AutoCAD in the 1980's. (Tr. I, 212). The maps print primarily in 2D, but it allows for different layers to be placed on the map and removed when needed. (Tr. I, 212). These layers included ventilation or topographic features. (Tr. I, 212). The AutoCAD is a complex system but a person trained in it can transfer the skills to mining from any other industry. (Tr. I, 213). When Weaver started to work for Respondent, he took courses on the AutoCAD so he would be up to speed. (Tr. I, 251)

Operators are required to produce various maps. (Tr. I, 214-215). Ventilation maps are required by §75.372 ("372 map") and must include gas wells and be submitted to MSHA annually. (Tr. I, 215, Tr. II, 37). "Wall Maps" are required by §75.1200 ("1200 map") and are used whenever any trouble occurs in the mine. (Tr. I, 215). The wall map is similar to the 372 map, but is required under a different section of the Act. (Tr. I, 215-217). It must be kept on the surface, is required semi-annually, and serves a different function. (Tr. I, 215-217). To update the 1200 map, the engineering department would review new workings, changes in ventilation, new or removed stoppings, overcasts, and other ventilation control. (Tr. I, 217). The law allows for the 1200 map to serve as the 372 map, but Respondent produced both. (Tr. I, 216).

Both kinds of maps required gas wells to be shown. (Tr. I, 219). On the mine maps, gas wells are marked with bulls-eyes. (Tr. I, 260). The outer circles show the 200 foot and 500 foot radii and, if it was a proposed well, the symbol in the middle would be different. (Tr. I, 260). These radii requirements are more rigorous than those required by MSHA. (Tr. I, 260). The symbols used to identify gas wells vary from state to state. (Tr. I, 262). In addition to the circles there would be other information like coordinates. (Tr. I, 264). There were 400 or 500 wells at Dominion 36. (Tr. I, 264, Tr. II, 25).

There were legally required checklists for certification of mine maps. (Tr. I, 255-257, Tr. II, 37). One checklist was for 1200 maps and one was for 372 maps and they followed the points of the law (RX-1: the 1200 checklist and RX-2: the 372 checklist). (Tr. I, 255-257, Tr. II, 37). Map certification was an ongoing process, starting in October or November. (Tr. I, 257-258). Certifying a map is a team effort. (Tr. I, 254). A month before it was due, Weaver would print a copy of the map out and then make sure it looked right. (Tr. I, 258, Tr. II, 7). When certifying the mine map, he did not redo the map every six months. (Tr. II, 24). Instead, he would start with new features, focusing on ventilation controls and new entries. (Tr. I, 258-259, Tr. II, 7-8,

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self-contained self-rescuers on maps. (Tr. 246). In addition, he looked for the coal seam and checked its thickness, brought in drillers and contractors, checked the thickness of the seam, and created closure maps ad conducted reclamation. (Tr. I, 246-247).

24). They would build on previous submissions; old section of the map did not change. (Tr. II, 8, 24). The checks would include looking to see if the gas well file was overlaid on the map. (Tr. II, 38). When he had questions about something he would call down to the mine or even go look himself. (Tr. I, 259). Weaver took certifying maps seriously and did not want something to go wrong when he was underground. (Tr. I, 252). The people who worked underground were his friends, neighbors, and co-workers. (Tr. I, 252).

In addition to the 372 and 1200 maps, there were other maps, including escapeway maps, that would be located at the surface and in refuge chambers. (Tr. I, 217-218). There are also five year projection maps, which were company maps rather than MSHA-required maps. (Tr. I, 218). A projections map would not necessarily show the gas wells but, because it shows projected future mining, would be made with considerations of the location of wells. (Tr. I, 218-219). Respondent only looked ahead to one year projections to check for wells. (Tr. II, 36).

Weaver read from GX-11 (December 23, 2008 mine map), showing that in certifying a map, an engineer attests that he believes the map to be correct to the best of his knowledge and belief. (Tr. II, 28).

In May of 2008 Weaver hired Stacy Harris as a mine plan specialist partially because of his extensive AutoCAD experience. (Tr. I, 220, 224). Weaver believed Harris had no mining experience when hired and had never worked with mine plans. (Tr. I, 220). To train people in the engineering department, Respondent had "on-boarding" process. (Tr. I, 248). This was a mentoring program that paired new and experienced employees. (Tr. I, 248). Some of the training was on map work and AutoCAD and some was actual underground training. (Tr. I, 248-249). Harris was trained by Roger Van Dyke and Bobby O'Quinn on the AutoCAD. (Tr. I, 249-250). They gave him small projects and double-checked his work. (Tr. I, 250). Harris also did some channel sample work and worked on the seal project. (Tr. I, 250). Weaver wanted Harris to understand the process from start to finish and they spent numerous shifts underground on a couple of sets of seals so he would know what the symbols on the map really meant. (Tr. I, 250).

The people hired in 2008 were primarily hired for their expertise in AutoCAD and ServeCAD. (Tr. I, 251). "ServeCAD," was a program that sped up the use of AutoCAD. (Tr. I, 251). Whenever ServeCAD or AutoCAD was updated, a representative would come and teach the new features. (Tr. I, 251). Harris was the most skilled AutoCAD user in the department. (Tr. II, 9). He knew more about AutoCAD's capabilities than anyone else. (Tr. II, 9).

When the 2008 hiring occurred, the mine file in the AutoCAD was very large; it actually encompassed three separate files and was slow to open. (Tr. I, 221, Tr. II, 11). The map had various layers: ventilation controls, property boundaries, mineral properties, and one-line diagrams for mining projections. (Tr. II, 12). Harris approached Weaver and suggested combining the map into one file. (Tr. I, 221-222, Tr. II, 12). Weaver approved and Harris completed the task. (Tr. I, 222). Weaver had heard it referred to as a "file reduction effort." (Tr. I, 222). The AutoCAD would use the coordinates to line up merger points on the map and sew the sheets together. (Tr. II, 12-13). If they did not line up, something obvious would have occurred on the map. (Tr. II, 13). Weaver was not involved in merging the files, he delegated it to Harris. (Tr. I, 222-224, Tr. II, 29). Weaver was confident that Harris was competent and did

not direct him to take any specific steps. (Tr. I, 223). Weaver knew Harris' mining experience. (Tr. I, 224).

One gas well that was on the April 2008 map was not on the December of 2008 map. (Tr. I, 228-229). Harris told Weaver that the maps were accurate so Weaver certified them as accurate. (Tr. I, 235). The missing gas well was not on any maps that Weaver certified between December 2008 and the time he left the department in May 2010. (Tr. I, 229-230). As far as he knew, the gas well was not on any map from that time until the accident. (Tr. I, 229-230). The last annual map he certified for MSHA at the mine was in January 2010. (Tr. II, 8-9).

Weaver believed the gas well was on the map from the time he started in May 2006 through April 2008. (Tr. I, 232, Tr. II, 33). He did not know if the well was on the initial project map in 1994, however old mine maps were available. (Tr. I, 232). The well was not surveyed when Weaver was there and he did not know if it was in 1991. (Tr. II, 33). None of those maps were checked for gas wells nor did anyone check with the state. (Tr. I, 233). No one checked the surface for wells because the AutoCAD produced the same map every time. (Tr. I, 233-234).

Respondent learned about the locations of gas wells in numerous ways. (Tr. I, 243). It spoke with gas companies regarding planned wells and applications. (Tr. I, 244). The gas companies would tell Respondent where wells would go and Respondent would decide if the location worked or if the plan needed to be moved. (Tr. I, 244). The gas companies would then send a proposed location and Respondent would have 15 days to object to the Division of Gas & Oil. (Tr. I, 244-245). If Respondent did not object, it would sign a letter with rules and guidelines on how the well would be drilled to assure safety. (Tr. I, 245). The companies then provided 48-hour notice before drilling. (Tr. I, 245). If the well was close to the active working, the mine would be evacuated during that time or other steps were taken. (Tr. I, 245-246).

Once Respondent learned about a well, several checks were made to ensure the well's location was certain. The first check was plotting. (Tr. II, 6). The initial plotting of gas wells would be done with the final location coordinates provided by the gas well company. (Tr. I, 246, Tr. II, 6, 19). The state required gas companies to inform anyone with an interest including surface owners, mineral-interest owners, and the state via certified mail. (Tr. I, 19-20). Those surveys were completed by registered surveyors. (Tr. II, 6). When Respondent received the coordinates they would plot them on the map. (Tr. I, 246, Tr. II, 6). Weaver was more concerned with gas wells ahead of the mining than those behind the mining. (Tr. II, 36-37).

The second check cross-referenced the wells on the mine's maps with the Buchanan County topographic maps. (Tr. I, 226, 233, Tr. II, 6, 22). These maps were the most accurate and up-to-date cross check. (Tr. II, 22-23). The certification process was a month-long process, but the only thing that relates to the gas wells was cross-referencing the gas wells with the topographic map. (Tr. I, 235, Tr. II, 38-39). Topographic maps showed anything that could be seen in a flyover. (Tr. I, 234). The topographic map was used for many things and was more accurate than the old USGS maps. (Tr. II, 34). Harris did not introduce the topographic maps; he was just the first to use them to check for gas wells. (Tr. I, 234). Weaver never asked what the topographic maps were for; he just used them because they were used when he started at Respondent. (Tr. I, 234).

In this case, no one checked the accuracy of the county topographic map and it did not have the subject gas well either. (Tr. I, 235, Tr. II, 34). The topographic maps were not the "gold standard" for determining whether a well exists, but an additional resource used to locate wells. (Tr. II, 23). Sometimes the mine map had wells that the topographic map did not. (Tr. II, 23). MSHA never objected to the use of the topographical maps. (Tr. II, 23). However, he conceded that he never called MSHA to ask if they had objections and did not know if they knew. (Tr. II, 31). MSHA does not have requirements about the maps or files to use. (Tr. II, 31-32). In this case, the topographic map did not have the missing well on it, which Weaver learned when the well was intersected. (Tr. II, 23, 35). He did not know if others were missing. (Tr. I, 235).

The third check occurred, pursuant to company policy, when mining came within 1,000 feet of a gas well. (Tr. I, 243, Tr. II, 6). Respondent would resurvey the location to check that it was in the right place in the mine. (Tr. I, 243, Tr. II, 6).

The fourth check on the checklist was the state Division of Mines' survey of locations. (Tr. II, 6). The state would use the same maps the company used as they submitted certified maps to the state. (Tr. II, 7, 35). The state would not provide advance notice of these checks. (Tr. II, 7). On cross examination he conceded that the gas well was not on the maps they gave to the state, though it was on the earlier maps. (Tr. II, 35-36).

Weaver later learned that the Virginia Division of Mine, Minerals, and Energy also had the oil and gas well coordinates available to the public, but did not know of this at the time. (Tr. I, 231, Tr. II, 20-21, 30-31). He was not familiar with this "shape file" because he did not have it when he was in the department and had never inquired about other maps. (Tr. I, 231, Tr. II, 20). Weaver knew that gas and oil wells existed in Virginia, but he did not know their coordinates were available as a public record. (Tr. I, 231-232). He believed the shape file was a coordinate map that could be overlaid over Respondent's maps to show the location of all gas wells that the department has in its database. (Tr. II, 20). No one in the engineering department ever mentioned to him the shape file. (Tr. II, 20-21).

Further, Danny Price of D.R. Price certified a map after Weaver left, in December 2010. (Tr. II, 18). That map was two months before the accident. (Tr. II, 18). D.R. Price also did not discover the gas well was missing from the mine map. (Tr. II, 19). No one at D.R. Price ever mentioned that Weaver should get a copy of the shape file either. (Tr. II, 21-22)

Weaver had worked in places that were "like Swiss cheese" with gas wells and at Bailey they mined on top of an abandoned gas storage field. (Tr. I, 252-253). He knew what could happen if a well is cut into in an uncontrolled manner. (Tr. I, 253). He used the best data available to locate wells on the mine map. (Tr. I, 253). He had never before had a gas well go missing. (Tr. I, 254). They had people triple check gas wells when close so they knew how important they were. (Tr. I, 255).

The gas well should have been on the map, but somehow it was deleted. (Tr. I, 236, Tr. II, 38). A user name and password were required to access the computers containing the AutoCAD in the engineering department. (Tr. II, 10). All AutoCAD users in the engineering

department had access to the map and gas files without password protection. (Tr. I, 227, Tr. II, 9-10). This did not include the Secretary and an employee who generally worked outside. (Tr. II, 10). The mine maps were located in a locked folder on the server. (Tr. II, 10). Only one person could make changes to the AutoCAD at a time, once it was open others could only open it as a "read-only" file. (Tr. II, 10).

When Harris merged the maps some duplicate items in the files were deleted. (Tr. I, 224-225). They looked at the map afterward and it appeared unchanged. (Tr. I, 225). No safeguard was in place to ensure nothing was erroneously deleted. (Tr. I, 226). There may have already been safeguards in the AutoCAD. (Tr. I, 226). He was confident only duplicates were to be removed. (Tr. I, 226).

Further, the gas well files were in a totally separate file from the map files. (Tr. II, 13). That is why they did not check the merged files for gas wells. (Tr. II, 13-14). The gas wells are not a layer of the mine map, they are a separate file. (Tr. II, 14). To place the gas wells on the mine map, Weaver would use an application called "ex-reference" on the AutoCAD that would overlay the gas well files onto the mine map. (Tr. II, 14-15). If the gas wells were ex-referenced onto the mine map and someone accidentally pushed "delete," all of the gas wells from the "quadrangle file" would disappear. (Tr. II, 15-16). There were four or six quadrangle files for the mine map, so deleting would eliminate fifty or sixty wells. (Tr. II, 16). When Weaver certified the map it showed gas wells. (Tr. II, 24). It would have been obvious if a quad was turned off and gas wells were missing. (Tr. II, 25). Further, deleting these gas wells from the map would not delete the separate gas well file. (Tr. II, 17). The overlaid ex-referenced file could not be modified on the mine map. (Tr. II, 17). No modifications were made to the gas well files in the summer of 2008. (Tr. II, 29-30). Weaver knew this because they are certain files and Harris did not ask him anything about working on the well files. (Tr. II, 29-30).

It might take more mouse clicks to accidentally delete a gas well. (Tr. I, 227-228). Deleting this information would take several different steps. (Tr. II, 38). Someone would have to delete separate files that contained the gas well symbol, the number of the well, its date, the two-hundred foot radius, and the five-hundred foot radius. (Tr. I, 228, Tr. II, 38). If a gas well were deleted from the quad file it would be deleted. (Tr. II, 29). Weaver had a strict policy in place to prevent deletion of any wells, even preview wells, unless there was a letter from the company saying the area would not be used. (Tr. I, 254-255). There was no process to place a deleted well back on the map other than cross-referencing with the topographic map because no well had been deleted, until this one. (Tr. II, 39).

No one ever complained about the AutoCAD malfunctioning or deleting wells. (Tr. II, 32). Weaver never called AutoCAD to explain the situation or ask them to investigate. (Tr. II, 32). He did not know if anyone else did. (Tr. II, 32). Weaver was not involved in the investigation and did not know why the well was deleted. (Tr. I, 236, Tr. II, 32).

Weaver learned that Respondent intersected the gas well while working at the Coke plant. (Tr. II, 25, 230-231). He believed it was on the same day as the incident but could not recall how he got the news. (Tr. II, 25). When he heard, he drove the engineering office and got the maps out to try to determine what happened. (Tr. II, 255). He felt that it was terrible news and was

relieved that no one got hurt. (Tr. II, 25). Mining into a gas well could be catastrophic, including causing an explosion and fatalities. (Tr. II, 40). The most important function of the engineering department is to ensure all hazards are on the map; to ensure the safety of those at the mine. (Tr. II, 40). Everyone followed procedures after the incident and got out without injury. (Tr. II, 26). He did not know how it happened. (Tr. II, 26).

Weaver was not involved in the MSHA investigation and was not interviewed by Inspector Hughes. (Tr. II, 26). John Kegley from the company asked him a series of questions about the mine map and gas wells. (Tr. I, 230-231, Tr. II, 26, 40-41). He and Harris also looked at the old maps. (Tr. II, 26, 40-41). Weaver reviewed Bobby O'Quinn's "notes" (GX-12). (Tr. II, 41). Weaver did not agree with Weaver's conclusion that the well was accidentally deleted when the mine map was reduced from three files to one. (Tr. II, 42-43). He did not believe that O'Quinn took everything into account. (Tr. II, 43).

The Virginia Board of Professional Engineers has the authority to sanction Virginia engineers for negligence or gross negligence. (Tr. II, 22). Weaver has never been so sanctioned. (Tr. II, 22). Weaver did not know if the Board investigated this incident. (Tr. II, 22). He also did not know if anyone reported this incident to the Virginia Board of Engineering and did not report it himself. (Tr. II, 31).

c. Testimony of Herman Stacy Harris

At the time of the hearing, Herman Stacy Harris was employed in the engineering department of Jewell Smokeless, Respondent's parent company. (Tr. II, 45). He was hired as a mine plan specialist by Weaver in May 2008. (Tr. II, 46-47, 49, 61, 64). In that capacity he worked on mine, ventilation, and roof control plans, as well as maps. (Tr. II, 46). Before Dominion, he worked as an estimator for Cleco Corporation in Rosedale, Virginia. (Tr. II, 62).

Respondent's engineering department was responsible for both the 75.372 ventilation maps and the 75.1200 wall maps. (Tr. II, 46-47). Harris used AutoCAD and Microsoft Office for maps. (Tr. II, 47). Harris first took AutoCAD classes at Southwest Virginia Community College in 1992-93.[8] (Tr. II, 47, 63). He took four or five classes related to the program. (Tr. II, 63). This job was Harris' first using AutoCAD. (Tr. II, 47, 62). Prior to this, he had no mining experience and had not seen a mine map or mine plan. (Tr. II, 48-49). When he started with Respondent he was paired up with someone from the engineering department who had been there for several years to review and approve his work. (Tr. II, 62-63). He obtained a miner's card through the Safety Department. (Tr. II, 63-64).

Harris reviewed the December 2008 map (GX-11), which he helped certify. (Tr. II, 76). They began to prepare such a map about a month before it was due, perhaps in this case starting in October 2008. (Tr. II, 76-77, 81). They update older maps with new ventilation controls. (Tr. II, 77). They would take part of the map underground and take new air readings and consider

[8] He had an associate's degree in engineering from Southwest, a four-year degree from Bluefield State in civil engineering, and a master's degree from Virginia Tech in curriculum and instruction, specializing in distance learning. (Tr. II, 61).

anything that needed to be changed. (Tr. II, 77). The people underground then sent that information to the engineering department where they would put the new air readings on the mine map and make the corrections. (Tr. II, 77-78). Then they would use checklists (RX-1 and RX-2) to ensure that all of the CFR requirements were met. (Tr. II, 78). This process would include several people at the mine, the draftsman, and drafting personnel. (Tr. II, 78-79). Several copies would be reviewed and two or three checks would occur. (Tr. II, 79). At the end, Weaver would meticulously go over the checklist and map and then sign it. (Tr. II, 79-80).

Weaver signed the maps until he left, then Danny Price took over that responsibility. (Tr. II, 86). Price was also responsible for the underground survey for the mine maps. (Tr. II, 86). Price was a seasoned engineer who had done a lot of survey work in the county. (Tr. II, 87). Price used the same process of sending out maps with minor stylistic differences. (Tr. II, 87). Price died in fall of 2012. (Tr. II, 88). After Price, John Kegley certified the maps for a while and now Wayne Holley and Pat Atrip review the maps.[9] (Tr. II, 86-87).

The December 2008 map was covered in "yellow stick-ons." (Tr. II, 81). When MSHA reviews a map, they request changes and Harris marks those corrections so future maps will more accurately reflect what MSHA requires. (Tr. II, 82, 84). Respondent learns about these corrections during a two to three hour discussion with an inspector after the map is completed. (Tr. II, 83). Harris would later make the changes electronically. (Tr. II, 84). These meetings generally dealt with ventilation, but MSHA also had to be notified of all the wells. (Tr. II, 96-97). Harris conceded that MSHA did not have access to Respondent's well files and he did not know if they surveyed the wells. (Tr. II, 96). Harris was not aware of the process MSHA used to evaluate maps. (Tr. II, 97).

When Harris began working for Respondent, the mine files were large and divided into three separate documents. (Tr. II, 49-50, 64). The mine file included the works, ventilation, and the stoppings. (Tr. II, 64). Harris worked to combine these into one document during the summer of 2008. (Tr. II, 50-52). Weaver did not give a direct order to merge the files, but he was working on the project and wanted the files combined. (Tr. II, 50). As they worked, they installed new computers and upgraded the system to manage the larger file. (Tr. II, 50). Harris was the one responsible for combining the files. (Tr. II, 50). The task was not very large and it took about a day. (Tr. II, 50-51). Harris did not recall the computer malfunctioning during the process. (Tr. II, 51). During the merge, Harris did not believe anything duplicative was deleted; they were just combined together. (Tr. II, 51). He described the process as lining up three pieces of a puzzle to make one. (Tr. II, 51). After they combined the file they double-checked it. (Tr. II, 52-53). The gas wells were not part of the mine file; they were separate and not consolidated. (Tr. II, 64-65). The well files were only combined into one file after the accident. (Tr. II, 93). Before that, the gas well file was only altered by adding more gas wells. (Tr. II, 93).

The gas well at issue in this case was on the map certified in April 2008, but not on the next certified map in December 2008 or any map thereafter. (Tr. II, 53-54, 75). From December

[9] The court reporter's notes indicate that she was not positive if Wayne Holley and Pat Atrip were the correct names. I include the names as recorded because the record was not changed to reflect any correction.

2008 through February 2011 six 75.1200 maps were made. (Tr. II, 54-55). Harris cannot say how the well disappeared; he just knows that it was there in April and gone in December. (Tr. II, 88-89).

When Harris began to work on the December 2008 map, there were approximately 430 wells in the gas well file. (Tr. II, 66). There were about 8,000 gas wells at all the Dominion sites. (Tr. II, 66-67). To plot gas wells, well files must be "externally referenced" onto the map. (Tr. II, 65, 80). The gas wells were like an electronic transparency sheet or an animation cell. (Tr. II, 65-66). Generally, when someone using the AutoCAD presses "delete" with respect to a well, all of the wells disappear. (Tr. II, 80). "It's an all or none thing." (Tr. II, 80). Weaver was adamant regarding his policy that gas wells were not to be removed and that everything was to stay on the map. (Tr. II, 68-69, 94-95). However, the file was not password protected; anyone with AutoCAD privileges could access it. (Tr. II, 93-94, 104). It was possible to erase a well from the gas file, but to do so an AutoCAD user would also have to delete the barriers around it and the name. (Tr. II, 94-95). In order to highlight the multiple data points related to the gas well at once, a user would have to highlight all of the relevant data. (Tr. II, 95). Once a gas well was deleted, the data would be gone from the overlay and only exist on the topographic sheet. (Tr. II, 96).

The only thing cross-referenced against the December 2008 map during certification was the Buchanan County topographical map. (Tr. II, 56, 74). Respondent began using the topographic map when Harris started there. (Tr. II, 72). The topographic map for the area was called "H-11" and it was a grid that corresponded to Dominion 36 (RX-3). (Tr. II, 72-73). The map was used to check surface structures, creeks, and hollows. (Tr. II, 56-58, 72-73). He used the map to determine the amount of cover and, therefore, the size of pillars. (Tr. II, 73-74). Sometimes they would also survey the surface. (Tr. II, 57). Respondent's maps always had more wells than the County map because it had more data: preview locations, applications, and drilled wells. (Tr. II, 57-58). Sector H-11 did not show the well at issue. (Tr. II, 58, 74). A well would be marked with the word "well" and a black circle. (Tr. II, 74-75).

At hearing, Harris was aware that a "shape" file with gas well coordinates was available from the Division of Oil and Gas, but in 2008 he was not. (Tr. II, 55, 70). Price never mentioned this file, despite the fact that it surveyed wells for CNX. (Tr. II, 88). He learned about the file from Daniel Kessner, who works in Virginia's mapping department. (Tr. II, 70-71). The file can be downloaded, but it is not easy to access. (Tr. II, 55). There is no link on a website or an easy URL. (Tr. II, 55-56, 71). There is a long path that must be typed. (Tr. II, 56).

Harris learned there was an omission on the map when Roger Van Dyke called into the Vansant office and said he believed they hit a gas well. (Tr. II, 67). Harris immediately went to the engineering department to see what happened. (Tr. II, 67). He was surprised and shocked to find a gas well was omitted and was very concerned about the safety of those underground. (Tr. II, 67-68). He immediately checked to see where the well was located, if it was active, and if it was "a cover hole." (Tr. II, 68). The engineering department checked all 8,000 wells at 36, 26, 30, and the contract mines. (Tr. II, 69, 91). They did not find any more missing wells, though there was one in the well file that was not in the shape file. (Tr. II, 69, 71-72, 91). After the

accident, Respondent considered creating a program to proceed forward. (Tr. II, 58). Harris now also checks the shape file often to cross-reference it with his files. (Tr. II, 71).

Harris was familiar with Bobby O'Quinn's notes (GX-12). (Tr. II, 59). O'Quinn works in Harris' department. (Tr. II, 89). O'Quinn was part of the investigation of the gas well plotting. (Tr. II, 59). The investigation looked at the process of plotting gas wells, precautions to use going forward, and new procedures. (Tr. II, 59). O'Quinn looked to see how the well was deleted. (Tr. II, 59). O'Quinn's notes represent only his theories on the issue. (Tr. II, 59-60, 92). He disagreed with O'Quinn that the well was lost because of personnel changes. (Tr. II, 89, 92). He felt that all of the employees were well trained and had college courses on AutoCAD. (Tr. II, 90). Property engineer Mike Lewis' retirement in September 2008 did not cause the gas well to disappear. (Tr. II, 90). The new draftsman, John Mullins and Joe Rose, were both trained and went to vocational school. (Tr. II, 91). However, Harris was only expressing his opinion on O'Quinn's report; he did not investigate the gas well incident. (Tr. II, 92). Also, Harris never spoke with John Hughes regarding his investigation. (Tr. II, 104).

During the time Harris was in the engineering department, Respondent received citations for "inaccurate maps." (Tr. II, 97). However, he could not recall specifics. (Tr. II, 103). He also did not recall a 104(b) order for failing to submit accurate maps. (Tr. II, 103).

d. Testimony of Roger Van Dyke

At the time of the hearing Roger Van Dyke was employed in Jewell's engineering department. (Tr. II, 110). He had worked there for 32 years, including in 2008. (Tr. II, 111). He had used AutoCAD since it hit the market in 1988 or 1989. (Tr. II, 126). He has been working in mine mapping and surveying for about thirty years. (Tr. II, 126). The engineering department included chief engineer Weaver, Van Dyke, O'Quin, the property man, an environmental man, a draftsman, an environmental engineer, and Harris. (Tr. II, 112). Harris was hired in part because of his AutoCAD experience. (Tr. III, 112). He had no mining experience. (Tr. II, 112). Harris was one of the most computer literate people they could have hired and had worked at a construction company as a civil engineer. (Tr. II, 112).

Shortly after Harris came on board there was a project to update mine maps. (Tr. II, 112-113). They surveyed spads underground to ensure they were on line with the mining. (Tr. II, 113). They also had surface surveys to find and record cores, gas wells, and houses. (Tr. II, 113). Harris headed up the effort to combine the three AutoCAD mine map files into one. (Tr. II, 113). The gas wells were maintained on separate files at the time and were overlaid onto the mine maps. (Tr. II, 114). The mine maps did not have any gas wells on them. (Tr. II, 114).

Van Dyke expressed concerns about the file project to Weaver and Stacy. (Tr. II, 114-115). Van Dyke was friends with the people in the mine. (Tr. II, 115). He felt that given the sizes of the files that they needed to be careful. (Tr. II, 115). He believed that Weaver was a professional and worked through those concerns. (Tr. II, 115, 128). They were deliberate, did not rush, and checked on things. (Tr. II, 115, 127). He felt confident with the people on the project, their ethics, and their work habits. (Tr. II, 115-116). He also felt that Harris was the best AutoCAD user they could have. (Tr. II, 128).

Van Dyke was aware that Respondent mined into a gas well in 2011. (Tr. II, 111). He did not know why the well was deleted. (Tr. II, 118, 128-129). He had never experienced a situation when one well disappeared at any time before 2011. (Tr. II, 127). They did not believe a gas well would disappear because it had never happened before. (Tr. II, 127). At first he thought the well disappeared because the map files were on business computers that occasionally crashed. (Tr. II, 118-119). It was the policy of the engineering department that absolutely nothing was taken off the map. (Tr. II, 128). That was why the file was so big and why Van Dyke was concerned. (Tr. II, 128). He also noted that when something is deleted on a computer file, there is no record unless there is a backup. (Tr. II, 119). He does not know of any complaints people made about the computers or the AutoCAD or lawsuits. (Tr. II, 120).

The missing well was located on the April 2008 mine map. (Tr. II, 111, 120). There was no reason to cross check the April map with the December map as they were not mining in the same area. (Tr. II, 118, 120-122). Van Dyke conceded that if they compared those maps they probably would have seen the missing well and avoided the accident. (Tr. II, 121-122, 124). But even if they had compared the maps, the focus would have been on the future projections. (Tr. II, 125). They may have seen the issue on a five-year projection map, but it would depend on where the mining was projected. (Tr. II, 125-126). The well was also not on the aerial photography. (Tr. II, 118). They had no reason to do any checks beyond normal diligence. (Tr. II, 117-118).

The Virginia Division of Oil and Gas maintains information and coordinates about gas wells. (Tr. II, 116). This file is a spreadsheet that is entered into AutoCAD. (Tr. II, 120-121). When someone pushes "update," it will add in the wells automatically. (Tr. II, 121). If they had the access to the shape file in 2008, when they updated the map the well would have returned. (Tr. II, 121). Van Dyke did not know if they had this information in 2008. (Tr. II, 116). In his deposition Van Dyke said he was familiar with the shape file, but in fact he was talking about an incident in the 1990's where an engineer named Doug Mullins from the state came and scanned old mine maps and sent them to the state. (Tr. II, 116). His belief that he was aware of the shape file was a misunderstanding. (Tr. II, 116-117). If he had been aware of the shape file, the missing well would have been present and the hearing would not have occurred. (Tr. II, 117).

Intersecting a gas well can cause loss of life and catastrophic explosion. (Tr. II, 122, 127-128). Any wells in the vicinity of the mine are considered a danger and are not taken lightly. (Tr. II, 122-123). At the time of the hearing, Respondent would send surveyors to the surface with the projections to make sure they do not hit a gas well again. (Tr. II, 123). Van Dyke wishes they had done this at the time. (Tr. II, 123). When Van Dyke heard about the incident he was "pretty tore up" and "devastated" because the incident affected his job, his friends, and his community. (Tr. II, 126-128).

e. Testimony of John Hughes

At the time of the hearing Inspector John Hughes worked at the Vansant office of MSHA as a coal mine inspector, a position he held for about eight years. (Tr. II, 130). He was an authorized representative, meaning he could conduct inspections and investigations and cite

violations. (Tr. II, 130-131). MSHA has an extensive training program at the Beckley Mine Academy involving around two years of three-week modules. (Tr. II, 131). His training included mine accident investigations. (Tr. II, 160-161).

Before being hired by MSHA, Hughes worked in the mining industry from December 1991 through April 2005 as an underground miner. (Tr. II, 131). He was certified as a general mine foreman, electrician, emergency medical technician, hoist operator, shot firer, and solid blaster, but most of those certifications expired. (Tr. II, 132). He was a high school graduate and had never taken engineering or college courses and was not an engineer. (Tr. II, 153, 160). Engineering and map certification are not his areas of expertise. (Tr. II, 160).

In 2011, Hughes had conducted five to seven accident investigations. (Tr. II, 132). In February 2011 he was involved with the instant accident investigation. (Tr. II, 132). On the day of the incident, Hughes had been at another mine site and was called by Supervisor Donnie Phillips. (Tr. II, 133). Phillips requested Hughes get an emergency sampling kit (pumps, multi-gas detectors, and other items) and bring it to the mine site. (Tr. II, 133).

The first action MSHA took on site was to issue a K-Order and a 107(a) imminent danger Order. (Tr. II, 134). The 107(a) Order was issued because a foreman told the company that there was an 8.9% methane mixture; an amount in the explosive range. (Tr. II, 134). The explosive range is between five to 15 percent, with 10 being the most violent. (Tr. II, 134). A 103(k) Order is issued any time there is a reportable accident and constitutes a withdrawal order. (Tr. II, 134-135). The purpose of a K-Order is to secure the scene until MSHA investigates and makes the area safe. (Tr. II, 135). After Respondent struck the well they evacuated all 34 miners. (Tr. II, 133). The K-Order was modified many times after the company submitted action plans regarding how to re-enter the mine, return to the area where the accident occurred, resume production, and get the mine back to normal. (Tr. II, 136-137). These actions occur in steps approved by the district manager. (Tr. II, 137). The K-Order was terminated when the investigation was complete and the mine got back to normal. (Tr. II, 137).

When Hughes arrived at the mine, he met Phillips and Inspector Keith Ray, traveled to the West Virginia Portal, and set up a sampling station at the fan. (Tr. II, 133, 137-138, 169). The highest reading he found was one-tenth of one percent methane. (Tr. II, 170). The air reading at the portal was 197,400 CFM, which is normal. (Tr. II, 173). The velocity was 1,645 which is also normal. (Tr. II, 173). The oxygen was 20.4%, which is good. (Tr. II, 173-174). Respondent was not cited for the ventilation or for methane. (Tr. II, 174). He did not know the readings at the actual accident site, but no citations were issued for air at the face. (Tr. II, 170).

Hughes did not go underground to investigate the well but his supervisor, Dale Hess and Inspector Jason Skiens did so with company officials. (Tr. II, 143, 163). Hughes role in the investigation was to put a report together (GX-19) and issue the violations. (Tr. II, 134, 144). The report dealt with the facts surrounding the investigation, including the events and company information. (Tr. II, 144). It included a description of the accident and a conclusion on the cause of the accident. (Tr. II, 144).

Hughes began the investigation on March 2 by interviewing the miners present on the section during the accident. (Tr. II, 138, 141-142). He interviewed seven people including James Stacy, Kevin Stiltner, Brian Cyphers, Robert Clark, Jeff Helbert, and Craig Stollings. (Tr. II, 140). The miners were interviewed in the bathhouse with company representatives Greg Ratliff, Allen Hilbert, and J.P. Richardson present. (Tr. II, 140-141). The interviews were recorded and he reviewed them for the hearing. (Tr. II, 142-143).

In the interviews, Hughes learned the miners were cutting into the number four heading and cut into an active gas well releasing 8.9% methane, as observed by the miner's methane monitor. (Tr. II, 142, 172). Hughes did not believe that the monitor would be in default at 8.9%. (Tr. II, 164-165). The miner operator stated that the miner shut down after the ripper heads struck the pipe and was thrown back. (Tr. II, 142, 152). Hughes had no reason to disbelieve the miners when they said it gassed off, but he did not see it occur. (Tr. II, 171-172). The miner was supposed to shut down at 1.5% methane. (Tr. II, 170-171). The regulations state 2.0%, but most mines set it at 1.5%. (Tr. II, 171). Hughes did not look at the calibration readings or review the miners' owner's manual, and he was not familiar with the manufacturers specifications for the miner, but he was familiar the methane monitor.[10] (Tr. II, 164-166). Hughes made no attempt to understand how the monitor worked. (Tr. II, 166-167).

In addition to the miner, James Stacy reported an 8.5% methane reading. (Tr. II, 142). Clark also saw his hand-held detector go off. (Tr. II, 142). After the readings, the crew then immediately and properly evacuated the area. (Tr. II, 172). MHSA then evacuated the mine and started the investigation. (Tr. II, 172).

Hughes assumed the continuous miner sprayed water, but none of the miners said so in the interviews and he did not ask. (Tr. II, 177). Someone, probably Clark, stated that the well casing produced water when it was cut into and sprayed. (Tr. II, 177-178).

The well had three pipes, an 11-inch pipe, a 7-inch pipe, and a 3-inch pipe, all of which were metal. (Tr. II, 151-152). The teeth on the miner were also metal and cut through the two outer casings and scratched the inner casing. (Tr. II, 152). He saw the well casings in photographs but not in person. (Tr. II, 164).

On cross examination, Hughes conceded that part of accident investigation is speaking to all parties that may have relevant knowledge. (Tr. II, 161). In his March 7, 2011 notes, Hughes wrote "the operator failed to establish policies, practices, or procedures that would keep track of the gas well." (Tr. II, 176). He determined this without talking to the engineers; it was obvious because an accident occurred. (Tr. II, 162, 176). There was no relevant information to gather from the engineers as the facts were known. (Tr. II, 162). He also did not interview the engineers because he would not have understood what they said about the AutoCAD. (Tr. II, 161-163). Further, a policy that prevented intentional deletion of the wells would not be a

[10] Hughes was ambivalent about whether he had read the manual for the methane monitor, first saying he had done so and then saying he had not. (Tr. II, 165). He then conceded he was not sure what type of monitoring system the miner used. (Tr. II, 165).

mitigating factor. (Tr. II, 176-177).

Hughes also reviewed the 372 and 1200 maps Respondent filed with MSHA as part the investigation. (Tr. II, 141). The maps showed that the well went missing from the operator's records in 2008 and were present on the map as early as 1994. (Tr. II, 143). Hughes interviewed Superintendent Rick Lawson and Foreman Allen Hilbert and they were unaware the well was deleted. (Tr. II, 169). Respondent's employees were surprised it was missing. (Tr. II, 169). However, Hughes did not believe it was his job to find out how the well was deleted. (Tr. II, 178-179). Nothing in Hughes' investigation changed the fact that Respondent mined into a gas well. (Tr. II, 179). "I can say, sitting her two years later, that the company don't know how they lost the thing. And that worries me more than me knowing." (Tr. II, 168).

As a result of this investigation, and the fact that the company was already on the "D-Sequence," three D-Orders were issued.[11] (Tr. II, 144-145). Order No. 8179158 was issued for failure to maintain a three-hundred-foot barrier around the gas well. (Tr. II, 145-146, 149-150). MSHA requires these barriers to keep miners away from the methane. (Tr. II, 150). Operators could petition the district manager under Section 101(c) to mine closer if the method was as safe as a barrier. (Tr. II, 150-151). That was not done here before Respondent mined into the well. (Tr. II, 151). The Order was marked as "highly likely" to occur before the operator could abate because it was a miracle that 34 men were not killed. (Tr. II, 146). The Order was marked "fatal" because a machine cutting into a gas well would likely cause a fatal explosion or irrespirable condition. (Tr. II, 146-147). However, he conceded there was no ignition here. (Tr. II, 172-173). The Order was marked as "highly negligent." (Tr. II, 147).

Order No. 8179159 was issued for the failure to include the gas well on the 1200 map. (Tr. II, 147-148). The 1200 is the wall map that is updated daily or after every shift. (Tr. II, 148). This map was certified and submitted to MSHA. (Tr. II, 148). Hughes marked this citation as Highly Likely, Fatal, S&S, and high negligence for the same reasons as Order No. 8179158. (Tr. II, 148). Section 75.1700 of the regulations requires that operators locate, track, and map gas wells on the wall map. (Tr. II, 149).

Order No. 8179160 was issued for the failure to include the gas well on the 372 ventilation map. (Tr. II, 148-149). The 372 map is made pursuant to a newer regulation and requires more information than the 1200 map. (Tr. II, 149). Hughes marked the citation's gravity and negligence the same as the other citations. (Tr. II, 149).

Hughes issued the Orders as "high" negligence without input from MSHA. (Tr. II, 162-163). MSHA knew what he would issue, but he was not ordered to issue anything. (Tr. II, 163).

[11]The D-Sequence occurs when there has been a violation of a mandatory standard that is S&S and an unwarrantable failure. (Tr. II, 145). The first issuance is a d(1) Citation and if the company goes 90 days without another D issuance, then the D-Sequence ends. (Tr. II, 145). If they get a d(1) Order in conjunction with the (d)(1) Citation, then there must be a clean inspection before the mine comes off the D-Sequence. (Tr. II, 145). From February 11 to February 24 there had been three D-Orders at the mine, placing the company on the D-Sequence. (Tr. II, 145).

Hughes believed Respondent had plenty of reasons to know the violation of the mine map standard occurred. (Tr. II, 167). He did not know of anyone who had specific knowledge of the condition, but management was responsible for safety and for keeping the map up to date and the wells tracked. (Tr. II, 167-168). He conceded that that he did not have any idea of the practices and procedures of the engineering department in certifying maps. (Tr. II, 168).

The unwarrantable failure designations were not just because the well was missing, but because the careless tracking of the well could have led to deaths. (Tr. II, 174-175). Further, the projections were sent in without the well. (Tr. II, 175). The operator did not have a fail-safe system to keep the well on the map. (Tr. II, 175). There is nothing more important at the mine site than to map wells and prevent intersections. (Tr. II, 175).

f. Testimony of Gary Hartsog[12]

Gary Hartsog attended Woodrow Wilson High School and West Virginia University. (Tr. III, 12). He received a bachelor's degree in elementary education in 1976, a bachelor's degree in mining engineering in 1979, a master's degree in mining engineering in 1985, and a master's degree in business administration in 2005. (Tr. III, 12-13). Hartsog became a professional engineer in 1984 in West Virginia. (Tr. III, 14). He passed the mining engineering examination on his first attempt. (Tr. III, 14-15). He has since been certified in 11 other states. (Tr. III, 14). He is a professional surveyor with an underground endorsement. (Tr. III, 14).

Hartsog began his mining career in May of 1976 as a surveyor (or "rodman"). (Tr. III, 13). He also performed drafting and preparation of maps and checks surveys. (Tr. III, 13). From 1976 to 1987 he worked for Eastern Associated Coal Corporation. (Tr. III, 13). He then worked for Peabody from 1987-1991 when it acquired Eastern Associated. (Tr. III, 13). During that time he worked as a rodman, draftsman, mining engineer, division safety inspector, division engineer, chief engineer at a coal mine, and general troubleshooter. (Tr. III, 13).

In September, 1991 Hartsog resigned from Peabody to start Alpha Engineering, a consulting engineering firm that provides engineering services. (Tr. III, 13-14). Hartsog was the owner of Alpha Engineering at the time of the hearing. (Tr. III, 14). Alpha mostly provides services in the coal industry but not exclusively. (Tr. III, 14). When Alpha opened, Hartsog was the only employee but by the time of the hearing it employed 14 people. (Tr. III, 19). There were two other professional engineers and one professional surveyor. (Tr. III, 19). Alpha currently does some work for Respondent. (Tr. III, 134). They work for the same engineering department that is at issue in the proceeding. (Tr. III, 135).

Hartsog certified his first mine map in 1984 and that process has remained an important part of his work in all of the position he has held since. (Tr. III, 15). At the time of the hearing Hartsog would certify anywhere from six to fifty maps per year. (Tr. III, 15). He routinely certified 75.1200 maps for clients. (Tr. III, 15-16, 91).

[12] Hartsog was accepted as an expert witness, with the caveat that his testimony was not dispositive to be considered as an expert. (Tr. III, 19).

In 1980 Hartsog began plugging and mining through gas wells. (Tr. III, 16). He helped write the first 101(c) petition for multiple gas well cut throughs, a petition that is now a template. (Tr. III, 16). He has also searched for wells, done well audits, located wells on the surface, and plugged them underground after accidental intersections. (Tr. III, 16). There are between 70-80,000 gas wells in Virginia and hundreds of thousands in West Virginia. (Tr. III, 16-17). Hartsog researched Virginia gas wells while preparing for professional seminars. (Tr. III, 17). One section of his seminar discusses searching for and finding gas wells, different ways of mapping wells, different ways to permit, and different ways to treat gas wells. (Tr. III, 17).

Hartsog was first exposed to AutoCAD between 1988 and 1990. (Tr. III, 17). When he started Alpha, one of his first steps was to buy "generic CAD," a less expensive program, and begin a tutorial. (Tr. III, 17-18). Over the years he purchased AutoCAD and ServeCAD (which is specific for mining) and used them daily. (Tr. III 18).

Hartsog had been an expert witness three or four times in the four years before the hearing and 15-20 times in the last twenty years. (Tr. III, 132-133). He had helped with the investigations at Aracoma, Upper Big Branch, and Sago. (Tr. III, 133). He "mostly" testified for the coal companies, occasionally machinery or land companies. (Tr. III, 133). He sometimes agreed with the regulatory agency, but he was not sure how many times. (Tr. III, 134). Once he takes a position in opposition to a client, they tend not to call him as an expert. (Tr. III, 134).

Respondent's counsel retained Hartsog to review company records and give an opinion regarding the law and practice and write a report (RX-5). (Tr. III, 20-23). Hartsog listed the items he reviewed in Appendix X. (Tr. III, 20-21). After he wrote his report, he spoke with people involved in the incident and searched the State website for well sites. (Tr. III, 20-21). He spoke with Foreman Shortridge and people in the engineering department, specifically Van Dyke, Weaver, and Lacy. (Tr. III, 21). Lacy was very familiar with the continuous miner monitors. (Tr. III, 21). Hartsog also reviewed the MSHA investigative record, some additional notes and documents. (Tr. III, 22). He also listened to the testimony in the courtroom. (Tr. III, 22).

In his investigation, Hartsog learned that as the miner moved into place for its first cut, it hit a pipe which turned out to be outer casings of a gas well. (Tr. III, 23). The danger of mining into a gas well is a release of water or methane, though water is usually limited. (Tr. III, 100). The foreman and the miner operator were standing next to one another and miner operator was the first to realize they hit something. (Tr. III, 27). There was a considerable amount of water released and some methane detected. (Tr. III, 23). The miner shut down as it was designed to do but the monitor stayed on. (Tr. III, 23, 28). When the monitors started to sound, the foreman immediately gathered people on the section together, shut down the power, and evacuated the area. (Tr. III, 23, 27-28, 127-128). The mine did everything by the book. (Tr. III, 28). MSHA did not allege that the company acted improperly after the accident. (Tr. III, 132).

A monitor is a device that is designed to shut a machine down if it reaches a certain level of methane. (Tr. III, 29). Monitors are designed to give a warning at one percent and then shut down the miner at two percent, but Respondent's miner was set to shut down at 1.5%. (Tr. III, 29-30). Hartsog was not sure if the miner here shut down because there was 1.5% methane or

because the monitor was completely underwater. (Tr. III, 30, 127). However, several handheld monitors went off for some reason other than water. (Tr. III, 127). It could have been methane or some other, possibly explosive, property in the natural gas. (Tr. III, 127). Hartsog did not agree with Hughes that there was an "inundation" of methane. (Tr. III, 31). He believed there was some methane, as shown by the monitors, but it was immediately diluted and rendered harmless and the inundation prevent worked correctly. (Tr. III, 31-32, 127, 129).

According to the foreman there was more than enough air on the section. (Tr. III, 29). The MSHA inspector's notes listed 6,300 CFM, which is about 2,000 CFM more than required. (Tr. III, 29). There was curtain in the area that directed air to the last open break where they were mining. (Tr. III, 30). This was correct under the ventilation plan. (Tr. III, 30-31).

The shuttle car operator was 70 feet away and said his methane monitor showed 8.9%. (Tr. III, 28, 39). Stiltner stated that he saw an 8.9% reading but could not say whether it was flashing or if there was an indicator light. (Tr. III, 128). This is the only first-hand reading in this case. (Tr. III, 129). The explosive level of methane is between 5-15%. (Tr. III, 104, 128). However, Hartsog did not believe there was an 8.9% reading of methane at the site. (Tr. III, 33). While he believes that the miner saw "8.9%" on the display, the machine is not designed to detect levels of methane above 2.5%. (Tr. II, 38, 128). It is not calibrated for higher amounts and is not accurate to read them.[13] (Tr. III, 38, 42, 103). The monitor may show a number over 5%, but may not be accurate. (Tr. III, 102-103). It is possible, but very unlikely, that the monitor could read 8.9% methane accurately. (Tr. III, 103, 105). When he stated it could read this amount in his deposition he was mistaken, he later learned it was very unlikely. (Tr. III, 107). He conceded that there was no proof it could read this amount because he did not run tests. (Tr. III, 107).

Methane levels greater than 5% will start to burn the sensor. (Tr. III, 38). Further, water will short out the monitor and Shortridge stated that water splashed into the spotter. (Tr. III, 33, 39). Finally, a monitor tests the air by burning a small amount of it and if there is ethane, propone, or butane present, the gas will burn hotter and give false high methane readings. (Tr. III, 38-39).

Hartsog reviewed the owner's manual for the 140B remote methane monitoring system (RX-6). (Tr. III, 34). Page 2, under "Digital Readout," states, "The digital readout will continue to show increasing methane concentrations up to about five percent, at which point both digits will begin flashing on and off. The flashing will continue as long as the methane concentration remains above five." (Tr. (III, 40, 104). It also says a yellow light comes on at 1% and a red light at 2%. (Tr. III, 40-41). Page 3 under troubleshooting lists several displays that indicate re-calibration is necessary. (Tr. III, 41-42).

The volume of methane necessary to show 8.9% would be 140 cubic feet (0.089

[13] A monitor is calibrating by setting it at zero with no methane and then taking a known calibration of gas, which in this case was 2.5%, and put a cup over the top of the monitor head. (Tr. III, 42-43). This gives a span of 0-2.5%. (Tr. II, 43).

multiplied by 6,300 CFM).[14] (Tr. III, 43). Hartsog did not believe there was never anything close to that here. (Tr. III, 43). There was no definitive and reliable reading of methane being that high. (Tr. III, 43-44). They just know there was some level over 1% for some period of time, because several personal monitors went off. (Tr. III, 44). When asked if they had higher readings, the miners either did not know or did not look. (Tr. III, 44).

Hughes testified that Jamie Stacy, the miner operator, said he saw an 8.5% reading on the continuous miner. (Tr. III, 39, 105-106). Hartsog had never heard anything about this until Hughes' testimony. (Tr. III, 39, 128-129). Hughes interviewed all the miners on the section and taped the interviews. (Tr. III, 106). Hartsog had read Hughes notes and they only indicated the numbers from the shuttle car. (Tr. III, 40). However, he conceded that he did not listen to the entire recording of Hughes' interview with Stacy. (Tr. III, 106-107). Hughes notes did not mention the 8.5% amount. (Tr. III, 106).

There were two readings after the incident, a 0% reading with a legal check and a 0.2% reading against the pipe. (Tr. III, 130). Hartsog reviewed Keith Ray's inspection notes from February 24, 2011 and on page 10 those notes state, "Talked to J.P. Richardson, He informed me that he had just come from the gas well site. He stated the well was still producing CH4 at low pressure, at ninety-eight percent pure methane. Left mine property and returned to office." (Tr. III, 130-131). Hartsog knew the well was still producing methane when he wrote his report. (Tr. III, 131). These notes show that it was producing as late as 6:00 p.m. on the 24th, long after the accident occurred, but he does not know if it was after Respondent asked the gas company to turn off the well. (Tr. III, 131, 135). Hartsog never interviewed J.P. Richardson, but he gave no credence to that percentage as to what the well was actually producing. (Tr. III, 131). Generally, it is hard to say what the constituent parts of a particular gas are and 98% methane would be very high considering it was natural gas. (Tr. III, 135-136). Further, that percentage of methane was alleged to be in the production string, which was not breached. (Tr. III, 136).

According to a document found at page 3 of Hartsog's report, the well was drilled in 1957 and went down roughly 5,000 feet. (Tr. III, 23-24). The well had multiple casings, three of the casings went through the coal seam, and two stopped above the coal seam. (Tr. III, 24, 100). The casings are designed to provide a warning. (Tr. III, 100). The annulus, or open area between the casing and the hole, was filled with ground water that came out when the well was intersected. (Tr. III, 26, 105). This is typical for a drilled well in 1957. (Tr. III, 26). He did not know how much water came out. (Tr. III, 104-105). Shortridge said the water came out over the boom of the miner and the foreman, fifteen feet away, said it came out of the well. (Tr. III, 105). State gas well production statistics showed that the well produced 25-CFM of gas, which is very low. (Tr. III, 25). A typical well produces 1-2,000 CFM. (Tr. III, 25). However when the well disappeared and when it was struck, they did not know the production statistics. (Tr. III, 124).

The cut through did not intersect the production stream. (Tr. III, 25). Hartsog first believed that the continuous miner had cut through two casings and left two uncut, however, he

[14] The formula suggested by Hartsog in his testimony is unclear. The equation 0.089 X 6,300 equals 560.7, not 140. However, it is not clear if there are additional variables that he did not discuss in his brief testimony on this matter.

later learned that there were two casings cut and the production string was scratched but not cut. (Tr. III, 25-27, 131-132). Because the production string was not breached, the methane came from the coal seam and from the natural gas formations below. (Tr. III, 32). Coal-bed methane is more pure than natural gas methane and the two kinds can affect spotters differently. (Tr. III, 32-33). Natural gas methane will have ethane, propone, or butane in it. (Tr. III, 32-33).

During his investigation, Hartsog spoke with Weaver about Weaver's methods, concerns, background, past, time as chief engineer, mining experience, hiring, and goals. (Tr. III, 44-45). Hartsog often performs the same tasks as Weaver, including certifying maps. (Tr. III, 46). In order to certify a map a signature and stamp are affixed. (Tr. III, 46). Competent engineers, including Weaver, take this task seriously. (Tr. III, 46). No map is perfect and they often rely on the maps certified earlier by other engineers. (Tr. III, 46-47). Hartsog worked at several old mines and relied on work done a hundred years in the past. (Tr. III, 74-75). Hartsog has found errors on maps that he has certified. (Tr. III, 76).

Hartsog spoke with and sat in on the testimony of Harris, Van Dyke, and Weaver. (Tr. III, 77-78). He felt he had a good understanding of the process they engaged in before certifying the December 2008 map. (Tr. III, 78). The process that Weaver used is typical and done in the way that Hartsog teaches in seminars. (Tr. III, 78). They printed out a map and went over it, they put airways in color, they checked stoppings, and they sent it to the mine to check at the actual sites. (Tr. III, 78-79). Respondent used USGS quad sheets to "ex-reference" well information and never had any problems. (Tr. III, 79-80). The use of the topographical maps as a point of reference was also a good practice to double check surface features like wells, structures, and creeks. (Tr. III, 81-82, 122). The topographic map was accurate, though not for all gas wells. (Tr. III, 123).

However, somewhere between April and October 2008 one of the wells disappeared or was deleted. (Tr. III, 80, 108). The gas well was on the map when Weaver took over the engineering department. (Tr. III, 107-108). The December 2008 mine map was never checked against an old map to ensure all the gas wells were on it. (Tr. III, 121). It is not typical to double-check map items every six months; they only double-check the new information. (Tr. III, 80-81). Respondent had information from the State of Virginia and updated the map as they learned of wells. (Tr. III, 121). Weaver, Harris, and Van Dyke all testified that they did not know about the shape file. (Tr. III, 122). Respondent's methodology in preparing their maps seemed sound. (Tr. III, 69). At some point Respondent had double-checked a map against an old map but Hartsog did not know when or what map was used. (Tr. III, 123-124).

Originally gas well numbering was conducted by the state but in the 1970s the USGS created a national system. (Tr. III, 136-137). That system is called API, but Hartsog did not know what that stood for. (Tr. III, 137). The API number has a two-digit number indicating the state, a three-digit number for the county or jurisdiction, and a serial number. (Tr. III, 137). The December map did not have the API number, it had company numbers. (Tr. III, 138). Hartsog crossed referenced the map with other information to get the missing well's API number: 2559. (Tr. III, 138-139). Hartsog believed that the number for this well would be in a filing cabinet or record. (Tr. III, 139). In the old days there would have been a record for each of the 420 wells in the file cabinet, but Hartsog did not ask about it. (Tr. III, 140). Any mining company that

Hartsog had would have some written form of record for the gas wells on the property. (Tr. III, 140-141).

Hartsog spoke with Respondent's engineering department regarding their experience with AutoCAD and Harris was very experienced. (Tr. III, 67-68). Harris told Hartsog he used AutoCAD as a tool in bridge estimates, which is difficult and tedious. (Tr. III, 68-69).

The AutoCAD allows an engineer to work faster and be more precise, but it also allows little details like stoppings and arrows to disappear or move. (Tr. III, 47). It is a great program but it is very complex and this can create problems. (Tr. III, 66). It is helpful to have multiple people working on a map and looking at it. (Tr. III, 48). Often, the makers of AutoCAD and SurvCAD do not fix a problem when there are complaints, but instead patch it on the next software update. (Tr. III, 66-67). An AutoCAD customer does not purchase the software but instead a license. (Tr. III, 115). The licensing agreement will include a "hold-harmless" provision making a law suit difficult and so AutoCAD is used at your own risk. (Tr. III, 67, 116). AutoCAD does not have meaningful competition. (Tr. III, 67). There is no set standard for mine mapping the United States; it varies by company and region. (Tr. III, 67).

Hartsog believed the issue arose because Weaver never removed wells, even wells that were proposed but never drilled, so the map looked very cluttered with things not present. (Tr. III, 69-70, 112). No one deletes drilled wells, but this policy addressed more and sought to avoid accidentally removing a drilled well. (Tr. III, 112-114). Some companies will remove well permits that are rescinded or abandoned, but Respondent does not. (Tr. III, 114). Hartsog believed there were two possible reasons why the gas well disappeared. (Tr. III, 70-71). One is that is was accidentally erased. (Tr. III, 71,110). He believed this was unlikely because it would take several keystrokes and people are trained not to do it. (Tr. III, 71, 110).

The second possibility is that there was a glitch or file malfunction with the AutoCAD. (Tr. III, 71,110). Usually when there is a malfunction with AutoCAD it is caused by a corrupted file. (Tr. III, 71). A corrupted file can sometimes be corrected, but Hartsog did not know if Respondent tried. (Tr. III, 71). In his twenty years of experience, sometimes things happen with AutoCAD that cannot be explained. (Tr. III, 71). However, he had no evidence of any particular incident with the AutoCAD here. (Tr. III, 109-110). He did not believe anything malicious occurred. (Tr. III, 71-72). However, Hartsog did not know what happened to the well, he just knows it was deleted. (Tr. III, 109). Further, he did not say that AutoCAD malfunction was highly likely to be the cause; it could have been something else. (Tr. III, 111-112).

Hartsog had seen the O'Quinn's investigation but could not remember if O'Quinn stated the well was accidentally deleted and he did not speak with O'Quinn. (Tr. III, 114-115).

The Mine Act is a strict liability statute and Respondent could/should be issued a 75.1700 citation. (Tr. III, 101-102, 124). Hartsog dealt with 30 CFR Part 75 on a daily basis and was familiar with 75.1700, a basic mine mapping regulation. (Tr. III, 91). It requires that reasonable measures be taken to locate the gas wells and that a barrier be placed around the well of 300 feet. (Tr. III, 92). Reasonable efforts were made to locate the well, because they found it, probably based on a survey. (Tr. III, 92). However, they did not provide a barrier and the well was not on the mine map after April 2009. (Tr. III, 92, 102).

Sections 75.1200 requires a mine map and 75.372 requires a ventilation map. (Tr. III, 94). The ventilation map is almost identical to the mine map but requires more detailed information regarding ventilation and mine evacuation. (Tr. III, 94). Section 75.372(c) states "the mine map required by 75.1200 may be used to satisfy the requirements for the ventilation map, provided all the information required by this section is contained by the map." (Tr. III, 95). The well was not on the ventilation map after April 2009. (Tr. III, 102).

No violations were issued for ventilation or for the miner malfunctioning. (Tr. III, 132).

Hartsog reviewed an article by Joshua Kardon, SE, presented at the OEC International Conference on Ethics in Engineering and Computer Science in March 1999 (RX-7). (Tr. III, 72). The second paragraph of that article states, "[t]he fact that an engineer makes a mistake that causes injury or damage, is not sufficient to lead to professional liability on the part of an engineer." (Tr. III, 73). Further, "[w]hen one hires an engineer, one accepts the risk, and the liability of the professional making a mistake similar to mistakes other normally competent engineers make, using reasonable diligence and their best judgment." (Tr. III, 73).

The article also notes that the local practices are part of reasonable care. (Tr. III, 73-74). It states, "[s]tandard of care is not a fixed standard in the way of other standards, such as standards for sampling and testing concrete. The standard of care of engineers varies with time, locale, and circumstances, and depends on the specific practice being examined." (Tr. II, 77). Hartsog practices in Virginia and the greater Appalachian Region. (Tr. III, 74). To certify a map in Virginia, an engineer signs, "I the undersigned, hereby certify this map is correct and shows all the information to the best of my knowledge and belief required by the laws of this state." (Tr. III, 75). An engineer relies on his best knowledge and belief because he is relying on his work, the work of others, and there is an understanding that he is "duplicating." (Tr. III, 75-76). Unless an engineer has reason to believe something is wrong, it is proper to certify. (Tr. III, 76). If there is reason to believe something is wrong, then it must be checked. (Tr. III, 76).

As a professional engineer, Hartsog did not believe that there was high negligence in this case. (Tr. III, 83, 118). The mine map is probably the single most important document at the mine. (Tr. III, 119). Respondent exercised considerable care in the preparation of the maps. (Tr. III, 119). There are many steps in making a mine map and there was a huge amount of data to use. (Tr. III, 83). Certifying mine maps is an ongoing process and he believed that Respondent's engineering department were constantly working, not just on gas wells but on workings, ventilation, environmental concerns, roof control, and abandoned mines. (Tr. III, 83). He has not learned anything that is troubling about Respondent's conduct. (Tr. III, 118). The information he had when he made his report, and what he has learned since, indicates that Respondent followed the standard of care. (Tr. III, 119-120). That includes the "work that was done" on the map in 2008. (Tr. III, 119-120). Hartsog read Van Dyke's deposition about his concerns regarding the file update. (Tr. III, 120-121). However, he never spoke to Van Dyke before issuing the report. (Tr. III, 121).

Hartsog's opinion that Respondent behaved properly may have been different if there had been an explosion. (Tr. III, 124-125). It would be the first such explosion and he would have to

re-analyze the situation, but he did not know how his opinion would differ. (Tr. III, 125). He conceded that if an explosion had occurred, Respondent's conduct would not have been any different. (Tr. III, 125). Other factors, including the number of persons affected and the fatality level, would change and he would have to analyze those changes. (Tr. III, 125-126).

Price Engineering was established for many years in the area and has worked in mining and civil engineering. (Tr. III, 84). They had a good professional reputation. (Tr. III, 84, 116-117). In fact, Price went to some of Hartsog's seminars in the early 2000s. (Tr. III, 84). Price Engineering is headquartered locally in Honaker, Virginia and has 20 years of experience in the region. (Tr. III, 84, 117). The map certified by Price did not have the gas well. (Tr. III, 117). The fact that Price did not notice the well was missing does not excuse it. (Tr. III, 117). It simply shows that two different registered engineers did not catch the problem. (Tr. III, 117). "[I]t's a little disturbing to me that he didn't catch it. I wish he had." (Tr. III, 117).

Hartsog would not agree that mining into a well is "very, very dangerous." (Tr. III, 100-101). It is not the most dangerous thing that could happen in a mine, roof conditions can be more dangerous. (Tr. III, 101). He looked at other mines where similar events occurred. (Tr. III, 85). In December 2004 Newtown Energy mined into a gas well at Coalburg No. 1 Mine in Kanawha County, West Virginia. (Tr. III, 85). A week later they struck another well in the same mine. (Tr. III, 85). MSHA shut the mine down and ordered an audit. (Tr. III, 85). Alpha was hired to do that audit and MSHA relied on that audit, even citing it in the K-Order, in allowing the mine to get back to work. (Tr. III, 85-86). In that case the CAD operator had simply failed to put a new well permit on the map. (Tr. III, 86). Hartsog also reviewed MSHA's website and spoke with "old hands" and no one could recall an incident in which there was an ignition or explosion from intersecting a gas well. (Tr. III, 88, 101). However, an ignition is always a possibility when mining. (Tr. III, 101). The miner bit and the pipe were both steel, which may have created sparks. (Tr. III, 126-127). Intersecting a gas well is common. (Tr. III, 88). However, he did not believe it was "minor thing" or that losing one well among many was "no big deal." (Tr. III, 107-108). The number of wells is no excuse; they should have mapped them. (Tr. III, 108-109).

Hartsog did not believe that this event was likely to cause the death of 10 people. (Tr. III, 89). This is because the production of the gas well was not touched and there were precautions in place and no inundation or ignition was likely. (Tr. III, 89). In reaching this conclusion he relied on the airflow, the production of the well, the observations of the people, and the instruments immediately after the occurrence. (Tr. III, 89). The investigators only found 0.2% methane when they returned to the mine and the legal check showed 0.0% methane. (Tr. III, 89-90). Further he relied on the fact that people observed water in the area. (Tr. III, 90).

The conclusions in Hartsog's report represent a reasonable degree of professional engineering certainty. (Tr. III, 98-99). He would not have given an opinion that did not reflect that level of certainty.[15] (Tr. III, 99).

[15] In making his report, Hartsog had a copy of the February 2012 AutoCAD form. (Tr. III, 48). He produced an aid with that file to show how the maps form together (RX-8). (Tr. III, 55). The first map shows the gas wells in yellow (except for the struck well in blue one). (Tr. III, 55). There were around 420-430 wells in the mine footprint. (Tr. III, 55-56). The second maps

g. Rebuttal Testimony of David Steffey

At the time of the hearing Dave Steffey was a mining engineer for MSHA, a position he held since June 1, 2005. (Tr. III, 148-149). He received bachelor's degrees in biology (1995) and mining engineering (1999) from the University of Kentucky . (Tr. III, 149). In 1999 he also received an "environmental option," a specialized program beyond the mining engineering degree. (Tr. III, 149-150). It included classes in chemistry and engineering and labs on microbiology and ecology. (Tr. III, 150). The engineering classes included maps, minerals processing. (Tr. III, 150).

Steffey started at Massey Energy as a summer student, went to Marshall Miller as a summer student, and then worked there full-time after college. (Tr. III, 160-161). He worked there for five months, but was not a licensed professional engineer. (Tr. III, 161). He then went to Sidney Coal Company for about three-and-a-half years, but not as a licensed professional engineer. (Tr. III, 161). He then worked for the Kentucky Division of Mines, but not as a licensed professional engineer. (Tr. III, 161-162). In that position he did some engineering tasks, like reviewing mine permits and permits for slurry impoundments. (Tr. III, 162). He did so under the supervision of a licensed professional engineer. (Tr. III, 162).

A professional engineer is someone who completed a degree in engineering, typically from an ABET (Accreditation Board of Engineering) accredited school. (Tr. III, 151). There is also an exam on the fundamentals of engineering and a four year apprenticeship under a professional engineer. (Tr. III, 151). Finally, there is a professional engineer's exam. (Tr. III, 151-152). He started with MSHA as a Mining Engineer during the UBB investigation before he was a licensed professional engineer. (Tr. III, 162-165). "Mining Engineer" was an MSHA title for people with degrees in mining engineering. (Tr. III, 162-163). He was not a licensed professional engineer or surveyor in Virginia. (Tr. III, 165-166). Steffey has never been a licensed professional engineer while working in a mine and has never published peer reviewed literature. (Tr. III, 166-167). Steffey eventually became a licensed professional engineer in

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shows the same area but with the workings included. (Tr. III, 56). Anything done on one map is separate from what is done to the other, just as the well data was different from the map. (Tr. III, 56-57). If someone were working on the map and highlights the well data and pushed "delete," then all of the wells would disappear. (Tr. III, 57). The wells are kept on a separate file so they can easily be removed and create a less cluttered map. (Tr. III, 58).

Hartsog also created a map that superimposed the mine over the city of Charleston, WV. (Tr. III, 58-59). This map was based on the February 2012 data. (Tr. III, 59). Between 2008 and 2012 the workings had gotten larger, but they had not removed gas wells. (Tr. III, 59-60).

A final map created by Hartsog showed all of the gas wells in the shape file for Mine 36 (RX-9). (Tr. III, 63). The existing wells were yellow and the missing well was blue. (Tr. III, 63). The map shows the gas wells on all of Respondent property in Buchanan County and the black square shows the mine footprint. (Tr. III, 63-64). There were a total of about 8,000 wells, 420 of them on the mine property and only one missing. (Tr. III, 64).

Kentucky. (Tr. III, 151). Steffey passed the mining engineering test and passed the environmental engineering test on his second try. (Tr. III, 177-178).

A methane monitor usually sits at the right (intake) side of the continuous miner, but occasionally on the return. (Tr. III, 152, 178). Steffey did not know what side the monitor was on February 24, 2011. (Tr. III, 179). It is on the side frame and mounted for protection. (Tr. III, 178). It consists of a platinum wire wrapped in a metal oxide container, known as a catalytic sensor. (Tr. III, 152). This sensor allows combustion of gases at a lower temperature, around 400 degrees (rather than 1,000 degrees typical for methane) to detect methane. (Tr. III, 152-153). When a methane monitor goes above 5%, it will flash. (Tr. III, 153). The ideal condition for combustion is 10 moles of air for each mole of methane, or around 9.09% methane. (Tr. III, 153-154). Steffey did not have experience with monitors; he talked to experts to ensure his understanding was correct. (Tr. III, 167-168). During the hearing he also reviewed Respondent's documents, a paper on catalytic bead monitors, a 1913 paper from the U.S. Bureau of Mines, spoke with the Division of Mines, and reviewed the AutoCAD ex-reference section. (Tr. III, 168-170). He gave the documents he reviewed to the attorney. (Tr. III, 169).

The catalytic sensor is calibrated up to 2.5% and will accurately read up to 3%. (Tr. III, 154). From 3-5% the monitor becomes less accurate, reading less than is actually present, but not enough to be concerned. (Tr. III, 154-155). From 5-8.5%, the methane reading is no longer reading methane. (Tr. III, 155, 170). However, from 8.5-9.09% it becomes more accurate; it is fairly accurate to 10% and then it can no longer read. (Tr. III, 155, 170). At 8.9% the methane detector would either be accurate or give a low reading. (Tr. III, 155-156, 170). It is not possible to get a reading higher than the actual amount. (Tr. III, 156). According to information he read and received from an electrical engineer, a monitor does not stop reading at 5% and burn up. (Tr. III, 170-171). However, older methane sensors did not have metal oxide and would burn up and it is possible new ones would burn at high enough temperatures. (Tr. III, 171).

It is impossible to run the miner without water present to cool the cutting and tram motors and operate the sprays. (Tr. III, 156). There is often a water spray right next to the monitor and he has never seen that generate a problem anywhere. (Tr. III, 173-174). Water will render a monitor ineffective and it will fluctuate wildly. (Tr. III, 172). However, the monitor is on the side of the miner and the hole in the well would have been in the middle near the pan. (Tr. III, 172). The boom of the miner is waist high, so if water was running over the boom there would have been several feet of water and he did not believe that this happened. (Tr. III, 173).

It is dangerous to cut through the outer casing of the well because methane is present and sets off monitors on people standing far back. (Tr. III, 157). An explosive mix was possible, Respondent was lucky it did not occur. (Tr. III, 157). There was 90% methane and some other gasses (butanes, isobutene, and propane) mixed in. (Tr. III, 157). Some of the other gases have a lower explosive limit. (Tr. III, 157). If the gas well had 90% methane and the man standing far back found 1.5%, somewhere in between was an explosive mix; it did not go from 90% to 1.5% without passing through the explosive range. (Tr. III, 157-158). He does not know how long the methane was present before it was taken away by the mine's ventilation, it could have been a matter of seconds. (Tr. III, 179, 180). Steffey could calculate the concentration of a known quantity, it would be the concentration multiplied by the CFM, but he does not have the

actual number from that day.[16] (Tr. III, 174-175).

h. Surrebuttal Testimony of Hartsog

The methane monitor is placed on the return side so it will pick up the maximum methane emitted in the face operation. (Tr. III, 182). The monitor is designed to measure the hazard where it is greatest. (Tr. III, 182). The monitors are accurate for their zone of calibration, 0%-2.5%, anything outside of that would be suspect. (Tr. III, 183). The owner's manual did not say the accuracy decreased from 5-8.5% and then increased at 8.5%. (Tr. III, 183-184). That does not comport with any mining engineering principle Hartsog has heard. (Tr. III, 184). No textbook or treatise on methane monitors would indicate this either. (Tr. III, 185).

5. Contentions of the Parties

The Secretary contends that all three Orders issued with respect to the gas well intersection were validly issued, were the result of high negligence and unwarrantable failure ("UWF"), were S&S, and had appropriate penalties. (*Secretary's Post-Hearing Brief* at 15-31). Specifically, the Secretary argues that Order No. 8179158 is valid because Respondent knew that a gas well existed from 1994 to 2008 but did not build a barrier. (*Id*. at 18). Further, he argues that Order No. 8179159 was valid because the gas well was not plotted on the mine map after 2008. (*Id*. at 19). He argues that Order No. 8179160 was valid because the gas well was not plotted on the ventilation map after 2008. (*Id*. at 20). The Secretary contends that all three alleged violations were S&S because mandatory standards were violated, a catastrophic explosion was possible, an explosion could cause injuries, and those injuries would be serious. (*Id*. at 22-25). The Secretary also contends that all three alleged violations were the result of high negligence and UWFs because of the high standard of care required given the extreme gravity of the danger and the fact that Respondent should have known about the cited conditions. (*Id*. at 25-31). The Secretary also argues that the three alleged violations are not duplicative as they impose separate and distinct duties on the operator. (*Id*. at 21-22).

Respondent contends that all three Orders issued with respect to the gas well intersection were invalid, were not the result of negligence, were not UWFs, were not S&S, and were duplicative. (*Respondent's Post-Hearing Brief* at 22-45). Specifically, Respondent argues that the Orders were not valid because it took reasonable steps to locate the wells, as required by the standards cited. (*Id*. at 22-23). Respondent contends that the violations were not the result of high negligence because the engineers used in the preparation of the maps were highly regarded and met the standard of care in Virginia. (*Id*. at 24-25). Further, Respondent argues that the Secretary relies on irrelevant evidence in claiming high negligence and ignores mitigating circumstances. (*Id*. at 25-29). Respondent also argues that consideration of the alleged gravity of the violation in the context of the alleged negligence is inappropriate. (*Id*. at 29-33). Respondent also contends that the gravity designation was incorrect as an accident was unlikely in this situation. (*Id*. at 33-35). Similarly, Respondent argues that this situation meets none of the

[16] Respondent's Counsel argued with Steffey that he was unable to conduct the calculation to determine the concentration of methane at the time of the accident. (Tr. III, 175-177). Steffey argued that there were too many unknown quantities to do the calculation. (Tr. III, 175-177).

requirements for a UWF designation. (*Id*. at 36-38). Finally, Respondent argues that each standard cited in these three Orders deals with the same duty and serve the same purpose and are therefore impermissibly duplicative. (*Id*. at 38-45).

6. Findings and Conclusions

a. Validity

i. Order No. 8179158

Order No. 8179158 was validly issued. An operator may violate 30 C.F.R. § 75.1700 in two ways: 10 failing to take reasonable care in locating oil and gas wells penetrating an underground area of the mine or 2) upon location of a well, failing to establish and maintain a barrier around such well. In the instant case, it is undisputed that Respondent located the Clinchfield No. 2 gas well and, in fact, plotted that well on its map between 1994 and 2008. (Tr. II, 143). However, it is also undisputed that no barrier was ever placed around the well. (Tr. II, 145-146, 149-150, Tr. III, 92-93, 102). Respondent's witness, Hartsog, actually conceded that Respondent violated this standard. (Tr. III, 101-102, 124). Therefore, Respondent did not comply with §75.1700 and the instant Order was appropriate.

In its brief, Respondent cites to *Ohio County Coal Company*, 24 FMSHRC 502 (May 2002) (ALJ Melick) for the proposition that it took reasonable care with respect to this gas well. (Respondent's Post-Hearing Brief at 22-23). In *Ohio County Coal Company*, an operator intersected two previously unidentified oil wells. 24 FMSHRC at 503-504. The operator had hired an outside firm to locate and map the gas wells on its property. *Id*. at 505. That outside firm had created a CAD file with the requested information, but that file contained a "frozen layer" of information that contained the missing wells and was not visible on the map. *Id*. Judge Melick held that the operator had not violated 30 C.F.R §75.1700 because it had taken "reasonable measures" to locate the wells when it contracted with a long-established, reputable firm to complete that task. *Id*.

However, the reasoning in *Ohio County Coal Company* is not applicable to this Order. That case dealt with the first requirement of § 75.1700; specifically the obligation to use "reasonable care" in locating gas wells. In this case, Respondent had already located the well and had plotted it on its maps from 1994 to 2008. Therefore, it appears that Respondent complied with the first requirement of § 75.1700. Respondent failed to comply with the second requirement of the cited standard. Because the well was located, the operator was required to establish a barrier around the well. No such barrier was created in this case.

Even if the issue of "reasonable care" were pertinent to the inquiry here, Respondent's reliance on *Ohio County Coal* would be misplaced. There, the operator hired the outside firm to conduct its entire mapping process, which Judge Melick believed was "reasonable care." In the instant case, Respondent had conducted its own gas well mapping in its internal engineering department. (Tr. I, 207, 211, 214, 243, Tr. II, 46-47). An outside firm was only brought in later to certify maps based on Respondent's internal data. (Tr. II, 18-19, 86-88). In fact, the gas well went missing before D.R. Price began certifying the maps. Therefore, any failure to properly track the well and build a barrier once its was located was the result of Respondent's actions and

Respondent cannot shift the blame to an outside engineering firm.

ii. Order No. 8179159

Order No. 8179159 was validly issued. An operator commits a violation of 30 C.F.R. §75.1200 if the mine map located on the surface does not show, among other things, producing or abandoned wells located within 500 feet of the mine. In the instant case, it is undisputed that the mine map did not show the gas well that was eventually intersected. (Tr. I, 228-231, Tr. II, 24- 53-54, 67, 88-89,111, 143). Therefore, Respondent did not comply with §75.1200 and the instant Order was appropriate.

Respondent's brief treats all three Orders related to the gas well as a single issue (in fact, it claims that the Orders are duplicative, an assertion that is addressed *infra*). As a result, Respondent again relies on *Ohio County Coal Company* to argue that this Order is not valid. (*Respondent's Post-Hearing Brief* at 23). This is unfortunate as *Ohio County Coal Company* did not deal with a violation of §75.1200. None of the reasoning in that case is applicable to the requirements of the mine map. As noted *supra*, *Ohio County Coal Company* interprets the term "reasonable efforts" contained in §75.1700. Section 75.1200 does not require operators to make reasonable efforts to plot gas wells on the mine map. It imposes an absolute duty to create and store a mine map that includes, among other things, gas wells. The standard states that the map "shall" show the active and abandoned wells, not that it "may" show the wells. Respondent's arguments that it took reasonable efforts to accurately plot gas wells (that Bob Weaver is an experienced and reputable engineer; that D.R. Price is a well-regarded, licensed engineer that had never had an accident before; and that no one associated with Respondent knew of the "shape file") are irrelevant to whether the standard was violated. Here, Respondent conceded that the gas wells were not on the map. As a result, Respondent violated the standard.

iii. Order No. 8179160

Order No. 8179160 was validly issued. An operator commits a violation of 30 C.F.R. §75.372 if its map showing the information contained in the ventilation plan under §75.371 does not contain, among other things, the locations of all known oil and gas wells that penetrate the coalbed being mined. In the instant case, it is undisputed that the ventilation map did not show the gas well that was eventually intersected. (Tr. I, 228-231, Tr. II, 24- 53-54, 67, 88-89,111, 143). Furthermore, it is undisputed that Respondent knew of that well and even placed it on its maps between 1994 and 2008. (Tr. II, 143). Therefore, Respondent did not comply with §75.372 and the instant Order was appropriate.

Once again, Respondent's Brief relies on *Ohio County Coal* to argue that this Order was not valid. Once again, the issue of whether Respondent took reasonable care to create the ventilation map is irrelevant. Section 75.772 creates an absolute duty to place the known gas wells on a ventilation map. Respondent conceded that the well at issue here was known since 1994 and was not on ventilation the map. Therefore, regardless of Respondent's efforts at compliance, it violated the standard.

b. The Orders are Not Redundant

While each of the Orders related to the gas well incident are individually valid, Respondent also raises a related argument that the Orders are duplicative (or, actually, triplicative). Respondent contends that the three Orders are so closely related that the Secretary is, in essence, seeking to punish it three times for the same conduct. For the reasons set forth below, I find that the three gas well Orders are not redundant.

Under well-settled Commission case law violations are not duplicative, even if they emanated from the same events, when the cited standards impose separate and distinct duties on an operator. *See Cyprus Tonopah Mining Corp.*, 15 FMSHRC 367, 378 (Mar. 1993); *Western Fuels-Utah, Inc.*, 19 FMSHRC 994, 1004 (June 1997); *Spartan Mining Company*, 30 FMSHRC 699, 716, (Aug. 2008).

Two standards do not impose separate and distinct duties when the obligations of one are completely "subsumed" within the obligations of the other. *Western Fuels-Utah, Inc.*, 19 FMSHRC at 1004). An ALJ described this concept as analogous to criminal law wherein "the lesser included offense merges within the greater offense and must be dismissed." *Peabody Coal Company*, 17 FMSHRC 1627, 1630 (Sep. 1995) (ALJ Melick) (citing due process for the analogy rather than double jeopardy). For example, in *Western Fuels-Utah, Inc.*, the Commission found that two violations were duplicative when one was issued for the failure to install a self-contained dry powder chemical system to protect belt components and another was issued for failure to provide the correct number of nozzles and reservoirs for this chemical system. 19 FMSHRC at 1004. The Commission found that violation of the narrower standard requiring sufficient nozzles was also necessarily a violation of the broader standard requiring the installation of the chemical system to protect the belt. *Id*. Therefore, the Commission held that these violations were duplicative. *Id*. In short, two violations are duplicative when, in all instances, a violation of one cannot be committed without also violating the other. *Spartan Mining Company*, 30 FMSHRC at 718.

In the instant case, each of the three Orders asserted violations of a distinct standard that imposed a separate duty on Respondent. Order No. 8179158 dealt with Respondent's failure to comply with §75.1700, which imposes a duty on an operator to make reasonable efforts to locate gas wells and, once gas wells were located, to establish a barrier around them. Order No. 8179159 dealt with Respondent's failure to comply with §75.1200, which imposes a duty on an operator to create a mine map and store it on the surface. Finally, Order No. 817160 dealt with Respondent's failure to comply with §75.372, which imposes a duty to certify and submit a ventilation map every 12 months. Simply because it is possible to violate three regulations in a single event, or series of events, does not mean that the regulations are redundant.

Order No. 8179158 is obviously distinct from the other two violations. The obligations to seek out gas wells and, once they are found, to establish barriers around them are wholly different from the obligation to produce and submit maps. One can easily imagine a situation wherein a gas well is properly plotted on all mine maps but the operator fails to establish a barrier and mines within 300 feet of the well. Similarly, an operator may be aware from experience that a gas well exists and conscientiously establish a 300 foot barrier around it, but

still fail to place that well on its mine or ventilation map. Therefore, unlike the situation in *Western Fuels-Utah, Inc.*, the obligations of §75.1700 are not subsumed by and do not subsume the obligations of §75.1200 and §75.372.

Order Nos. 8179159 and 8179160 are more closely related; however I find that they relate to separate and distinct obligations placed on Respondent. The similarities between the requirements of §75.1200 and §75.372 are superficial; they both require the production of maps. However, the differences between the two show that a violation of §75.1200 is not a "lesser included offense" within a violation of §75.372.

Section 75.1200 maps and §75.372 maps place different burdens on Respondent because they serve different purposes. In fact, Weaver conceded that these maps serve different functions. (Tr. I, 216). Section 75.1200 is the "wall map" kept at the surface and referred to whenever problems occur. (Tr. I, 215-217). The ventilation map must be certified and submitted to MSHA (wall maps do not need to be submitted). It would be possible for an operator to create a wall map but fail to create a ventilation map or vice versa.

Some of the confusion as to whether these two Orders are duplicative may stem from the fact that it is possible for the §75.1200 map to serve as the §75.372 map. (Tr. I, 216). However, it is only possible for the §75.1200 map to serve as the §75.372 map if it meets all of the requirements for both standards. It would be possible for an operator to create a map that is certified and submitted to MSHA and meets all of the requirements of §75.372 and §75.1200, except that the map is not posted at the surface. In such a situation, the map would conform to §75.372 but fail under §75.1200. Similarly, there could be a situation wherein a map meets all of the requirements of §75.1200 and §75.372 except that the map is not submitted to MSHA. In such a situation, the map would conform to §75.1200 but fail under §75.372. Each of the regulations require additional and distinct conduct from the other, thereby implying separate and distinct duties. In practical application it may be more efficient for an operator to conflate the requirements and treat them as one, however this does not mean that they are singular. Therefore, the fact that one map can be used under both standards does not show that the standards are duplicative.[17]

Respondent argues that these violations are not distinct because all three arise from the same "initial conduct," specifically failure to plot the well on the December 23, 2008 map. (*Respondent's Post-Hearing Brief* at 43). Specifically, Respondent argues that the duty to produce the §75.372 map subsumed all of the other requirements such that the violation in Order No. 8179160 necessarily entailed the violation of §75.1200 and §75.1700. (*Respondent's Post-Hearing Brief* at 43-44).

However, as the Commission held in *Cyprus Tonopah Mining Corp.*, violations are not duplicative if they impose separate and distinct duties, even if they "emanated from the same events." 15 FMSHRC at 378. Even if the same "initial conduct" resulted in all three violations and the condition or practice described was similar, the issue at hand was whether the duties

[17] I would also note that while there was an option to use a single map, Respondent chose not to do so. (Tr. I, 216).

were the same. Respondent's reasoning that all three standards impose the same duty relies on a level of abstraction that cannot be supported. For example, Respondent notes, "the regulations all have the same purpose – protecting all those working at a mine by insuring that gas wells are properly located and identified on certified maps." (*Respondent's Post-Hearing Brief* at 44). That is the broad purpose of all standards that relate to gas wells. But, as explained *supra*, these standards impose different specific duties on Respondent to achieve the goal of safe mining near gas wells. Those duties relate to gas well plotting, but that does not mean they are the same duty. Any one standard can be violated without violating the others. At a certain level of abstraction, the purpose to the Mine Act is to provide a safe environment for miners. It would be absurd to state that, as a result, any two citations at a mine are duplicative because they all serve that broad purpose. However, that is the logical conclusion of Respondent's understanding of "purpose."

In a related argument, Respondent notes that "as it pertains to gas wells," the §75.1200 map and the §75.372 map contain, "exactly the same information." (*Respondent's Post-Hearing Brief at 44*). Respondent argues that, regardless of whether the standards *as a whole* are duplicative, they *are* duplicative with respect to the requirement to plot gas wells. The essence of this argument seems to be that even if the standards require different things in general, as applied in this particular instance they both require a map with gas wells. As a result, Respondent argues these Orders are duplicative.

If Respondent's previous argument was too abstract, this one is too focused. Respondent fundamentally misunderstands the nature of the distinct requirements of these standards, which serve important functions under the Mine Act. Nothing in the case law cited by Respondent suggests that the issue is whether two violations, in a given instance, are similar. The issue is whether violating one standard as a general matter necessarily implies violation of the other. The fact that in this particular instance the standard required, among other things, two maps that both required gas wells does not make these standards duplicative because those standards also each had other obligations that were distinct such that it was possible to violate one without violating the other. It would be entirely possible in this instance for Respondent to create a ventilation map that contained a gas well but also create a wall map that did not. The fact that Respondent duplicated its mistake on two separate maps does not mean that the standards are duplicative.

Finally, Respondent argues that these violations are duplicative in part because all three violations occurred at the same point: when the miner hit the gas well. (*Respondent's Post-Hearing Brief* at 45). This is not correct. Respondent violated §75.1700 at the very latest the instant it mined within 300 feet of the gas well; Respondent violated §75.1200 when it created and stored on the surface a mine map that did not show the gas well; and Respondent violated §75.372 when it certified and submitted a ventilation map that did not show the gas well. The fact that all three violations were discovered at the same time and through the same agency does not mean they occurred at the same time.

c. Gravity and S&S

With respect to gravity, all three gas well Orders were marked by Inspector Hughes as "Highly Likely," "Fatal," "S&S" and affecting 10 persons. These determinations are supported by a preponderance of the evidence.

The Mine Act requires that "gravity of the violation" be considered in assessing a penalty. 30 U.S.C. §820. The Secretary promulgated a three-factor inquiry to determine the gravity of a citation for purposes of determining the penalty. Those factors are:

> [T]he likelihood of the occurrence of the event against which a standard is directed; the severity of the illness or injury if the event has occurred or was to occur; and the number of persons potentially affected if the event has occurred or were to occur.

30 C.F.R. §100.3(e).

With respect to Order No. 8179158, the event against which the standard, 30 C.F.R §75.1700, is directed is explosion or methane inundation as a result of the intersection of a gas well. The standard seeks to prevent operators from mining into gas wells by requiring that those wells be located and that barriers be established around them. In the instant case, uncontroverted evidence shows that intersection was not only highly likely, but that a gas well actually was intersected and some amount of methane was released. (Tr. I, 188-191, 230-231, Tr. II, 25, 67, 111, Tr. III, 23, 127). No explosion occurred in this case, but if it were to occur, I credit Inspector Tuggle's testimony that it would result in fatal injuries to 10 persons.

With respect to Order No. 8179159, the event against which the standard, 30 C.F.R §75.1200, is directed is, amongst other things, explosion or methane inundation as a result of the intersection of a gas well. The standard seeks to prevent operators from mining into gas wells by requiring that those wells be plotted on the wall map used by the operator in planning. Again, uncontroverted evidence shows that intersection was not only highly likely, but that a gas well actually was intersected and some amount of methane was released. (Tr. I, 188-191, 230-231, Tr. II, 25, 67, 111, Tr. III, 23, 127). I credit Inspector Tuggle's testimony that if the event occurred, it would result in fatal injuries to 10 persons.

Finally, with respect to Order No. 8179159, the event against which the standard, 30 C.F.R §75.372, is directed is, amongst other things, explosion or methane inundation as a result of the intersection of a gas well. The standard seeks to prevent operators from mining into gas wells by requiring that those wells be plotted on the ventilation map used that is certified and submitted to MSHA. Again, uncontroverted evidence shows that intersection was not only highly likely, but that a gas well actually was intersected and some amount of methane was released. (Tr. I, 188-191, 230-231, Tr. II, 25, 67, 111, Tr. III, 23, 127). I credit Inspector Tuggle's testimony that if the event occurred, it would result in fatal injuries to 10 persons.

Respondent argues that these Orders were not highly likely to result in fatalities to ten persons. (*Respondent's Post-Hearing Brief* at 33-35). First, Respondent notes that the production stream of this particular well had two protective casings. (*Id*. at 33-34 *citing* Tr. III, 24-25). It further noted that while the outer two casings were breached, the production casing was not ruptured (though the evidence suggests that it was scratched). (*Id*. at 34 *citing* Tr. III, 25, Tr. II, 152, Tr. II, 25-27, 131-132). Respondent supported its contention that the production line was not breached by noting that after the accident the legal check showed no methane and closer checks showed only 0.2% methane. (*Id*. *citing* Tr. I, 197). Respondent cited to the high

level of air flow in the area to show that any dangerous levels of methane was quickly removed from the area. (*Id*. at 35 *citing* Tr. II, 170, 173). Similarly, Respondent questioned the reliability of the 8.9% methane reading by the miner spotter. (*Id*. *citing* Tr. III, 38-41). In making this claim, Respondent cited Hartsog's testimony and the fact that the water released by the intersection could have caused a false reading. (*Id*. *citing* Tr. III, 27, 30, 33, 107).

Respondent's arguments are not compelling. To state that an explosion was less than highly likely merely because Respondent was fortunate enough not to breach the production casing of the well would do a severe disservice to the health and safety of the miners. Even though the gas well was not breached and it was likely that the methane in the area was something less than 8.9%, that does not mean that an explosion was unlikely. The uncontested fact remains that Respondent mined into a producing gas well. Respondent was exceptionally fortunate that either water or the methane released from the outer casings caused the miner to shut off before the production stream was breached. Good luck in avoiding an actual explosion does not change the fact that a fatal explosion was highly likely. I credit Hughes' testimony, the metal bits on the miner and the metal casing of the production pipe could have easily caused sparks that resulted in an explosion. (Tr. II, 152). Hughes further credibly testified that the production well was scratched. (Tr. 152). Hartsog confirmed this fact. (Tr. III, 25-27,131-132). If the miner had continued cutting for even a few more seconds, the production stream would have been breached with sparks flying.

In a related argument, Respondent claimed that even if the production string had been breached, the well was a low producing well, making explosion less likely. (*Respondent's Post-Hearing Brief* at 24 *citing* Tr. III, 25). I find that, even in light of the fact that this gas well was not producing at capacity, an explosion was still highly likely. Once again, I credit Hughes testimony. Following a rigorous investigation into the incident, Hughes believed that a fatal explosion was highly likely. (Tr. II, 146). Nothing in the evidence suggests that an explosion was impossible as a result of the lower amount of methane in the well. Perhaps the explosion would have been smaller than if Respondent had intersected a different well, but that hardly justifies a reduction in the cited gravity.

It should be noted that none of Respondent's witnesses, with the exception of Hartsog, were under the impression that this situation was anything but dire. All of Respondent's witnesses (except Hartsog) stated that intersection of a gas well constituted a real and grave danger, even in light of the fact that the production stream was not intersected and the well was low producing. (Tr. I, 193, Tr. II, 25-26, 40, 67-68, 122, 127-128).

Finally, Respondent argues that only six miners were on the section and that only the miner operator would have been affected. (*Respondent's Post-Hearing Brief* at 35). I credit Inspector Hughes' testimony that there were 34 miners in the mine at the time of the intersection and that all of those miners were evacuated. (Tr. II, 133). In the event of a catastrophic explosion at least 10 miners would be affected, perhaps more. As Hughes testified, it was a miracle that 34 men were not killed. (Tr. II, 146).

The S&S nature of a violation and the *gravity* of a violation are not synonymous. The Commission has pointed out that the "focus of the *seriousness* of the violation is not necessarily

on the reasonable likelihood of serious injury, which is the focus of the S&S inquiry, but rather on the effect of the hazard if it occurs." *Consolidation Coal Co.*, 18 FMSHRC 1541, 1550 (Sept. 1996) *emphasis added*. A violation is S&S "if, based upon the particular facts surrounding the violation there exists a reasonable likelihood that the hazard contributed to will result in an injury or illness of a reasonably serious nature." *Cement Div., National Gypsum Co.*, 3 FMSHRC 822, 825 (April 1981). The Commission later clarified this standard, explaining:

> In order to establish that a violation of a mandatory safety standard is significant and substantial under *National Gypsum*, the Secretary of Labor must prove: (1) the underlying violation of a mandatory safety standard; (2) a discrete safety hazard – that is, a measure of danger to safety – contributed to by the violation; (3) a reasonable likelihood that the hazard contributed to will result in an injury; and (4) a reasonable likelihood that the injury in question will be of a reasonably serious nature.

Mathies Coal Co., 6 FMSHRC 1, 3-4 (Jan. 1984).

In the instant case, Inspector Hughes' designation of S&S is clearly correct. The first prong of *Mathies* is satisfied with respect to all three violations, for the reasons discussed above.

The second prong, that a discrete safety hazard was contributed to by the violation, is also met. The law requires gas well barriers, plotting of gas wells on mine maps, and the submission of ventilation maps with gas wells for a reason. That is to prevent the intersection of producing gas wells causing explosions or gas inundations.

The Commission has recently clarified the third element of *Mathies*, stating the test "is whether there is a reasonable likelihood that the hazard contributed to by the violation…will cause injury." *Musser Engineering Inc. and PBS Coals, Inc.*, 32 FMSHRC 1257, 1281 (Oct. 2010); s*ee also Cumberland Coal Resources LP*, 33 FMSHRC 2357, 2365-2369 (Oct. 2011). The Commission emphasized that the Secretary need not "prove a reasonable likelihood that the violation itself will cause injury…" *Id*. In this case, there is no question that the hazard contributed to by the each of the violations, specifically a catastrophic explosion or inundation of gas, would cause an injury.

Finally, the fourth prong of *Mathies* is met as injuries resulting from an explosion or inundation of gas would likely be fatal. Therefore, the S&S designations for each of the three violations related to the gas well are appropriate.

d. Unwarrantable Failure and Negligence

All three gas well Orders were marked as an high negligence and unwarrantable failure. In light of the evidence presented, I find that these designations were appropriate. I will discuss each designation in turn.

Negligence "is conduct, either by commission or omission, which falls below a standard of care established under the Mine Act to protect miners against the risks of harm." 30 C.F.R. §

100.3(d). "A mine operator is required to be on the alert for conditions and practices in the mine that affect the safety or health of miners and to take steps necessary to correct or prevent hazardous conditions or practices." *Id*. Low negligence exists when "[t]he operator knew or should have known of the violative condition or practice, but there are considerable mitigating circumstances." *Id*. Moderate negligence is when "[t]he operator knew or should have known of the violative condition or practice, but there are mitigating circumstances." *Id*. High negligence exists when "[t]he operator knew or should have known of the violative condition or practice, and there are no mitigating circumstances." *Id*. *See also Brody Mining, LLC*, 2011 WL 2745785 (2011)(ALJ). Finally, an operator exhibits reckless disregard where it displays "conduct which exhibits the absence of the slightest degree of care." 30 C.F.R. § 100.3(d). Mitigating circumstances may include, but are not limited to, actions taken by the operator to prevent or correct hazardous conditions or practices. *Id*.

Therefore, the first issue is whether Respondent knew or should have known that violations at issue in this case existed. That is, whether it knew or should have known that its maps were incorrect and no barrier was placed around the well. Well-settled Commission precedent recognizes that the negligence of an operator's agent is imputed to the operator for penalty assessments and unwarrantable failure determinations. *See Whayne Supply Co.*, 19 FMSHRC 447, 451 (Mar. 1997); *Rochester & Pittsburgh Coal Co.*, 13 FMSHRC 189, 194-197 (Feb. 1991); and *Southern Ohio Coal Co.*, 4 FMSHRC 1459, 1463-1464 (Aug. 1982). An agent is defined as someone with responsibilities normally delegated to management personnel, has responsibilities that are crucial to the mine's operations, and exercises managerial responsibilities at the time of the negligent conduct. *Martin Marietta Aggregates*, 22 FMSHRC 633, 637-638 (May 2000) *see also* 30 U.S.C. §802(e) (an agent is "any person charged with responsibility for the operation of all or part of a…mine or the supervision of the miners in a…mine."). In this case, there is no question that Weaver was Respondent's agent. He testified extensively as to his responsibilities, his managerial power, and his actions in certifying the maps from May 2006 to July 2010.[18] (Tr. I, 206-209). If Weaver was negligent with respect to these violations, that negligence is imputable to Respondent.

A preponderance of the evidence shows that Weaver should have known that the well was not being accounted for in mapping and planning. It is uncontested that the well had been plotted on every map from 1994 to 2008, a period that encompassed two years in which Weaver himself was certifying maps. (Tr. I, 208, 232 Tr. II, 33, 143). It is also uncontested that this producing gas well simply disappeared from Respondent's planning and maps without explanation. (Tr. I, 228-230, 236, Tr. II, 26, 38, 53-54, 88-89, 118, 128-129, 169). The only precaution that Weaver took to prevent gas wells from disappearing was a verbal policy against deleting wells and a system to cross check the certified map against the Buchanan County topographic map. (Tr. I, 235, Tr. II, 56-57). There is no question that the topographic map was inaccurate and that no one ever checked it for accuracy. (Tr. I, 233-235. Tr. II, 56-57, Tr. III,

[18] In his brief, the Secretary argued that, although Weaver worked for Jewell Smokeless rather than directly for Respondent, those companies constituted a unitary operator under *Berwind Natural Resources Corp.*, 21 FMSHRC 1284 (Dec. 1999). (*Secretary's Post-Hearing Brief* at 29, FN 9). Respondent did not address this issue in its brief. I find that Respondent and Jewell Smokeless constituted a unitary operator and, as such, Weaver acted as Respondent's agent.

123). As supervisor, Weaver never took any of the various actions that could have revealed that the well was missing. He never compared the maps to state records, he never inspected the surface, he did not check Respondent's paper files (which Hartsog claimed any mine he worked at would have) and he did not compare new maps to older, more accurate maps. (Tr. I, 233-234, Tr. II, 56 Tr. III, 121-123). Respondent should have known of the violations because taking any of these reasonable actions would have revealed to Respondent that the well was not plotted or planned for and an obvious danger existed. Weaver, and therefore Respondent, was negligent.

The fact that Respondent had older files and maps on hand that would indicate that a gas well had gone missing raises a related issue. Respondent and the Secretary agree that none of the people working at the mine knew about the missing well. (*Respondent's Post-Hearing Brief* at 38 and *Secretary's Post-Hearing Brief* at 31). However, it cannot be said that the *operator* was unaware of the missing well. *See e.g. Alliance 3PL Corp. v. New Prime, Inc.*, 614 F.3d 703, 706-707 (7th Cir. 2010) *cert. den.* 131 S.Ct. 1477, 179 L.Ed.2d 302 (2011) (Court held that corporation, as an entity, can have knowledge about a subject. Further, "[a] corporation knows what its managers know, and it does not acquire amnesia when the management team changes.") (*citations omitted*). Essentially, there were old maps and old files that were readily available for use. Respondent possessed those files and maps and therefore "knew" the information. The negligent failure of the people working for Respondent to utilize this institutional knowledge does not mean that the knowledge did not exist. As a result, Respondent was negligent.

Having determined that Respondent was negligent, the next issue is whether there were any mitigating factors present. Respondent argues that there are several. In considering Respondent's arguments regarding mitigation, it is important to consider the standard of care. The Commission has held that an operator has a heightened standard of care when a condition poses a serious risk. *See Lafarge Construction Materials*, 20 FMSHRC 1140 (Oct. 1998). The amount of care demanded by the standard of reasonable conduct must be in proportion to the risk. *Musser Engineering, Inc.*, 32 FMSHRC at 1286. As the danger becomes greater, the actor is required to exercise caution commensurate with it. *Id.*; *see also A.H. Smith Stone Co.*, 5 FMSHRC 13, 15 (Jan. 1983) (holding that "[a]n operator must address a situation presenting a potential source of explosion, as here, with a degree of care commensurate with the danger"). In short, in considering whether the actions taken by Respondent mitigate its negligence, it is important to realize that the miners faced extremely grave danger and that Respondent was therefore held to a high standard of care.

Respondent argues that considering the gravity and the negligence of a violation is improper. (*Respondent's Post-Hearing Brief* at 30). Specifically, Respondent notes, "the definition of 'negligence' set forth in the Code of Federal Regulations does not include, as a consideration for determining the level of negligence, the potential gravity of the hazard. If Inspector Hughes' view is correct, then must all citations be marked high negligence, unwarrantable failure every time there is a potential for a mine fire or explosion? Such a position is not supported under the law." (*Id.*). As shown above, Commission case law supports a heightened level of scrutiny for especially grave dangers. That is especially true, as here, where the danger was highly likely to be realized.

Respondent then goes on to distinguish the instant case from *Musser Engineering, Inc.*, by noting that the operator in *Musser* had actual knowledge that it was placing miners in grave danger, while in the present case Respondent placed miners in grave danger with only constructive knowledge of the hazard. (*Id*. at 30-33). This is a distinction without difference. An operator's negligence is gauged by its failure prevent hazards it knows or should know, there is no lessening of the standard of care as a result of ignorance.

In a related argument, Respondent argues that it followed the standard of care for engineering in the Commonwealth of Virginia. (Id. at 24). This argument is based on Hartsog's testimony to that effect. (Tr. III, 75-77). While I credit Hartsog's testimony that Weaver would not be personally liable in Virginia with respect to his engineering license, the engineering profession does not dictate the operator's standard of care with for these violations. The Mine Act sets the standard in this case. As noted previously, Respondent did not take the proper precautions to ensure that a gas well was not intersected; therefore Weaver's personal liability with respect to his engineering license is not relevant.

Respondent further notes that in making the initial determination that Respondent did not meet the standard of care in this case, Inspector Hughes did not interview anyone from the engineering department. (*Respondent's Post-Hearing Brief* at 25). As has already been noted, the testimony of several members of the engineering department reveals that Respondent was negligent, and whether Hughes conducted the interviews is irrelevant. Further, even if he had conducted the interviews, the general consensus of the engineering department is that no one knows what happened. It is hard to see what useful information Inspector Hughes could have gleaned from an interview.

Therefore, with the heightened standard of care in mind, I will now consider Respondent's proposed mitigating factors. First, Respondent argues that it believed that its maps were accurate and no one knew that the well could go missing. (*Respondent's Post-Hearing Brief* at 24, 26). As has already been noted, Respondent's reliance on its maps was clearly misplaced. It did not take reasonable measures beyond cross-checking its maps with inaccurate topographic information from the county to ensure that its maps were accurate. Simply believing something that is demonstrably false is not a mitigating factor.

Respondent also argues that only one out of 8,000 wells was unaccounted for on its maps and planning. (*Id*. at 24). The Secretary's characterization of this danger seems apt: one gas well in 8,000 (or actually around 450 in the area of the mine) was not a "needle in a haystack," but a "hand grenade." (*Secretary's Post-Hearing Brief* at 28). While it was a single gas well, that gas well contained the potential to explode and cause fatal injuries to ten miners. Given the heightened level of care necessary when dealing with highly likely explosive hazards, the excuse that "we only missed one" is not particularly compelling. The fact that only one well went missing is not a mitigating factor. This is especially true in light of the fact that no one knows how the well went missing. This leaves open the distinct possibility that more wells could just as easily have disappeared. Luck is not a mitigating factor.

Respondent further contends that Weaver and the engineering department were competent and took reasonable steps to ensure the accuracy of the maps. (*Respondent's Post-Hearing Brief* at 25-27). It notes that D.R. Price also did not notice the missing gas well. (*Id*. at 27). As has already been shown, regardless of the level of competence shown generally by Weaver, the engineering department, and D.R. Price, in this particularly instance they did not take all reasonable precautions to ensure that the gas well was properly plotted. Respondent did not check its old maps, it did not search its paper files (if it had them), and it did not survey the surface. Respondent presented evidence at hearing that such precautions were not customary and that additional precautions would be unduly burdensome. It should be noted that the customary precautions resulted in Respondent mining into an active gas well. Further, as Respondent notes in discussing abatement, after the accident occurred it took just the sorts of actions that had once been deemed unnecessary (checking old maps and communicating with the state). (*Respondent's Post-Hearing Brief* at 37). Nothing about Respondent's inadequate steps to ensure the accuracy of the maps mitigates its negligence.

In addition to the alleged mitigating factors above, Respondent also argues that the Secretary makes several "Red Herring" arguments with respect to negligence. Specifically it argues that it was unreasonable to believe the company should use the shape file from the state and that there is no evidence that the gas well went missing during the file merger. A preponderance of the evidence shows that no one was aware of the shape file and that there was no reasonable way to access this file unless the exact address was known. (Tr. I, 231, Tr. II, 20-21, 30-31, 55, 70, 116). Therefore, I find that Respondent is not negligent for failure to use the shape file. However, that does not in any way change the fact that Respondent was negligent for failure to police its own files or check the surface for gas wells.

Both Respondent and the Secretary presented extensive evidence with respect to the AutoCAD file merger. The Secretary presented evidence that Respondent's internal review of the accident pointed to this merger as the cause of the lost well and further showed that the person in charge of the file merger, Harris, did not have any previous work experience with the AutoCAD. (Tr. II, 47, 62). Respondent countered with evidence that the merger could not have caused the gas well to be lost and that Harris was competent with AutoCAD. (Tr. I, 223, Tr. II, 42-43, 89-92, 128). I believe that this argument is largely irrelevant. I am inclined to agree with Inspector Hughes, "I can say, sitting here two years later, that the company don't know how they lost the thing. And that worries me more than me knowing." (Tr. II, 168). It does not matter why or how the well went missing. Respondent was charged with making accurate maps and keeping a barrier around its well. It negligently failed to do so despite having the information necessary to keep track of the well. And that all Respondent can argue in response is that they do not know why the well is missing, but only that it was not the AutoCAD does not mitigate their negligence; it concerns me that this sort of event will happen again. Until Respondent learns why it lost the well, I am concerned that it will be unable to prevent future well disappearances.

None of the arguments presented by Respondent persuade me that the negligence was in any way mitigated. I find that a high negligence designation is appropriate.

The Commission has recognized the close relationship between a finding of unwarrantable failure and a finding of high negligence. *San Juan Coal Co.*, 29 FMSHRC 125, 139 (Mar. 2007) (remanded because a finding of high negligence without a corresponding finding of unwarrantable failure was "seemingly at odds."). *Emery Mining Corp.*, defines an unwarrantable failure, as "aggravated conduct constituting more than ordinary negligence." *Emery Mining Corp.*, 9 FMSHRC 1997, 2002 (Dec. 1987). Such conduct may be characterized as reckless disregard, intentional misconduct, indifference, or serious lack of reasonable care. *Id.* at 2004; *see also Buck Creek Coal*, 52 F.3d 133, 135-136 (7th Cir. 1995). The Commission formulated a six factor test to determine aggravating conduct.[19] *IO Coal Co., Inc.*, 31 FMSHRC 1346, 1350-1351 (Dec. 2009). Before discussing the high negligence designation, I will consider each of those factors in turn:

1. Extent of the violative conditions

The missing gas well in this case was the only well missing out of over 8,000 gas wells monitored by Respondent and one of only 350-450 within the footprint of the mine. (*Respondent's Post-Hearing Brief* at 36). Therefore, the three violations in this matter were not particularly extensive.

However, as noted by the Secretary, not all of the *IO Coal* factors are necessarily relevant in all factual scenarios. *Consolidation Coal Co.*, 22 FMSHRC 340, 353 (Mar. 2000). While the condition centered on a single gas well, I believe for the reasons discussed *infra* with respect to the other factors, that an unwarrantable failure designation is still appropriate.

2. The Length of Time of the Violation Existed

The violations at issue here existed for years. With respect to Order No. 8179158, Respondent was required to establish a barrier around gas wells as those wells were discovered. Respondent knew about the Clinchfield No. 2 gas well at least since 1994. However, after the production of the December 2008 maps, Respondent no longer planned its mining with that gas well in mind. The coal around the gas well was no longer considered a barrier, but instead simply a resource to be mined. When the gas well was eventually intersected, Respondent had already failed to establish a barrier around the well for over two years.

With Respect to Order No. 8179159, Respondent had been creating and storing mine maps under §75.1200 without the subject gas well for over two years at the time of the intersection. This fact is not in contest.

With respect to Order No. 8179160, Respondent had been certifying and submitting ventilation maps to MSHA under §75.372 without the subject gas well for over two years at the time of the intersection. This fact is not in contest.

[19] While an administrative law judge may determine, in his discretion, that some factors are not relevant, or may determine that some factors are much less important than other factors under the circumstances, all of the factors must be taken into consideration and at least noted by the judge. *IO Coal*, 31 FMSHRC at 1351

Respondent argues that the condition had not lasted for an extensive amount of time because it had found the well and still believed that it was part of its well file. Respondent's knowledge is irrelevant to this factor. Respondent may have taken proper care with the gas well at one time, but for two years it failed to do so.

3. Whether the violation is obvious or poses a high degree of danger

The violations at issue here posed an exceptionally high degree of danger. Even Respondent's witness testified that cutting into a gas well was "about the worst thing that could happen" in a mine and result in an explosion or fatality. (Tr. II, 127). As discussed in the gravity section, *supra*, Respondent was exceptionally lucky that this high degree of danger was not realized.

The degree of danger posed by mining into an active gas well are so grave that even if most of the other *IO Coal* factors did not point towards unwarrantable failure such a designation would still be appropriate. As the Commission has noted, "when violations have exposed miners to extremely dangerous conditions, the Commission has not always relied on most of the remaining factors." *Lafarge Construction Materials*, 20 FMSHRC at 1147 *citing Midwest Material Co.*, 19 FMSHRC 30, 34-37 (Jan. 1997).

4. Whether the operator had been placed on notice that great efforts were necessary for compliance or on notice that this was an issue.

The evidence supports Respondent's claim that it had never lost a gas well before and that MSHA had never cited if for this condition or stated that the mapping or barrier procedures were inadequate. I do not find this factor to be particularly relevant to this determination.

5. The operator's efforts in abating the violative condition

Respondent abated the condition shortly after the accident and also attempted to take steps to ensure that all other gas wells were present. However, the issue of abatement is not particularly important in this case. An accident had already occurred, and Respondent had failed to take action before miners were placed in danger.

6. Operator's knowledge of the existence of the violation

As noted previously, Respondent credibly argues that no one at the mine had actual knowledge of the violative condition. (*Respondent's Post-Hearing Brief* at 38). Further, the Secretary concedes this point. (*Secretary's Post-Hearing Brief* at 31). However as with negligence, "[i]t is well-settled that an operator's knowledge may be established, and a finding of unwarrantable failure supported, where an operator reasonably should have known of a violative condition." *IO Coal Co.*, 31 FMSHRC at 1356-1357 (*citing Emery*, 9 FMSHRC at 2002-2004). A supervisor's knowledge and involvement is an important factor in an unwarrantable failure determination. *See Lopke Quarries, Inc.*, 23 FMSHRC 705, 711 (July 2001) *citing* (*REB Enterprises, Inc.*, 20 FMSHRC 203, 224 (Mar. 1998) and *Secretary of Labor v. Roy Glenn*, 6 FMSHRC 1583, 1587 (July 1984). Therefore, the issue with respect to knowledge is whether

Respondent should have known the violative condition existed. As already shown in the negligence discussion, Respondent should have known that the violations existed and further, had documentary knowledge of the missing well.

In light of the length of time the cited conditions existed, the extremely high danger posed by the violations, the fact that Respondent did not abate this condition until an incident had occurred, and Respondent's knowledge of the condition, a finding of unwarrantable failure is appropriate.

e. Penalty

Under the assessment regulations described in 30 C.F.R. §100, the Secretary proposed penalties of $70,000.00 for Order No. 8179158, $70,000.00 for Order No. 8179159, and $60,00.00 for Order No. 8179160. While the Secretary's proposal was duly considered, under 30 U.S.C. §820(i), the power to assess a penalty is vested with the Commission. That law also dictates several factors be considered before an assessment is made. I evaluate each of those factors as follows:

(1) The Operator's history of previous violations – The operator had received mapping violations in the past. However, the record is not clear about how prevalent these particular violations were.

(2) The appropriateness of the penalty compared to the size of the Operator's business – The evidence shows that Respondent had between 1,000-2,000 employees and that this mine was very large. (Tr. I, 210). Therefore, it is a large business.

(3) Whether the Operator was negligent – As previously shown, the operator exhibited high negligence and an unwarrantable failure to comply with all three standards

(4) The effect on the Operator's ability to remain in business – The parties have stipulated that the Orders at issue here would not affect Respondent's ability to remain in business.

(5) The gravity of the violation – As previously shown, these violations were highly likely to result in fatal injuries to ten persons.

(6) The demonstrated good-faith of the person charged in attempting to achieve rapid compliance after notification of a violation – The evidence shows the condition was abated in good faith, but not until after an accident had already occurred.

In light of my affirmation of the Secretary's designations with respect to validity, negligence, and gravity, I hereby **AFFIRM** the originally assessed penalties of $70,000.00 for Order No. 8179158, $70,000.00 for Order No. 8179159, and $60,000.00 for Order No. 8179160

PRE-SHIFT EXAMINATION ORDER

1. Order No. 8182676

a. Contents of the Order

On April 4, 2011 at 6:01 p.m., Inspector Mark A. Tuggle issued to Respondent Order No. 8182676. Tuggle found:

> An inadequate preshift examination has been conducted along the #1 Mains belt and track area of this mine. The following conditions were found within 2 hours of the last belt preshift examination along this belt: 1) a loose bolt was found at crosscut 1 just inby the first air lock door immediately over the track (citation 8182670) 2) there are 3 pieces of belt structure located at cross cut 11, 16, and 30 that have been completely cut in two pieces by the belt which the belt is still contacting 2 of the stands and these stands are hot and/or smoking from friction with the belt. Additionally, 2 damaged rollers were found at cross cut 16 and cross cut 30 which had the bearings and ends missing on the top rollers with the roller outer shell contacting and grinding on the metal inner support shaft (citation 8182671) 3) There is a hole in the brattice which is used to separate the main return air course from the active T-Section and the belt/track neutral entry. This return was cited 2/14/11 for explosive methane mixture (citation 8182672) 4) a second brattice located at cross cut 37 used to separate the same return/neutral entry also has a hole in it. (citation 8182673) 5) a second roof bolt was found at crosscut 66 ½ where the draw rock has fallen from around the bolt leaving the bolt head 14 inches from the mine roof, located directly over the main line track (citation 8182674)
>
> These condition have existed between 1 day (rollers damaged) up to 1 week (holes in brattices, cut stands and roof bolts not supporting mine roof). This area is preshifted on every shift. No foreman has found these conditions, corrected the conditions, dangered these areas off or taken similar actions to prevent miners from being exposed to these hazards. The damaged belt components present a potential fire/smoke hazard, while the roof conditions present crushing injuries hazard to miners and the breached in the 2 brattices make the return/neutral stoppings not effective to isolate the two air course. By existing a week, there has been up to 21 preshift examinations of this area.
>
> These conditions were easily visible from the track entry of this mine. The damaged rollers and air rushing through the brattices could also be heard from the track entry. All miners travel through this area as they enter or leave the mine. All miners are exposed to the hazards found during this period.
>
> Standard 75.360(a)(1) was cited 10 times in two years at mine 4406759 (10 to the operator, 0 to a contractor).

(GX-2). Tuggle noted that the gravity of this violation was "Reasonably Likely," "No Lost Workday/Restricted Duty," and would affect six people. *Id*. The Order was marked as S&S. *Id*. He further marked that Respondent exhibited "High" negligence with respect to this violation. *Id*.

b. Legal Standards

Order No. 8182676 was issued under Section 104(d)(2) of the Mine Act. That provision provides the following:

> If a withdrawal order with respect to any area in a coal or other mine has been issued pursuant to paragraph (1), a withdrawal order shall promptly be issued by an authorized representative of the Secretary who finds upon any subsequent inspection the existence in such mine of violations similar to those that resulted in the issuance of the withdrawal order under paragraph (1) until such time as an inspection of such mine discloses no similar violations. Following an inspection of such mine which discloses no similar violations, the provisions of paragraph (1) shall again be applicable to that mine.

30 U.S.C. § 814(d)(2).

The Order deals with an alleged violation of 30 C.F.R. §360(a)(1) (titled "Preshift Examination"). That section provides the following:

> (a)(1) Except as provided in paragraph (a)(2) of this section, a certified person designated by the operator must make a preshift examination within 3 hours preceding the beginning of any 8-hour interval during which any person is scheduled to work or travel underground. No person other than certified examiners may enter or remain in any underground area unless a preshift examination has been completed for the established 8-hour interval. The operator must establish 8-hour intervals of time subject to the required preshift examinations.

30 C.F.R. §360(a)(1)

2. Summary of Testimony

a. Testimony of Mark Adam Tuggle

At the time of the hearing, Mark Tuggle was employed by MSHA as a rig and impoundment specialist in Northern Virginia. (Tr. I, 30). He inspected longwall and conventional coal mines. (Tr. I, 30). He started at MSHA in August, 2006 and became an authorized representative in September 2007. (Tr. I, 30). He received training as a coal mine inspector. (Tr. I, 30). In April 2011, Tuggle was a CMI (coal mine inspector). (Tr. I, 31).

Tuggle received an Associate's Degrees in basic engineering from Southwest Virginia Community College, a civil engineering degree from the University of South Alabama, and a BSET in mining engineering from Bluefield State College. (Tr. I, 32). He was once certified in general and civil engineering. (Tr. I, 32). He began, but did not complete, engineering training in Virginia. (Tr. I, 33). He had miner's cards (now lapsed) in Virginia, Kentucky, and Pennsylvania. (Tr. I, 34). He was a certified blaster in Virginia and Kentucky. (Tr. I, 34).

Before MSHA, Tuggle worked in the mines. (Tr. I, 31). He started working summers for Consol and Alum Creek doing general utility. (Tr. I, 31). At Consol, Tuggle was a general laborer: shoveling, building stoppings, running the scoop, and moving belt. (Tr. I, 33). At Alum Creek he was an engineer, surveyed underground, made maps, and surveyed new shafts. (Tr. I, 33). After graduating from college he worked at Enlow Fork Mining in Pennsylvania from 1991 to 1993. (Tr. I, 31). At Enlow Fork he was general underground working on the longwall, belts, and maintenance and then worked in the safety department. (Tr. I, 31, 33). He then worked for Republic Energy and was an engineer from 1993 until 2006. Tr. I, 31). At Rapoca, he was an engineer and surveyed underground. (Tr. I, 33). He was never a foreman. (Tr. I, 98).

Tuggle had experience in assessing the adequacy of roof control, mostly from experience underground and investigating roof falls. (Tr. I, 34-35). However, he did not work on roof control at any of his jobs. (Tr. I, 36). He also had experience in assessing stoppings and ventilations systems and building stoppings. (Tr. I, 35). To do so, Tuggle would look at the structure and see if it was leaning or leaking. (Tr. I, 35). He also made ventilation system plans for Rapoca's mine. (Tr. I, 35). Tuggle's experience with assessing the adequacy of belt structure came from doing belt moves, working general labor, and with MSHA. (Tr. I, 35-36).

Tuggle conducted an inspection of Dominion Number 36 on April 4, 2011. (Tr. I, 39). To prepare, Tuggle reviewed the Uniform Mine File and the mine plans. (Tr. I, 39). He reviewed the maps and locations where the sections were at, reviewed past citations and D-sequence events, and prior accidents.[20] (Tr. I, 39). He also printed out a form for mine management to show percentage estimates and top citations. (Tr. I, 39-40).

On the day of the citations at issue here, there were three active working sections and three portals (the Virginia, West Virginia, and CJ&L portals). (Tr. I, 42-43). Tuggle entered the mine at the Virginia portal then traveled up the mainline belt and track entry, and then up the U-section. (Tr. I, 43). That was the only area he inspected that day, however he and another inspection (probably Steve Hale) eventually inspected the entire mine.[21] (Tr. I, 43-44).

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[20] The ventilation map submitted by Danny Price MSHA on December 23, 2010 showed the areas, the pillars, and the entries, including belt entries, that this mine encompasses. (Tr. I, 40). The sealed areas were marked with a crosshatch and SCSR caches were marked "S." (Tr. I, 40-41). It was an accurate depiction of the area Tuggle inspected on April 4, 2011. (Tr. I, 42).

[21] Tuggle eventually traveled the Number 2, 3, and 4 belt and turned off of U-Section. (Tr. I, 100-101). He believes the belt was around five to ten thousand feet. (Tr. I, 101). There was roughly two miles from Number 2 Belt to Number 5 Belt. (Tr. I, 101-102). On April 4, 2011 Tuggle traveled that 2 miles of belt and did not observe any conditions. (Tr. I, 102).

Tuggle reviewed a D-2 order[22] he wrote and issued his first day at the mine (GX-2).[23] (Tr. I, 44-45). The Order was issued under §75.360(a)(1) for inadequate pre-shift examination conducted by T.J. Howington. (Tr. I, 45-46). Tuggle was not sure when Howington began his pre-shift examination, but it occurred three hours before the start of the next shift. (Tr. I, 46). Tuggle arrived at the mine at 1:50 p.m., which was before that shift. (Tr. I, 46). He was also not sure when Howington completed the pre-shift examination. (Tr. I, 46-47). Howington did not record any conditions or hazards on the pre-shift examination. (Tr. I, 50). On cross examination, Tuggle admitted that Howington said he examined the area between noon and 3:00 p.m. and there is no information to contradict that claim, just the missing DTI's. (Tr. I, 100). Howington had performed the examination, he just forgot to sign the book. (Tr. I, 128).

Pre-shift examinations are conducted to ensure the safety of miners entering or working underground, to make sure no hazardous conditions are present. (Tr. I, 52-53). It is essential to the safety of men working in the mines. (Tr. I, 90). An outby preshift examination would include looking for roof and rent conditions in the belt and track entry, the belt itself, lifeline hazards, draw-rock, damaged rollers, damaged belt structure, accumulations of coal, float coal dust, hazardous tracking conditions, any travel mine, gas readings at power centers, methane, oxygen deficiency, damaged timbers, escapeways, fire suppression, and any hazard that could cause harm to a miner. (Tr. I, 36-38, 53, 99-100). A pre-shift would also cover refuge chambers; including the spotter, pressure readings, gas check, and conditions around it. (Tr. I, 37). However, Tuggle had no personal experience with pre-shift examinations. (Tr. I, 34, 98).

An inadequate pre-shift would prevent miners from noticing hazards and could lead to fire, crushing injury, roof fall, damaged track, lifelines not functional, unusable refuge chambers, and other issues. (Tr. I, 90). To write an order for failure to conduct a pre-shift examination, the inspector must find conditions present that a normal examiner should have seen. (Tr. I, 51-52). There must be reason to see the condition; obvious signs, sounds, or clear visibility. (Tr. I, 52). There can also be an order if the examiner obviously did not enter the area. (Tr. I, 52). On cross examination, Tuggle conceded that there is an element of judgment with a pre-shift examination and there is no definition of "hazardous condition." (Tr. I, 126-127). Of the 2,800 feet of belt,

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[22] A D-2 order is issued after a mine has been established on the D-1-6 series. (Tr. I, 44). This occurs when there is a D-1 citation, a follow-up D-1 Order, and then a second follow-up inspection leads to the D-2 series. (Tr. I, 44). An operator remains on the D-2 series from that point until an inspection is completed without a D-citation. (Tr. I, 44). In this case, the predicate D-1 citation was Citation No 8179671, issued on February 14, 2011. (Tr. I, 45). Tuggle issued the underlying D-1 citation when he reviewed the pre-shift book and saw that Howington had not signed or put his official numbers in the book. (Tr. I, 47). According to his notes, the date, time, and initials (DTI's) at the Number 1 belt drive were at 2:06 p.m., however Tuggle issued the citation at the belt book at 2:02 p.m. (Tr. I, 48). Howington returned to sign the book, terminating the underlying citation. (Tr. I, 50-51).

[23] The transcript occasionally notes a "day-two" order instead of a "D-2" Order. However, it is clear from the context of the testimony that this is a scrivener's error.

80 stoppings, and 2,800 roof bolts Tuggle found only five conditions. (Tr. I, 127-128). But that is a lot for 2,800 feet. (Tr. I, 128).

In order to determine a violation is an unwarrantable failure there must be conditions that should have been seen or something that is obvious with no action taken. (Tr. I, 55). In this case, there were several: holes in stoppings that created audible air rushing, damaged rollers clanking like a cow bell, the smell of smoke on the track, visible smoke, structure bouncing, belt splices catching, and roof faults hanging from the top.[24] (Tr. I, 55). Tuggle testified at length about each condition he observed.[25] (Tr. I, 55-89).

The first condition Tuggle found was a loose roof bolt at cross-cut one, just inby the first airlock door immediately over the track (Citation No. 8182670). (Tr. I, 56, 58). All mine traffic passed through this area. (Tr. I, 58). He noticed the condition when they were closing the air-lock door. (Tr. 58-59, 106-107). This was a recordable hazard. (Tr. I, 56). Tuggle was not sure how long this condition lasted but it was at least a couple of days. (Tr. I, 57). He knew this because several layers of rock dust had accumulated on the roof-bolt plate, a condition that takes time.[26] (Tr. I, 57). The bolt was a glue bolt so it still provided some beaming properties in the strata above, but the immediate skin was not supported.[27] (Tr. I, 57-58, 107-108). The plate was 5.5 inches from the roof, meaning the draw rock had fallen and the bolt was never tightened. (Tr. I, 58, 106-108). This condition created an unsupported area measuring six feet by nine feet and could have resulted in a draw-rock fall that would injure miners. (Tr. I, 58-59). He did not know how long the bolt was. (Tr. I, 107). On cross examination, Tuggle conceded that bolts in the mine were close to a four-by-four bolting pattern, meaning four rows across, four bolts every four feet or 2,800 total bolts in the Number 1 Entry. (Tr. I, 105-106). He found only two damaged bolts amongst the 2,800 total. (Tr. I, 106).

Tuggle stated this condition was reasonably likely to result in "lost workday/restricted duty" injuries to two persons. (Tr. I, 59, 61). Injury was reasonably likely because the cited condition was located directly above the main track in an area where mantrips entering and leaving the mine must stop. (Tr. I, 61-62). The injuries would result from crushing, which could

[24] The underlying citations, Citation Nos. 8182670, 8182671, 8182672, 8182673, and 8182674 were admitted into evidence as GX-6. (Tr. I, 59-60).

[25] The citations only covered the first 66 crosscuts because Tuggle was required to look at the active section that day. (Tr. I, 89). It was getting late and they did not have time to travel slowly, so he may not have been as diligent with the rest of the belt. (Tr. I, 89).

[26] Tuggle's testimony regarding timing often dealt with the amount of rock dust present. Tuggle did not know when Number 1 was last rock-dusted. (Tr. (I, 123-124). Lots of factors determine how quickly draw-rock weathers including airflow, humidity, temperature, and whether the entry is drying. (Tr. I, 124). In this case, Tuggle does not know any of those factors. (Tr. I, 124).

[27] In roof control, when the bolt binds the layers of material together it basically forms a beam, like a truss in the roof of a home. (Tr. I, 85). The actual skin control is the immediate rock that is visible. (Tr. I, 85).

be fatal depending on the size of the rock. (Tr. I, 62-63). He marked this citation as Significant and Substantial ("S&S") because most mining injuries are from lack of skin control. (Tr. I, 63). He also marked the citation for moderate negligence because every foreman (section foreman, pre-shift examiner, belt boss, mine superintendent, and mine foreman) had to go in that area when entering or exiting the mine. (Tr. I, 61-62). He believed two people would be injured if the fall struck the bus. (Tr. I, 62). This citation was not contested and was paid. (Tr. I, 56). Respondent abated by adding a header around the bolt to provide skin control. (Tr. I, 124-125). As far as Tuggle knows, the bolt is still there. (Tr. I, 125).

The second condition Tuggle observed consisted of three pieces of belt structure at crosscuts 11, 16, and 30 that had been cut in two by the belt (Citation No. 8182671). (Tr. I, 63-64). Two of the belts were still contacting the stands and were hot and/or smoking from the friction. (Tr. I, 63). Belt smoking can occur in a matter of minutes. (Tr. I, 126). There were two damaged rollers at crosscut 16 and 30. (Tr. I, 63). The rollers had bearings and ends missing from the top rollers and the outer shells were grinding on the metal support shafts. (Tr. I, 63).

At crosscut 11, the belt had completely cut through the structure. (Tr. I, 67). A stand is shaped like an "H" and the belt had cut into it on the right side rail and it was putting the belt in a bind. (Tr. I, 67). This condition lasted several hours, perhaps even a day or two, though there was no way to tell exactly how long. (Tr. I, 66, 121-122).

At crosscut 16, the stand was ready to fall and there was a bad or damaged top roller. (Tr. I, 68). The bearing end of the roller was ground off and the roller was grinding on the inner support shaft. (Tr. I, 68). The structure was cut in two. (Tr. I, 68). The stand was taking weight and starting to twist. (Tr. I, 68). This created a sound like a clanging cow bell. (Tr. I, 69-70). Also, one top roller's bearings were completely gone the roller was grinding directly onto the support shaft. (Tr. I, 68). These conditions lasted several hours, perhaps even a day or two, though there was no way to tell exactly how long. (Tr. I, 66). He does not believe the twisting if the rails would happen in less time. (Tr. I, 120).

At crosscut 30 another structure was cut in two and was smoking. (Tr. I, 65, 70). Respondent had put up another piece of structure to allow production to continue without removing the damaged stand. (Tr. I, 65-66, 70, 125). All belt work and maintenance is done on the midnight shift. (Tr. I, 125-126). Further, the belt had pulled the damaged stand under the belt where it was cutting splices out of the belt. (Tr. 70). There was also a damaged top roller at this location. (Tr. I, 70). This condition had existed for several days as shown by the fact that Respondent added more structure rather than replacing the damaged structure and because there was rock dust and litter around the foot area. (Tr. I, 65, 72).

This condition was a fire hazard from belt friction and from metal-on-metal grinding at the rollers and also a carbon monoxide hazard. (Tr. I, 64, 70-71). This belt carried coal from all the sections, plus coal from the Chad Jolo Mine. (Tr. I, 64). A fire could occur from the belt heating up the coal or from damaged structure touching the belt. (Tr. I, 71). There was a fire suppression system (including water) on this structure, but only at the drives, not at the middle of the belt where the condition was located. (Tr. I, 71-72, 114). Tuggle could not say if the belt was or was not fire resistant as the regulation requiring such belts was not fully enacted at that

time. (Tr. I, 114). In addition, with the belt moving, hanging, and twisting, there could be more problems inby and outby. (Tr. I, 71). Finally, if a miner was near the structure when it gave way, it could cause injury. (Tr. I, 71).

The reasonably likely injury from these conditions would be lost workday/restricted duty from fire, smoke, or crushing injury. (Tr. 71). Tuggle believed only a miner shoveling the belt would be affected, but if the fire was big enough it could affect everyone at the mine. (Tr. I, 72). Tuggle marked this condition as "reasonably likely" because there were three damaged stands, two of which were smoking, and two damaged rollers. (Tr. I, 72). He marked this condition as S&S because an accident was reasonably likely. (Tr. I, 73-74). Under normal mining conditions all of the splices would rip out and there could have been a fire. (Tr. I, 74). He marked the cited condition for "moderate negligence" because the conditions were located immediately beside the track entry where examiners travel in and out and all foreman would travel. (Tr. I, 73). Also, the damaged rollers were audible and the structure could be seen jumping. (Tr. I, 73).

The third condition Tuggle observed was a hole in a stopping at crosscut 16 (Citation No. 8182672). (Tr. I, 74, 77). The stopping was about six feet tall and eighteen feet wide, or about a hundred and twenty square feet. (Tr. I, 114-115). He could hear a loud rushing sound like a compressor two crosscuts before the condition. (Tr. I, 74-75). However, he would not disagree that Howington could not hear clearly on the manbus. (Tr. 119-120).

The hole in this stopping measured 16 inches long and three and a half inches wide where a wedging had fallen into the return from the top. (Tr. I, 115-116). However, this stopping was also leaning, ready to fail, and the plaster was cracked so air was leaking around each individual block as well, but there was no way to measure this amount. (Tr. I, 175, 116-117). This stopping separated the neutral air of the track entry from the main return. (Tr. II, 76, 115, 117). The condition short-circuited air into the return and aversely affected the return from the active T-section. (Tr. I, 75). The stopping was located 16 crosscuts inby the main return fan and, had it failed, it would have reversed the air going up the belt/track entry and eliminated all return on the active T-section where miners were working. (Tr. I, 75-76). However, Tuggle did not have a "pedo tube" to measure the pressure differential between the neutral and the return, did not do a smoke test, and did not do any other kind of test. (Tr. I, 116-117). Tuggle conceded that air in the neutral would go to the face and then come down the return. (Tr. I, 118).

The condition existed for several days because, in reviewing the mine history, Tuggle learned that the main return had been roofed out with water and the fan had created a giant vacuum that could pull out the stopping. (Tr. I, 77). It is possible for airflow to make a stopping bow; this is based on common sense. (Tr. I, 126). While he conceded he could say exactly when the condition occurred, there was no way that the condition occurred after Howington's exam, because the area contained draw rock covered with rock dust. (Tr. I, 118-119).

Tuggle testified that this condition would lead to lost-workdays/restricted duty injury because the T-section had, in the past, had methane gas build up to explosive level and the return had previously filled with water. (Tr. I, 77-78). If the stopping failed, there would be no actual ventilation on the T-Section. (Tr. I, 78). This condition affected one person because the brattice was still intact, but if it failed it would affected everyone on the section. (Tr. I, 78). Tuggle

believed that the condition was reasonably likely to create an injury because the stopping was already leaning and bowed, so it was not stable. (Tr. I, 79). The condition was S&S because it could have resulted in an explosion on the T-section. (Tr. I, 79). Also, there was a CO monitoring system along the belt-line. (Tr. I, 112-113). That system can pick up five parts per million ("PPM") of CO and could issue an alert and sound an alarm at ten or fifteen PPM. (Tr. I, 113). While Tuggle conceded monitor was functioning on the day of the citation, tuggle believed a short-circuit of air would have rendered the CO system useless and would eliminate warnings at the face. (Tr. I, 79-80, 112-113). This citation was marked for "moderate negligence" because the sound of air going through the stopping could be heard over the belt, people talking, and the equipment. (Tr. I, 79). Also, the condition was located right next to the track. (Tr. I, 79).

The fourth condition cited was another hole in a stopping at crosscut 37 (Citation No. 8182673). (Tr. I, 80). This was in the same return and entry as the last condition. (Tr. I, 81). The hole was sixteen inches long by three inches high from a missing wedge at the top of the stopping. (Tr. I, 81, 110). The stopping itself was five and a half feet to six feet tall and 18-20 feet wide and was plastered. (Tr. I, 110-111). The condition could be heard over the sounds of the belt and manbus. (Tr. I, 81). Anyone entering or leaving the mine passed this area. (Tr. I, 81-82). If there were an emergency, this would be the escape route. (Tr. I, 82).

The hazard here was loss of ventilation to the face of T-section and the loss of the CO system along the belt line. (Tr. I, 82). (Tr. I, 111). On cross examination, he conceded that there were two sources of air to the T-Section. (Tr. (111-112). There was just a small leak and if the air made it to the face it would go down that return anyway. (Tr. I, 112). This condition had existed several days because dust was visible inside the hole and pooling. (Tr. I, 82).

Tuggle marked the citation as lost-workdays/restricted duty because the condition could have short-circuited and allowed methane to build up or for CO to go unmonitored. (Tr. I, 83). Tuggle modified this citation from "reasonably likely" to "unlikely" and S&S to Not S&S because the brattice was till stacked properly, the cap wedges and half-headers (which create stability) were still there, and it was tight on the ends. (Tr. I, 83). Tuggle marked this citation as "moderate" negligence because it was located directly beside the track entry and it could be heard over a crosscut away over the belt and manbus. (Tr. I, 84). Every foreman would travel passed this area. (Tr. I, 84).

On cross-examination Tuggle conceded that the belt in the cited entry was roughly 2,800 feet long. (Tr. I, 102-103). If the mine had seventy-foot centers, there would be about forty stoppings on each side, so an examiner would pass 80 stoppings. (Tr. I, 103-104). The only light an examiner has is the two manbus lights and his headlamp. (Tr. I, 104-105). These were the only two problems noted in those stoppings. (Tr. I, 109-110).

The fifth condition was a roof bolt falling at crosscut 66 ½, 2,000 feet from the first bolt, directly over the main track (Citation No. 8182674). (Tr. I, 84, 87, 108). Draw rock had fallen from around the bolt leaving the bolt head 14 inches from the roof on a bolt that was 4-6 feet long. (Tr. I, 84-86, 108-109). Fourteen inches is a lot because it indicates the immediate area was pretty ratty and left an unsupported area seven feet six inches by seven feet six inches. (Tr.

I, 86-87). This condition had existed for several days because the area where the draw rock had fallen was not fresh and the roof was dusted. (Tr. I, 84-85). This observation was not in his notes, just his recollection. (Tr. I, 85). As with the first bolt, this was a resin bolt, so there would be beaming, so the hazard would be limited to draw rock. (Tr. I, 109).

An accident was reasonably likely because every ride would travel this area. (Tr. I, 87-88). Two people sitting on the end of a manbus would be affected. (Tr. I, 87). This condition was S&S. Tr. (I, 88). This citation was marked for moderate negligence because there was obviously 14-inches of bolt hanging and every foreman traveled the area every shift. (Tr. I, 87). This condition was abated when the bolt was replaced. (Tr. I, 125).

In determining the violation existed, Tuggle considered the area the examiner was required to check, the conditions he found, and the fact that it was apparent that DTIs were being added but the conditions were not actually being observed. (Tr. I, 88, 94). The examiner was required to cover a vast amount of area and did not have time to conduct the exam properly. (Tr. I, 88). It would take "hours upon hours" to examine the "miles of belt" and other areas required to be checked by the examiner. (Tr. I, 94-95). Tuggle did not blame miners for these conditions. (Tr. I, 95). Two months before this Order, Tuggle told Respondent that it did not have enough miners to run the mine properly. (Tr. I, 95). Respondent did not correct this problem until after the D-2 order. (Tr. I, 95-96). Tuggle conceded that after the conversation a new superintendent, Rick Lawson ("Lawson"), was brought in and there was a new foreman, but only because the previous superintendent was promoted. (Tr. I, 122). Tuggle referred to Lawson as a "superman" and stated that Howington was a good worker. (Tr. I, 122). He also agreed that mine foreman Ron Helton ("Helton") was a good and conscientious man. (Tr. I, 123). He did not criticize mine management. (Tr. I, 123). He does not know why no violations were listed on the pre-shift. (Tr. I, 95). The adequacy of the pre-shift did affect the health and safety of miners as they were exposed to all these conditions every time they entered or exited the mine. (Tr. I, 96-97).

He marked the subject order as reasonably likely because there were so many conditions present. (Tr. I, 90-91). He also marked it as "lost workdays/restricted duty" because it paralleled the conditions noted in the underlying citations. (Tr. I, 90). Six persons would be affected because if the stoppings were to fail, then air would be lost to the six miners off of the T-Section. (Tr. I, 91). This condition was S&S because any of these conditions could have caused a fatal injury. (Tr. I, 92). There could have been a fire, a crushing injury, or an explosion. (Tr. I, 92).

Tuggle marked this order for "high" negligence because the damaged rollers were audible, the broken brattices were audible, and all of the conditions were along the main travelway where the examiner traveled. (Tr. I, 91). Also, all foreman and management would travel this same way, meaning there were opportunities for many people to see these conditions and danger them off or correct them. (Tr. I, 91-92).

Tuggle believed the condition had existed for several days. (Tr. I, 92). He was especially sure that several days had passed with respect to the bolt at 66 ½ and where a second piece of structure was placed but the damaged structure remained. (Tr. I, 93). This also showed that management was aware of the condition. (Tr. I, 93). However, the Order was written only for the immediate pre-shift prior to the inspection because there were no DTIs at the belt. (Tr. I, 93).

b. Testimony of Timothy J. Howington, Jr.

Timothy Howington graduated from high school in 1999 and began in the mines in 2001.[28] (Tr. I, 131). He began working for Abby Contract at Dominion 36 doing general manual labor. (Tr. I, 132). He became certified to conduct pre-shift examinations in 2010 and was trained to do belt examinations by David Adair. (Tr. I, 133-134). Adair got Howington familiar with the mine: showing him the mainline and each section, the belt drives, the power centers, and the face. (Tr. I, 134). Howington learned what to look for and where to travel. (Tr. I, 134). Adair knew his stuff and Howington felt properly trained. (Tr. I, 134-135). On cross examination, he conceded that he could not recall when in 2010 he was certified to do examinations, but it may have been less than a year at the time at issue. (Tr. I, 162-163).

Howington recalled working the day shift on April 4, 2011 and the violation being issued. (Tr. I, 136, 138). However, he did not specifically recall the instant pre-shift. (Tr. I, 162). Generally, he conducted the pre-shift for the oncoming evening shift starting at around noon. (Tr. I, 136). He started then because it had to be completed by 3:00 or 3:30 p.m. when the evening shift arrived. (Tr. I, 136). It took three hours to conduct the pre-shift because the area was enormous, it was a mile long. (Tr. I, 163). He was probably in the area cited around 2:30 and 3:00 p.m., unless he had help. (Tr. I, 155). He only occasionally had help. (Tr. I, 163-165). When he received help, the task was easier. (Tr. I, 164). He was confident in his abilities, but it was a big mine. (Tr. I, 164).

He started the examination on T-section at the T-6 drive. (Tr. I, 138). He then left the T-section and dated everything on the T-section. (Tr. I, 138). He then went back towards U-Section and date the five belt drives there. (Tr. I, 138). Then he would head outside at West Virginia where his last date board was located. (Tr. I, 138-139). This route allowed him to finish before the next shift started and avoid running into the new shift. (Tr. I, 139). Then he would go back through the mine and get outside down the mainline. (Tr. I, 139). He took the report for the exam outside and filled out the book himself at this time. (Tr. I, 137).

During his examinations, Howington would look for hazardous conditions and violations including bad rollers, belt rubbing the stand, the belt itself, draw rock on the top, roof conditions, the flow of air, and accumulations. (Tr. I, 139-140, 142). He had been taught to look for these things. (Tr. I, 140). He would travel on a manbus and use the light from his cap. (Tr. I, 139). He did not fix his eyes on one spot, but tried to look around. (Tr. I, 143). He would get off of his manbus and look around at the belt drives, the power centers, and broken belts. (Tr. I, 141). He took this task seriously because he was looking out for every other person in the mine and he took pride in his job. (Tr. I, 140). He rode the manbus for the examination because the area was so big. (Tr. I, 163-164).

[28] Howington did not work at Dominion 36 at the time of the hearing, he had worked for D&H Mining as a section box for around six months. (Tr. I, 135). He was subpoenaed for a deposition about his April 4, 2011 examination. (Tr. I, 135). After that deposition, he did not speak to Respondent's attorney or anyone else about his testimony. (Tr. I, 137-138).

He also recalled the five conditions cited by Tuggle. (Tr. I, 141). With respect to the cited stoppings, a condition would have to be pretty loud to hear while riding on the manbus, as the manbus and the belts are loud. (Tr. I, 142, 165). The manbus makes a metal on metal sound and the belts make a lot of sound. (Tr. I, 142-143). While traveling, Howington looks at stoppings to ensure there are no big holes, stoppings out, or anything effecting ventilation. (Tr. I, 149-150). He looks at the stoppings with his light, he does not stop at every stopping. (Tr. I, 150). The entry also had stoppings every 70 feet on both sides. (Tr. I, 148). Traveling inby the stoppings on the left were 10 feet away and the ones on the right were 15-20 feet away, on the other side of the belt. (Tr. I, 148-149).

Howington had seen missing wedges in the top of a stopping before. (Tr. I, 156). It occurs when the plaster gets dry and breaks apart and air blows out the wedge. (Tr. I, 156). This can happen at any time. (Tr. I, 156). The stoppings were about 50 inches high and 18-20 feet wide. (Tr. I, 158). It is not easy to see a three-inch by 16-inch hole moving down the entry in a manbus. (Tr. I, 158-159). The second brattice was in the same return and could have happened in less than a minute. (Tr. I, 159). It would also not be easy to spot. (Tr. I, 159-160).

With respect to bolts, the cited entry was about 43 breaks (2,800 feet) long. (Tr. I, 145). The bolts in this area were five across and four feet apart in a 20-22 foot-wide entry. (Tr. I, 145-147). The bolts were 42 and 48 inches long and had resin. (Tr. I, 146). There were 2,800 bolts in the entry and it would be impossible Howington to look at all of them. (Tr. I, 147). When he travels, he is not only looking at bolts, but everything else. (Tr. I, 147-148). He also examined Two other belt entries. (Tr. I, 144).

The first condition in the Order was a loose bolt. (Tr. I, 150). Howington looked at the bolts but did not see this one. (Tr. I, 150-151). He sometimes sees bolts where draw rock has dropped away. (Tr. I, 151). These do not provide support. (Tr. I, 151). To fix it, he takes a couple of "half-headers" and wedges them between the plate and the roof; the bolt is not removed but stays cemented. (Tr. I, 151). Howington did this occasionally. (Tr. I, 151). The fifth condition was also a roof bolt that Howington did not see. (Tr. I, 160). It takes no time for draw rock to fall. (Tr. I, 160). The bolt did not have to be removed; it still had the resin glue. (Tr. I, 160). This could be corrected by wedging in half-headers. (Tr. I, 160).

Finally, Howington discussed belts. He had seen problems with the belt in the past. (Tr. I, 152). Belts may begin rubbing at any time from a bad splice or something else. (Tr. I, 152-153). Belts can be knocked out of line when a splice contacts a roller and this will cause the belt to run side to side. (Tr. I, 152-153). It is also possible for the structure to bend or break in two. (Tr. I, 153). With respect to holes or damage to rollers, such a condition may take awhile but he was not sure. (Tr. I, 153-156). Rollers can be good one minute and bad the next. (Tr. I, 156). He could not always hear problems with the belt. (Tr. I, 165). If he noticed bad structure he stopped the bus, called outside to tell them he was shutting the belt down, then he knocked the breaker at the power center, and replaced the structure. (Tr. I, 154).

Howington understood that this case was about citations issued for things he missed on the pre-shift. (Tr. I, 161). He tried to do the best he could when doing pre-shifts, including

checking for hazards and violations. (Tr. I, 161). He did not believe he was highly negligent. (Tr. I, 161). The conditions would not have been easy to see. (Tr. I, 161-162). However, he conceded that all of the cited conditions could have been present during his examination. (Tr. I, 163).

c. Testimony of Ronald Helton

At the time of the hearing, Ronald Helton had worked in the mines for almost 13 years and worked for Suncoal. (Tr. I, 167). He was certified to conduct belt examinations. (Tr. I, 167). In April 2011 he worked at Dominion 36 on the third shift.[29] (Tr. I, 167-168, 177). He did not recall if he was pre-shifting outby areas or active working sections at the time or if he conducted a pre-shift prior to the one at issue here. (Tr. I, 177-178).

Helton took conducting pre-shift examinations seriously because he checked for hazards and violations and because of his training. (Tr. I, 168). That classroom training was conducted by Van Dyke and Helton also picked things up from other places. (Tr. I, 169). In order to conduct a pre-shift, Helton would check utility belts, look for bad rollers, bad belt, roof conditions, accumulations and rubbing. (Tr. I, 169-170). Helton would ride a mantrip during his pre-shifts, a process authorized by MSHA. (Tr. I, 170).

Helton reviewed the Order at issue. (Tr. I, 170). The first condition was a loose bolt at crosscut 1 by the first airlock door over the track and there was another loose bolt at crosscut 66 ½ where draw rock had fallen out. (Tr. I, 171). Helton had seen such conditions during pre-shifts before and he saw these he would have put header boards above them. (Tr. I, 171). Draw rock can fall from around a bolt at any time and it can happen quickly. (Tr. I, 172).

The Order notes that three pieces of belt structure damaged at crosscut 11, 16, and 30. (Tr. I, 172). Two pieces were cut by the belt and the belt was causing friction and smoke on two stands. (Tr. I, 172). As an examiner, Helton would never walk by something that was smoking and not fix it. (Tr. I, 172). Helton had seen belts wobble or move, various thing cause this including crooked splices, broke belts, or upside belts. (Tr. I, 172-173). This condition can occur very quickly. (Tr. I, 173). Belt can wobble out of alignment, cut into structure, and then go back into alignment. (Tr. I, 173). He also noted that the belts are miles long. (Tr. I, 172).

The Order also notes two damaged rollers at crosscuts 16 and 30 with bearings and ends missing on the top rollers and the roller outer shell contacting and grinding on the metal support shaft. (Tr. I, 173). Helton had found and removed damaged rollers during pre-shifts. (Tr. I, 173). Bearings go out quickly, even on a new roller, causing the roller to wear out. (Tr. I, 174).

The Order also noted two places where there were holes in the brattices. (Tr. I, 174). This condition can happen at any time from vibrations and the earth moving. (Tr. I, 174-175). Helton had seen and corrected similar conditions during pre-shifts. (Tr. I, 175). He would not

[29] When asked if he was conducting pre-shift examinations at Dominion 36 on April 2011, Helton testified, "I'd say I was, but" and then the transcript states the rest of his answer was unintelligible. There were several instances in which Helton's answers could not be recorded. No weight can be given to the answers to those questions.

be able to hear air going through the hole while on the mantrip. (Tr. I, 175-176). Helton has never had problems doing a pre-shift from the mantrip. (Tr. I, 176).

On cross examination, Helton conceded that he did not recall Tuggle's inspection or the five conditions cited. (Tr. I, 177-178). He would have noted the conditions as hazardous if he had seen them. (Tr. I, 178)

3. Contentions of the Parties

The Secretary contends that Order No. 8182676 was validly issued, was the result of high negligence and an unwarrantable failure ("UWF"), was S&S, and had appropriate penalties. (*Secretary's Post-Hearing Brief* at 31-43). Specifically, the Secretary argues that this violation was valid because Respondent's pre-shift examiner failed to notice five separate obvious hazardous conditions during a pre-shift examination. (*Id*. at 31-33). The Secretary argues that this condition was S&S because there was a violation of a mandatory standard, that violation could lead to numerous safety hazards including roof fall or fire, all five underlying violations were reasonably likely to occur, and four out of the five were likely to result in serious injury. (*Id*. at 33-34). The Secretary also argues that this condition was UWF because it was obvious, extensive, over a large area, existed for some time, and Respondent had prior warning. (*Id*. at 34-37). Finally, the Secretary contends that the penalty was appropriate considering Respondent's history, size, negligence, business strength, abatement, and the gravity of the violation. (*Id*. at 38-44).

Respondent contends that Order No. 8182676 was invalid, was not the result of negligence, was not a UWF, and was not S&S. (*Respondent's Post-Hearing Brief* at 46-62). Specifically, Respondent argues this violation was not valid because the pre-shift examiner testified that he had conducted the examination thoroughly and the Secretary presented no evidence to show that he did not. (*Id*. at 54). Respondent also argues that the negligence was not hight because the conditions were not obvious, there was no evidence that the examiner ignored conditions, and the conditions could have occurred at any time. (*Id*. at 56-58). Finally, Respondent argues that this situation meets none of the requirements for a UWF designation. (*Id*. at 59-62)

4. Findings and Conclusions

a. Validity

Order No. 8182676 was validly issued. An operator commits a violation of 30 C.F.R. §75.360(a)(1) when it fails to conduct an adequate pre-shift examination within three hours preceding the beginning of any eight-hour interval during which any person is scheduled to work or travel underground. Under §75.360(b) an examiner must inspect for, amongst other things, "hazardous conditions." An inspector's determination that a pre-shift examination was inadequate is subject to review under "an objective test of whether a reasonably prudent person, familiar with the mining industry and the protective purposes of the standard, would have recognized the hazardous condition that the regulation seeks to prevent." *Utah Power & Light Co.,* 12 FMSHRC 965, 968 (May 1990), *aff'd,* 951 F.2d 292 (10th Cir. 1991) (citation omitted).

The Commission has held that the terms of §75.360 are "unambiguous" and are of "fundamental importance in assuring a safe working environment underground." *Buck Creek Coal*, 17 FMSHRC 8, 15 (Jan. 1995); see also *Jim Walter Resources, Inc.*, 28 FMSHRC 579, 598 (Aug. 2006). Therefore, review of the validity of Order No. 8182676 turns on whether a reasonably prudent person, familiar with the mining industry and the protective purpose of §75.360(a)(1) would have recognized that circumstances were present in the area covered by the pre-shift examination that constituted "hazardous conditions."

In the instant case, Inspector Tuggle conducted an inspection of the mine on April 4, 2011. (Tr. I, 39). It is undisputed that during that inspection Tuggle wrote five citations for hazardous conditions along the mainline belt and track entry. (Tr. I, 43, 59-60). It is further undisputed that Respondent did not contest those five citations and paid the penalties assessed thereto without modification. (GX-3). In fact, Helton conceded at hearing that these conditions were hazardous within the meaning of the standard. (Tr. I, 178). Under *Old Ben Coal Company*, uncontested violations are final orders of the Commission and if the penalty has been paid, the operator's right to contest the violations has been extinguished. *Old Ben Coal Company*, 7 FMSHRC 205, 209 (Feb. 1985). It is further uncontested that Respondent's pre-shift examiner, T.J. Howington, did not record any of these five conditions in pre-shift book and did not correct them. (Tr. I, 51). Therefore, I find that the Respondent has conceded that the five hazardous conditions cited by Inspector Tuggle exist and, as a result, Respondent violated 30 C.F.R. §75.360(a)(1) by failing to record or correct them.

Respondent cites to *Cyprus Cumberland Resources*, to argue that suspicion that a hazardous condition may have existed at the time of the pre-shift examination is not sufficient to establish a violation of §75.360. *Cyprus Cumberland Resources*, 18 FMSHRC 1271, 1278 (Jul. 1996) (ALJ Melick). Respondent notes that Inspector Tuggle was not present at the time of the pre-shift examination, a point that is not contested. Further, it points to Howington's testimony that he did not see any of the cited conditions. In essence, it argues that because Tuggle was not present for the pre-shift examination and Howington testified that it was properly conducted, there is no evidence that the conditions existed during the examination.

Respondent's reading of Judge Melick's decision in *Cyprus Cumberland Resources* does not stand up to scrutiny. Judge Melick did not hold that an inspector must be present when a pre-shift examination or that the examiner admit the examination was inadequate in order to issue a citation. If he had that decision would be clearly erroneous. Such a holding would render any citation for pre-shift examination invalid so long as the examiner stated he followed the law. Instead, Judge Melick simply stated that in his opinion there must be more than speculation to support a pre-shift violation.

In the instant case, the Secretary showed, by a preponderance of evidence, that the conditions existed during the pre-shift examination and were not recorded or corrected. Inspector Tuggle testified that that the first loose roof bolt had been present since before the last examination because rock dust had accumulated on the roof plate. (Tr. I, 57). Similarly, the roof near the second loose bolt had dust that was not fresh. (Tr. I, 84-85). He testified that it would take a day or two for the belt to cut all the way through the belt structure. (Tr. I, 66). He testified that the first hole in stopping at crosscut 16 may have existed for several days given the

flood issues that occurred in the mine. (Tr. I, 77). Finally, he testified that the hole in the stopping at crosscut 37 contained visible, pooling rock dust and therefore had existed before the examination. (Tr. I, 82). Howington even conceded that the conditions could have been present during his examination. (Tr. I, 163).

I found the Inspector Tuggle's testimony was credible with respect to the amount of time the conditions existed. Furthermore, in order to reject the Secretary's explanation of the condition would require that I would have to believe the following scenario:

Between roughly noon and 3:30 p.m. Howington conducted a pre-shift examination, specifically checking the area cited between 2:30 and 3:00 p.m., and found that the area was pristine. (Tr. I, 136, 155, 163). However, as soon as Howington left the cited area, it rapidly, almost cartoonishly, degenerated. Within an hour or so of Howington's examination of the cited area, a host of hazardous conditions suddenly appeared. At the airlock door, a roof bolt became loose, at crosscut 11 the belt cut into the belt structure, at crosscut 16 the belt structure was cut in two by the belt and the rollers were grinding on the support shaft, at crosscut 30 the belt structure was cut in two and began to smoke, at crosscut 16 a hole developed in the stopping and the stopping began to lean over, at crosscut 37 another hole developed in the stopping, and at crosscut 66 1/2 another bolt failed. After that hour, Tuggle arrived and cited the conditions (which Respondent conceded existed).

I find that such a bizarre series of events was unlikely. It was far more likely, and the preponderance of evidence supports, that the cited conditions existed for some time but were either not noticed or not reported by Howington. Therefore, Respondent's examination was not adequate and the Order was valid.

b. Gravity and S&S

With respect to Order No. 8182676, the event against which the standard, 30 C.F.R §75.360(a)(1), is directed is basically any hazardous condition. The Commission has recognized preshift examinations as "of fundamental importance in assuring a safe working environment underground." *Buck Creek Coal*, 17 FMSHRC 8, 15 (Jan. 1995); *see also Jim Walter Resources, Inc.*, 28 FMSHRC 579, 598 (Aug. 2006). Chairman Jordan and Commissioner Marks have referred to the preshift inspection requirement as "the linchpin of Mine Act safety protections." *Manalapan Mining Co., Inc*., 18 FMSHRC 1375, 1391 (Aug. 1996) (Jordan and Marks, concurring and dissenting in part). "The preshift examination is intended to prevent hazardous conditions from developing." *Enlow Fork Mining Co.*, 19 FMSHRC 5, 15 (Jan. 1997). The standard seeks to ensure that safety hazards from causing injury by encouraging operators to report and correct those hazards first. In the instant case, Inspector Tuggle credibly testified that this condition was reasonably likely to result in lost workday/restricted duty injuries to six persons. (Tr. I, 90-93). Furthermore, Respondent conceded that the five individual conditions cited were validly issued and that four of the five were reasonably likely to result in serious injuries to six persons. Therefore, inspector Tuggle's determination with respect to the gravity of the cited danger is appropriate.

Further Inspector Tuggle's designation of S&S is clearly correct. The first prong of *Mathies* is satisfied with respect to this violation for the reasons discussed above.

The second prong, that a discrete safety hazard was contributed to by the violation, is also met. The law requires an adequate pre-shift to check for all dangers that might occur in the mine. In this case, an adequate pre-shift would have found roof fall danger from loose roof bolts, the risk of fire from belt friction and broken rollers, and the risk of loss of ventilation or carbon monoxide build-up from damaged stopping. All or one of these conditions could have contributed to a safety hazard.

The third prong, that there is a reasonable likelihood that the hazard contributed to by the violation will cause injury, is also met. In the event of a roof fall, a miner could suffer crushing injuries. (Tr. I, 62-63). In the event of a fire, a miner could be burned. (Tr. I, 71). Finally, in the event loss of ventilation or carbon monoxide build up, and explosion could occur or a miner could suffocate. (Tr. 78-81).

Finally, the fourth prong of *Mathies* is met as injuries resulting from roof fall, fire, explosion, or CO build-up would likely result in at least lost workday/restricted duty injuries and possibly fatal injuries. Therefore, the S&S designations for each of the three violations related to the gas well are appropriate.

c. Negligence

Inspector Tuggle marked this Order as exhibiting "high" negligence. I find the preponderance of the evidence substantially reports this designation.

The first issue with respect to negligence is whether Respondent knew or should have known that violations at issue in this case existed. That is, whether it knew or should have known that the underlying violations existed such that the pre-shift examination was inadequate. The parties have stipulated that Howington was an agent of Respondent at the time of the examination. If Howington, or other agents of Respondent, were negligent with respect to this violation, that negligence is imputable to Respondent.

A preponderance of the evidence shows that Respondent knew or should have known that the hazards were present in the along the mainline belt and track entry. Inspector Tuggle credibly testified that the first damaged bolt had 5.5 inches of draw rock fallen while the second had 14 inches (which is a lot). (Tr. I, 58, 87, 106-109). He also testified that the damaged belts were smoking, that several pieces of belt structure were cut in half, others were in a bind, and that they were making a loud clanging noise that could be heard over the din of equipment and voices. (Tr. I, 63, 65, 67-70). Perhaps more importantly, some of the damaged belt structure had been supplemented with additional structure, implying that the damaged equipment was seen but not removed. (Tr. Tr. I, 65-66, 70, 125). He further testified that the holes in the stoppings created loud rushing noises that could be heard over equipment. (Tr. I, 74-75, 79, 81, 91). All of these violations occurred along the main track where everyone would travel in the mine, including foremen. (Tr. I, 61-62, 73, 79, 84, 87, 91-92). Finally, Tuggle testified that five

conditions along a 2,800-foot entry would be a lot. (Tr. I, 127-128). These conditions were visibly and audibly obvious and Respondent should have known they existed at least during the pre-shift exam. In fact, the evidence with respect to the supplemental structures shows that Respondent knew about some of the conditions but did not correct them.

In its brief, Respondent seeks to mathematically show that the conditions were not obvious and therefore that it should not have known they existed. Specifically, it noted that there were 2,800 roof bolts in the area and that only two were damaged. (*Respondent's Post-Hearing Brief* at 55). It also noted that there were 80 stoppings in the area and that only two had holes that constituted just 0.00325% of the surface area. (*Id*. at 56). Respondent operates a large mine and a large mine is going to have extremely high numbers of bolts and stoppings. That does not automatically create an excuse for failure to conduct a proper pre-shift examination. If Respondent has an entry with 2,800 roof bolts and 80 stoppings then it should be able to monitor that number of bolts and stoppings. There is no certain low number of violations that form a "safe harbor" for finding a pre-shift was not negligent.

Having determined that Respondent was negligent, the next issue is whether there were any mitigating factors present. Respondent argues that there are several.

Respondent also notes that, unlike the inspector, Howington had only three hours to conduct the pre-shift and that there was no evidence that he ignored the conditions. (*Respondent's Post-Hearing Brief* at 55). If three hours was insufficient time for Howington to conduct a proper pre-shift examination then he should have been given more time or an additional miner should have been assigned to conduct pre-shift examinations. In fact, the evidence shows that Inspector Tuggle told Respondent before this violation was issued that it had insufficient resources designated for pre-shift examinations. (Tr. I, 95). Furthermore, Respondent's witness agreed that the area to be covered by this examination was enormous. (Tr. I, 163). Howington's harried pace in conducting the examination likely lessens his personal negligence in this matter, but it does not in any way change *Respondent's* negligence. In fact, Respondent's failure to provide time and resources for an adequate examination heightens its lack of care.

Further, Respondent notes that Howington and Helton both testified that they could not hear the clanging and air rushing over the equipment. (*Respondent's Post-Hearing Brief*. at 57). I credit Tuggle's testimony that the rushing was audible over the equipment. Perhaps the failure of Respondent's employees to hear the equipment stemmed from the fact that they were moving too quickly through the area. However, even if Howington and Helton could not hear the conditions, they were still visible in a widely traveled area.

Respondent also argued that all of the cited conditions could have occurred in minutes. (*Respondent's Post-Hearing Brief* at 56-58). However, as discussed in the validity section *supra*, the conditions clearly existed since at least the start of the pre-shift and, in a few cases, for several days.

None of the arguments presented by Respondent persuade me that the negligence was in any way mitigated. I find that a high negligence designation is appropriate.

This Order was also cited for an unwarrantable failure. I find that a preponderance of the evidence also supports this designation, as dictated by the *IO Coal* factors. Specifically:

1. Extent of the violative conditions

The inadequate portion of the pre-shift examination covered a 2,800-foot area of the main track and belt entry of the mine. (Tr. I, 127-128). It consisted of at least seven different conditions contained in five different underlying citations. (Tr. I, 56, 67-70, 74, 76-77, 80, 84). Respondent argues that only a small number of bolts, belts, and stoppings were in violation over the course of this area. (*Respondent's Post-Hearing Brief* at 59). However, I credit the testimony of Inspector Tuggle, that five different violations in a half mile area is "a lot." (Tr. I, 127-128). While there were thousands of bolts and dozens of stopppings, I find that the cited conditions were extensive given the small area and the obvious nature of the violations. Furthermore, the area encompassed by the pre-shift examination was characterized as "vast," and Respondent even argued that 3 hours would not be enough time to find the conditions cited. As a result, the inadequate pre-shift touched on all areas of the

2. The Length of Time of the Violation Existed

As noted in the discussion of the validity of these conditions, the cited conditions lasted, in many cases, for several days. All of the conditions existed before the pre-shift examination at issue. A preponderance of the evidence shows that these obvious conditions existed for extensive periods of time. The amount of time is especially extensive in light of the fact that a worker was specifically assigned to search for these kinds of conditions.

3. Whether the violation is obvious or poses a high degree of danger

The underlying violations at issue here dealt with extremely grave hazards. As noted supra, the bolt conditions created the possibility of crushing injuries, the belt conditions created the possibility of fire, and the stopping conditions created the possibility of suffocation. The pre-shift examination was supposed to serve as a first line of defense against these hazards, "to prevent hazardous conditions from developing." *Enlow Fork Mining Co.*, 19 FMSHRC at 15. By failing to conduct an adequate pre-shift examination, Respondent exposed its miners to the underlying hazardous conditions.

4. Whether the operator had been placed on notice that great efforts were necessary for compliance or on notice that this was an issue.

Inspector Tuggle credibly testified that he had raised the issue of pre-shift examination with mine management in the past. (Tr. I, 95). In essence, he stated that there were not enough people conducting the pre-shift examinations. This situation was not corrected by the time of the instant Order, as evidenced by Howington's testimony that he had to inspect an enormous area and that it would have helped to have assistance. (Tr. I, 163-165).

Respondent argues that, while Tuggle had warned Respondent about pre-shift examination three months prior to the instant Order, new management had come taken over since then and the people working were qualified. *(Respondent's Post-Hearing Brief* at 60). As Tuggle noted at the hearing, new management was not brought in to correct the conditions but instead because the previous members of management were promoted. (Tr. I, 122). Further, simply bringing in new management did not correct the situation, as Howington was still required to inspect a vast area by himself and was unable to do so adequately.

5. The operator's efforts in abating the violative condition

Respondent abated the condition by conducting an adequate pre-shift examination. However, the issue of abatement is not particularly relevant. Miners had already been exposed to these conditions for several days.

6. Operator's knowledge of the existence of the violation

As discussed with respect to negligence, *supra*, Respondent knew or should have known that the pre-shift examination was inadequate. The underlying conditions were visibly and audibly apparent. These conditions clearly posed health and safety dangers to miners. Respondent should have known that the pre-shift was inadequate. Further, there is some evidence that Respondent had seen conditions with the belt and chosen to supplement the belt structure rather than replace the damaged equipment.

In light of the extensiveness of the condition, the length of time the cited conditions existed, the high danger posed by the violations, the fact that Tuggle had warned Respondent just three months earlier, and Respondent's knowledge of the condition, a finding of unwarrantable failure is appropriate.

d. Penalty

Under the assessment regulations described in 30 CFR §100, the Secretary proposed penalties of $16,400.00 for Order No. 8182676. I evaluated each of the statutory factors as follows:

(1) The Operator's history of previous violations – Respondent was cited 10 times under Section 75.360(a)(1) in the last two years.

(2) The appropriateness of the penalty compared to the size of the Operator's business – The evidence shows that Respondent had between 1,000-2,000 employees and that this mine was very large. (Tr. I, 210). Therefore, it is a large business.

(3) Whether the Operator was negligent – As previously shown, the operator exhibited high negligence and an unwarrantable failure to comply with all three standards

(4) The effect on the Operator's ability to remain in business – The parties have

stipulated that the Orders at issue here would not affect Respondent's ability to remain in business.

(5) The gravity of the violation – As previously shown, this violation was reasonably likely to result in fatal injuries to six persons.

(6) The demonstrated good-faith of the person charged in attempting to achieve rapid compliance after notification of a violation – The evidence shows the condition was abated in good faith.

In light of my affirmation of the Secretary's designations with respect to validity, negligence, and gravity, I hereby **AFFIRM** the originally assessed penalties of $16,400.00 for Order No. 8182676.

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ORDER

Respondent, Dominion Coal Corporation, is hereby **ORDERED** to pay the Secretary of Labor the sum of $216,400.00 within 30 days of the date of this decision.[30]

/s/ William S. Steele
William S. Steele
Administrative Law Judge

Distribution: (Certified Mail)

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[30] Payment should be sent to: MINE SAFETY AND HEALTH ADMINISTRATION, U.S. DEPARTMENT OF LABOR, PAYMENT OFFICE, P. O. BOX 790390, ST. LOUIS, MO 63179-0390