FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION
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February 18, 2000

BOWIE RESOURCES LIMITED,	:	CONTEST PROCEEDING
Contestant	:	
	:	Docket No. WEST 99-120-R
	:	Citation No. 7018205; 1/27/99
v.	:	
	:	
SECRETARY OF LABOR,	:	Bowie No. 2 Mine
MINE SAFETY AND HEALTH	:	Id. No. 05-04591
ADMINISTRATION (MSHA),	:	
Respondent	:	

DECISION

Appearances: R. Henry Moore, Buchanan Ingersoll P.C., Pittsburgh, Pennsylvania, for Contestant;
Mark W. Nelson, Office of the Solicitor, U.S. Department of Labor, Denver, Colorado, for Respondent.

Before: Judge Manning

This case is before me on a notice of contest filed by Bowie Resources Limited ("Bowie") against the Secretary of Labor pursuant to sections 105(d) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 815(d)(the "Mine Act"). Bowie[1] contested a citation issued on January 27, 1999, at the Bowie No. 2 Mine alleging a violation of the Secretary's safety standard at 30 C.F.R. § 75.202(a). A hearing was held in Delta, Colorado. The parties presented testimony and documentary evidence and filed post-hearing briefs.

I. BACKGROUND

The Bowie No. 2 Mine is an underground coal mine in Delta County, Colorado. On December 14, 1998, two miners were killed when a portion of the mine roof fell as they were mining a pillar. The miners were conducting retreat mining in a conventional mining section when the roof above the pillar they were mining fell. The men were under supported roof at the time of the accident.

[1] The name "Bowie" is pronounced ˈbaůē so it rhymes with "Howie."

At the conclusion of MSHA's investigation, the Secretary issued one citation under section 104(d)(1) of the Mine Act alleging a violation of section 30 C.F.R. § 75.202(a). The condition or practice section of the citation alleges a violation as follows:

> The mine roof was not adequately supported to protect persons from hazards related to falls of roof in the Number 22 coal pillar and intersection of the 002-0 MMU, an active working section where persons worked and traveled. On the evening of December 14, 1998, retreat mining was in progress on the No. 22 Coal Pillar. Statements obtained during the accident investigation revealed that ground conditions had been deteriorating over a period of two separate working shifts. During this period, unusual amounts of heaving in the mine floor had been observed, some timbers had dislodged or broken and been reset, however no additional support was added. At least once during each of the last two shifts prior to the accident, the continuous mining machine and crew had retreated for safety to an outby location. Despite these conditions being present, mining was resumed without installing additional or supplemental support. The section foreman was present during earlier mining activity, however had left the area immediately prior to the accident. As the final cut was taken from the coal pillar, the mine roof fell, extending from the Number 22 pillar continuing into the outby intersection, crushing the remainder of the coal pillar, covering the continuous mining machine, and fatally injuring both the machine's operator and his helper. This violation was determined to be a contributing factor to the occurrence of the fatal accident.

MSHA determined that the violation was serious, was of a significant and substantial nature ("S&S"), and was a result of Bowie's unwarrantable failure to comply with the safety standard. The safety standard provides, in pertinent part, that the "roof, face and ribs of areas where persons work or travel shall be supported or otherwise controlled to protect persons from hazards related to falls of roof, face or ribs ...."

It is important to understand that the Secretary is not contending that Bowie failed to follow its MSHA-approved roof-control plan. Rather, she is arguing that unusual conditions were present in and around Pillar 22 on the day of the accident and during the previous shifts. These conditions should have put Bowie on notice that additional measures were needed to support or control the roof. The Secretary contends that Bowie continued to mine the pillar in its normal fashion despite these warning signs. She maintains that Bowie's failure to take additional steps to support the roof created a serious hazard of a roof fall in the area and contributed to the death of two miners. The Secretary argues that Bowie's conduct constitutes a serious violation of section 202(a) and that Bowie was highly negligent in failing to adequately support or control the roof.

Bowie argues that the information available to its experienced personnel did not indicate that additional support was necessary. Bowie states that it was following its approved roof-control plan and that its supervisors had carefully instructed the crew on how to safely mine the pillar at the start of the shift. It contends that the Secretary improperly relies on hindsight to establish her case. It argues that the conditions that existed in the area on the evening of December 14, 1998, did not indicate that additional support was necessary. Bowie maintains that the roof fell because of the presence of an undetectable anomaly in the roof near the corner of Pillar 22. Bowie maintains that it did not know about this anomaly because it was virtually undetectable.

II. DISCUSSION WITH FINDINGS OF FACT

The Bowie No. 2 Mine is a relatively new mine that was still being developed at the time of the accident. A longwall section was being developed, but the accident occurred in the First East Submains where continuous mining machines were being used to extract the coal. The submains had already been advanced and retreat mining was taking place. Bowie's roof-control plan included provisions for partial pillar recovery. (Ex. G-18 pp. 23-24). The plan for partial pillar recovery was approved by MSHA on November 19, 1998. Under the plan, Bowie could make five cuts into each pillar in a preestablished order and was required to leave several stumps. The plan also set forth the sequence for installing timbers as supplemental support. The roadways[2] in this section were about 8 feet high and 18 feet wide. The pillars were on 85-90 foot centers. The basic plan is illustrated in Exhibits G-3A and B-14. A portion of Exhibit B-14 is attached to this decision as Illustration No. 1.

Bowie pulled Pillars 1-20 between November 20 and December 5, 1998. This was the first time that pillar mining was conducted at the Bowie No. 2 Mine. Additional rooms were developed between December 6 and 12, 1998. On December 13, 1998, Bowie resumed pillar extraction on Pillar 21. Thus, between December 6 and December 12, 1998, no retreat mining occurred in the area. The most inby row of pillars left standing during that period, Pillars 21 - 25, is referred to as the "standing row." Since this pillar row was immediately adjacent to the gob for that seven-day period, Bowie anticipated that roof and rib conditions could make mining more difficult.

A number of conditions were present along the standing row on December 13, 1998. First, a substantial amount of floor heaving occurred in the area. Such heaving produced a significant amount of loose coal in the roadways between the pillars along the standing row. Second, cutters developed at a number of locations along the standing row. "Cutters" are cracks along the roof immediately adjacent to a pillar. Third, some of the ribs developed sloughage problems along the standing row. Sloughage is fairly common at the mine because of the way the coal cleaves. All of these conditions developed, at least in part, as a result of the pressure

[2] I use the term "roadways" to refer to entries and crosscuts.

from the roof. This area is under about 750 feet of overburden. The roof is relatively strong at the mine and the pressure was at least partially relieved by the floor heaving.

Bowie took a number of steps to ensure roof stability before it resumed retreat mining on December 13. First, it cleaned up the loose coal produced by the floor heave. Bowie believed that the presence of floor heave indicated that much of the pressure that built up in the standing row had been relieved. It indicated to them that the roof was strong and solid. The pressure pushed the pillars down and the floor up. Some support timbers were cracked. Bowie replaced these timbers. Bowie also bolted the cutters with eight-foot roof bolts. Bowie uses six-foot roof bolts in the roadways, but it uses eight-foot bolts to support cutters.

Prior to the beginning of his shift on December 14, 1998, Keith McFarland, the section foreman, talked with D. Richard Kendall, the supervisor on the previous production shift. Mr. Kendall told Mr. McFarland that his crew had a tough time mining Pillar 21. Kendall said that cap rock fell while his crew was mining the pillar. Cap rock is a hard layer of rock, usually sandstone, just above the coal seam. *See A Dictionary of Mining, Mineral, and Related Terms 2nd ed,* 83 (1997). The cap rock fell in the unsupported area being mined.

McFarland's shift began at about 4:30 p.m. on December 14. At the beginning of the shift, McFarland conducted a safety talk. He reviewed an MSHA safety bulletin entitled "Best Practices — Retreat Mining." (Ex. G-20). It deals specifically with safe practices to follow when removing pillars. Rocky Gallob was late arriving to work that day and was not present during this safety training.

The crew followed Bowie's normal procedures when mining Pillar 22. The cuts were made in sequence and all of the timber supports were installed at the appropriate time. As the crew made each cut, the continuous miner operator frequently backed the continuous miner out to wait and watch the roof. Sometimes he backed out because it looked like cap rock was going to fall. At other times, he backed out to observe and listen to the roof. The continuous miner was operated by remote control, so the crew was under supported roof at all times and could observe the roof from the outby roadways adjacent to the pillar and from the outby intersection. The Secretary agrees that backing out the continuous miner to observe the roof is "a common practice in retreat mining." (Tr. 78).

Mr. McFarland was present during much of the shift, but he was absent from the immediate area some of the time. After the fourth cut was made, McFarland consulted with the continuous miner operator and his helper and he determined that it was safe to take the fifth (final) cut. Because it was near the end of the shift, many people were in the area to watch the roof. As the fifth cut was started, Mr. McFarland, Barry Schreckengost, Richard Ungaro, Rocky Gallop, and Hector Camacho were near the outby intersection between Pillars 22 and 23. Denis Linman was near the outby intersection between Pillars 21 and 22. Before the cut was made, Mr. Ungaro walked around Pillar 27 to stand near Mr. Linman. Messrs. McFarland and Schreckengost left the area just before the roof fell. Mr. Schreckengost was the shift foreman.

A massive roof fall occurred as the fifth cut was being made shortly after Mr. McFarland left the area. The roof fell from the unsupported area of Pillar 22 out into the outby intersection between Pillars 22 and 23. The diagram of the roof fall included in MSHA's accident investigation report, Exhibit G-1, is attached to this decision as Illustration No. 2. The fall came with some warning. Mr. Linman heard timber break and saw roof material fall. Mr. Linman waived his cap light and blew his whistle, which are warnings to immediately vacate an area. Mr. Ungaro ran around Pillar 27 to provide assistance. Unfortunately, the continuous miner operator, Rocky Gallob and his helper, Hector Camacho, did not escape in time. They were in the outby intersection between Pillars 22 and 23 when the roof fell. It appears that the roof fall started in the corner of the unsupported area in Pillar 22 and spread into the supported roof of the outby intersection adjacent to Pillars 22 and 23. The roof separated above the six-foot roof bolts that were installed in the intersection. The outby stump of Pillar 22 was crushed. The Secretary believes that if Gallob and Camacho had an additional second or two to escape, they would not have been under the roof fall. For reasons that are not entirely clear, Messrs. Gallob and Camacho did not immediately leave the area but apparently tried to back the continuous miner into the intersection before attempting to retreat outby.

A. Factors Relied Upon by the Secretary to Establish a Violation

The Secretary argues that Bowie knew or should have known that the roof was deteriorating, thereby risking a potential roof fall. Consequently, Bowie should have provided supplemental support to protect persons working in the area. She relies on a number of conditions that developed in the area and she described the steps that Bowie should have taken to control the roof. She states that these measures may not have been sufficient to prevent the roof from falling, but that they might have given Messrs. Gallob and Camacho more time to escape.

1. Conditions that Developed along the Standing Row

The Secretary relies on a number of physical factors that occurred along the standing row to support her position. The Secretary believes that one of the most significant events that indicated that the roof was deteriorating was the fact that the floor was heaving in the roadways. There is no dispute that there was a significant amount of heaving in several areas immediately adjacent to the standing row. The heaving occurred between Pillars 22 and 23, 23 and 24, and 24 and 25. Some of the loose coal that was observed in the roadway between Pillars 22 and 23 was material that had been pushed up with a scoop from outby roadways rather than coal that had heaved up in the area. Nevertheless, the heaving was greater than had ever been experienced during pillar mining at the Bowie No. 2 Mine. It must be kept in mind, however, that Bowie had been pillar mining at Bowie No. 2 for only two weeks. Significant heaving also occurred at the adjacent Bowie No. 1 Mine and in other areas of the Bowie No. 2 Mine.

The Secretary maintains that another significant event was the development of cutters along the standing row. There is no dispute that cutters were present along Pillars 22, 23, 24, and

25.[3] She contends that, as with the floor heave, the presence of cutters indicated that the roof was deteriorating and that additional support was required in the roadways. The Secretary acknowledges that Bowie installed eight-foot roof bolts at the cutters before mining was commenced, but argues that the presence of the cutters should have alerted management that additional measures were required.

The Secretary also points to the fact that there was a significant amount of rib sloughage in the vicinity of the standing row. The Secretary maintains that this fact also shows that the pillars were taking weight and that the roof could be unstable. She characterizes the amount of sloughage as abnormal. Bowie does not dispute that there was more rib sloughage along the standing row than was typical at the mine.

The Secretary contends that the presence of floor heave, cutters, and rib sloughage evidenced increased stress created by the weight of the roof bearing down on the pillars and floor. She argues that these warning signs should have alerted Bowie to the danger and that Bowie should have added additional support or mined only the first four cuts. Bowie contends that it cleaned up the rib sloughage and floor heave, and also repaired the cutters. It also maintains that it believed that these factors showed that the stress on the roof had been relieved, reducing the danger of a fall of roof. It also points to the fact that the standing row was stable at the time Pillar 22 was mined. The floor heaving had stopped; it did not appear that the ribs were continuing to slough; and the condition of the cutters had not changed. It states that there is no evidence that additional cutters were forming.

Finally, the Secretary contends that Bowie failed to take into account the fact that an old abandoned coal mine, the King Mine, is approximately 260 feet below the Bowie No. 2 Mine. Maps show that pillar remnants were located below Pillar 22. She contends that Greg Hunt, Bowie's geology consultant, advised Bowie that it could experience difficult conditions in areas above such remnant pillars. Bowie argues that Mr. Hunt merely stated such conditions were a "possibility" and that his concerns related to the longwall section. It also noted that pillar remnants were also present under many of the 20 pillars originally mined and no roof-control problems were encountered there. The roof fall in this case was the first reportable roof fall that occurred at the Bowie No. 2 Mine.

2. Conditions During the Previous Production Shift

The Secretary also contends that the crew on the previous production shift had a difficult time mining Pillar 21 and the adjacent barrier. She argues that the problems that developed on that shift should have alerted Bowie that additional roof support was required beyond that set forth in the roof-control plan. The barrier and Pillar 21 were the first areas mined in the standing

[3] Bowie maintains that these "cutters" were cracks rather than true cutters in the sense that a mining engineer would use that term. As stated above, I find that a cutter is a crack along the roof immediately adjacent to a pillar. I reject Bowie's argument.

row. In addition to the floor heave, rib sloughage, and cutters that were present, the Secretary points to evidence that Pillar 21 was difficult to mine. She relies upon Mr. Kendall's statement to MSHA that cap rock fell as Pillar 21 was mined and that it took longer to mine the pillar than is typically the case.

Bowie contends that although it anticipated that conditions along the standing row would pose some roof and rib-control problems, it took those conditions into account. Christopher Barker operated the continuous mining machine during the previous production shift. He testified that he had to back out his machine two or three times to watch the roof because of the presence of cap rock. He testified that backing out was not unusual in retreat mining and that mining Pillar 21 was no more difficult than normal. (Tr. 636, 641).

3. Conditions Encountered while Mining Pillar 22

As stated above, Mr. Kendall warned Mr. McFarland that there had been a lot of cap rock in Pillar 21. The Secretary maintains that Mr. McFarland demonstrated his knowledge of the poor roof conditions when he provided safety training to his crew at the start of the shift. In his statement to MSHA following the accident, McFarland said that he told his crew to " keep an eye out" for bad conditions and that he instructed them to install additional breaker posts at any indication of bad roof; watch the mine floor for evidence of heaving; and not to mine the final cut if conditions did not look safe. The Secretary argues that this instruction evidences McFarland's knowledge that additional roof control measures were necessary in the standing row.

The crew began mining Pillar 22 at about 6 p.m. The crew cleaned up loose coal in the roadway between Pillars 22 and 23, and reset timbers in the turn row for the first cut. These were the only timbers that had to be reset at Pillar 22. The first cut was then made. The continuous miner was backed out twice to observe cap rock in the roof. After some cap rock fell, the crew watched the roof to see if it was stable. Before starting the second cut, the crew installed four turn row timbers across the roadway as required by the roof-control plan. The crew pulled the mining machine back at least twice while making this cut. Once the second cut was completed, four danger row timbers were installed across the mouth of the roadway between Pillars 22 and 23. That roadway would no longer be used during retreat mining.

As the crew began making the third cut into the pillar, the continuous miner was pulled back due to cap rock. Upon completion of the fourth cut, four turn row timbers were installed across the roadway between Pillars 22 and 27. The fourth cut was then made. Sometime after the crew started making the fifth cut, Mr. Gallob pulled the continuous miner back to watch and listen to the roof. Apparently, he did this because the crew saw some cap rock fall in the area mined during the first cut. At that time Mr. McFarland, Mr. Schreckengost, Mr. Camacho, and Mr. Gallob were in the outby intersection. After examining the roof, Messrs. McFarland and Schreckengost determined that it was safe to continue mining the fifth cut. Soon after both supervisors left the area, the roof above the pillar collapsed.

The Secretary believes that the conditions that unfolded as the pillar was mined gave notice to Bowie that additional roof support was necessary or that the fifth cut should not be completed. She states that Messrs. Schreckengost and McFarland "effectively abandoned the crew during the most critical and potentially most dangerous sequence of mining...." (S. Br. 13). She contends that after the continuous miner was pulled back during the fifth cut, Bowie management should have instructed the crew to add more timber[4] or ordered them to withdraw from the pillar.

Bowie maintains that roof conditions looked stable when the crew resumed mining the fifth cut. The timbers and the caps above the timbers were not deforming. The roof bolts in the intersection looked secure and the roof-bolt plates were not deformed from roof pressure. The floor was not heaving and the pillar stump was not being crushed. Bowie contends that there was no indication that supplemental roof support was necessary or that the fifth cut should not be made. It contends that the evidence shows that the fall of roof occurred because of an anomaly in the roof that was not detected during the installation of the bolts to control the cutter. It points to the testimony of Mr. McFarland that an examination of the roof after the fall revealed that there was no separation in the rock structure where the roof fell. (Tr. 762-63). Thus, it maintains that a miner drilling roof bolts or test holes would not have detected the condition.[5]

B. <u>Alleged Violation of Section 75.202(a)</u>

The Secretary's roof-control standard at 30 C.F.R. § 75.202(a) is broadly worded. Consequently, the Commission held that "the adequacy of particular roof support or other control must be measured against the test of whether the support or control is what a reasonably prudent person, familiar with the mining industry and protective purposes of the standard, would have provided in order to meet the protection intended by the standard." *Canon Coal Co*., 9 FMSHRC 667, 668 (April 1987)(cited in *Harlan Cumberland Coal Co.* 20 FMSHRC 1275, 1277 (December 1998).

Although my resolution of the issues raised in this case has some bearing on the cause of the fatal accident, the purpose of this proceeding is not to determine the cause of the accident or the steps that could have been taken to prevent it. Some of the evidence presented in this case has little to do with roof control. For example, the Secretary's position that management "effectively abandoned the crew" when the fifth cut was made has little to do with the issue in this case. I have not considered these peripheral issues in my analysis.

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[4] The Secretary contends that, if Bowie had used one roadway rather than two for access by the ram cars that off-loaded the coal, there would have been more room to add supplemental timber support. Bowie used two roadways for cuts 3 through 5.

[5] The Secretary also argues that Bowie should have drilled additional test holes in the area to obtain more information about the condition of the roof.

I find that the Secretary did not establish a violation of section 75.202(a). The factors relied upon by the Secretary to establish the violation are not sufficient to show that a reasonably prudent person would have provided additional support. I reach this conclusion for a number of reasons, as discussed below.

First, I agree with the Secretary that the conditions that developed along the standing row should have raised concerns about the safety of retreat mining in that area. Nevertheless, I find that Bowie addressed those concerns and continually monitored the conditions to make sure that the roof and ribs were not deteriorating. It cleaned up the coal that heaved up into the roadways and it continued to monitor the roadways for additional heaving. Bowie reasonably believed that the floor heaving demonstrated that the roof was strong and that the pressure on the roof had been reduced as a result of the heaving. The cutters along the pillars were bolted. There is no evidence that these cutters were expanding or that additional cutters developed. Rib sloughage was rather common at the mine due to the cleavage of the coal. Rib sloughage occurred in other areas of the mine without creating a hazardous condition. I find that these factors did not indicate that the roof around Pillar 22 was deteriorating. Bowie management was concerned about these conditions but it reasonably believed that it had addressed them and that it was safe to mine the standing row using the roof support contained in the approved roof-control plan. Bowie did install additional roof support in other areas of the mine when conditions warranted, but it did not believe that supplemental support was necessary to protect persons at Pillar 22 .

The Secretary's evidence on the effect of the underlying King Mine is not convincing. Although it is true that the maps show that a pillar remnant may have been under Pillar 22, it is just as likely that this remnant had given way. Moreover, many of the pillars that were previously mined were on top of similar pillar remnants. Thus, it is highly speculative that the abandoned mine had any effect on the stability of the roof in the Bowie No. 2. It was reasonable for Bowie to continue following the approved roof-control plan without adding supplemental support due to the presence of the King Mine.

The Secretary's arguments concerning the events that occurred during the previous production shift also do not indicate that additional roof support was necessary. Cap rock was present when mining Pillar 21, but otherwise the roof appeared to be stable. There was no evidence of deterioration in the pillar or the roof. Mr. Barker, one of the miners who operated the continuous miner during that shift, testified that Pillar 21 was not particularly difficult to mine. (Tr. 636). He also stated that he pulled the mining machine back two or three times, which was not an abnormal amount. *Id.* He said that it is up to the crew to determine when to pull out. The crew will often pull out when anyone sees or hears something that makes him uncomfortable, such as timber taking weight. (Tr. 639-41). The miner operator and his helper constantly watch the roof and the roof-support system to make sure that it is safe to continue mining the pillar. *Id.*

With respect to the events that occurred on the evening of December 14, the Secretary relies heavily on the statements of miners given to MSHA's investigators rather than on testimony produced at the hearing. Indeed, she relies on these interviews to establish her entire

case. (Exs. G-4 through G-14). The Secretary did not use these interview statements to supplement the testimony of eyewitnesses. In fact, she did not call as witnesses any miners who observed the conditions along the standing row or any miners who were present on the evening of December 14. There was no showing that these miners were unavailable to testify. As justification for this approach, counsel for the Secretary argued that the events on the night of December 14, 1998, were still fresh in the minds of these individuals at the time of the interviews so that the interview transcripts were more reliable than live testimony. I admitted the interview transcripts over the objection of Bowie. (Tr. 260-61).

Although I agree with the Secretary that the interviews were conducted when the events were still fresh in everyone's minds, the interviews suffer from other infirmities. There was no opportunity for cross-examination. In a number of instances, the question asked by the MSHA investigator and the answer given by the miner are ambiguous. Bowie was not afforded the opportunity to clarify the facts. For example, the Secretary cited the interview transcript of Mr. Linman to argue that three or four support timbers broke while Pillar 22 was mined and that one of the stumps for this pillar crumbled as mining progressed, with the result that the roof was not adequately supported. (S. Br. 8 citing Ex. G-8 pp. 46-49). As Bowie points out it its reply brief, this portion of Mr. Linman's interview is ambiguous. It appears that Mr. Linman was referring to timbers in the gob that usually give way as pillars are mined. It also appears that Linman was referring to Pillar 21 when he stated that the pillar was crumbling. There was no opportunity to clarify this testimony.

In addition, many of the questions asked by the MSHA investigator relate to how such accidents could be avoided in the future. For example, Mr. Schreckengost was asked "looking back on what you've seen and what you know about this accident, what additional support ... would you have installed to prevent this accident ...." (Ex. G-7, p. 46). Mr. Schreckengost answered that double breaker rows could have been added. The Secretary cites this answer for the proposition that Mr. Schreckengost realized that additional roof support should have been added. (S. Br. 12). This argument ignores the fact that the question was directed at future protection. What I must examine in this case is the adequacy of the roof support measured against what a reasonably prudent person would have provided to meet the protection intended by the standard. I must look at the conditions that were present as Pillar 22 was being mined without taking into consideration the fact that the roof fell. MSHA interviews miners during accident investigations for a wide range of reasons. In pursuing the Secretary's mission of reducing the number of fatal accidents, MSHA must know what can be done to prevent similar accidents. Thus, the questions asked often do not lend themselves to resolving issues raised in enforcement actions.

It appears that the Secretary's approach in this case was to establish that, because it conducted a competent investigation of the accident, the citation should be affirmed. Most of the first day of the hearing consisted of testimony of the MSHA investigators describing, in detail, how they conducted their investigation. (Tr. 39-263). These witnesses described the information that they relied upon in reaching their conclusions. Much of the Secretary's evidence on the second day of the hearing consisted of testimony of other MSHA officials concurring in these

conclusions. (Tr. 318-396). As stated above, the Secretary did not call any miners who were eye witnesses to the events on December 13-14, 1998. The Secretary has the burden of proof in this *de novo* proceeding. The Secretary does not meet her burden by establishing that MSHA's investigation was thorough and competent. Commission administrative law judges do not affirm or vacate citations based on an evaluation of the adequacy of MSHA's investigation. If the Secretary believes that a violation occurred, she must present evidence to establish that fact to the trier of fact. She may seek to use interview transcripts as part of her proof but, given the nature of such interviews, she runs the risk that such evidence will fall short of establishing a violation.

The interviews presented by the Secretary are evidence in this case and I have considered them in rendering my opinion. Nevertheless, I principally rely on the live testimony presented at the hearing. The testimony at the hearing was specifically directed to the issues in this case; there was an opportunity for cross-examination; and I was able to observe the witnesses.

I find that Mr. McFarland advised the crew at the start of the shift that cap rock had fallen on the previous production shift. He also reviewed with the crew MSHA's safety instructions setting forth precautions to be followed when mining pillars. He instructed the crew to install additional timber if it appeared that the roof was weakening. He told them to watch for evidence of floor heaving. He also told them not to mine the final cut if it could not be done safely.

The evidence establishes that the crew had to pull back the continuous miner a number of times as it mined the pillar. The crew was instructed to pull back the miner whenever they believed that they needed to closely watch the roof. This procedure was in place for safety reasons, but also to protect the continuous mining machine from being damaged by falling cap rock. Although it was a common practice at the mine to pull back the miner when recovering pillars, the crew pulled back more frequently than is typically the case.

The crew was instructed to constantly examine the roof for any indications of instability as mining occurred and between cuts. I credit the testimony of Messrs. McFarland and Schreckengost that the roof appeared stable on the evening of December 14. The roof and roof-bolt plates were not deformed; the timber supports were not showing signs of unusual pressure; and there were no signs of deterioration in the roof. (Tr. 622, 694-95, 698, 715, 752-53, 754).

The fact that cap rock was falling within the mined portion of the pillar does not indicate that the roof was deteriorating. Mr. Ungaro, the roof bolter on the crew, testified that "you want the cap rock to fall" and you expect the roof to cave where you have mined the coal. (Tr. 632-33). Mr. Ungaro also testified that although the crew expected a "cave" to develop in unsupported areas, "we never expected the intersection" to cave in. (Tr. 633).

I find that the Secretary did not establish that a reasonably prudent person, familiar with the mining industry and the protective purposes of section 202(a), would have provided additional roof support at Pillar 22 or would have stopped mining Pillar 22 in the face of the conditions that existed on the evening of December 14, 1998. In reaching this conclusion, I have considered all of the factors submitted at the hearing, including the conditions that developed

along the standing row, the events during the previous production shift, and the events on the evening of December 14. It is not clear why the roof fell. The roof fell in the outby corner of the pillar and out into the supported outby intersection. There is no dispute that there was a sandstone formation above the fall.

The Secretary's expert witness, Joseph Zelanko, testified that he reached his conclusion that the roof was not adequately supported, based in large measure on the statements made by miners during the MSHA investigation that the conditions in the standing row were "not common." (Tr. 424). He was referring to floor heave, cutters, and rib sloughage. Mr. Zelanko testified that these conditions indicated that the roof was under high stress. He attributed this high stress to the fact that, as the pillar rows were mined, the overburden was getting progressively deeper. (Tr. 425; Ex. G-34 p. 5). He also attributes the high stress to the fact that, as retreat mining progressed, the area of the gob increased. He believes that this section of the mine was not getting a good cave in the gob and this fact greatly increased the stress on the roof in the standing row. (Tr. 427). Finally, he also concluded that the underlying King Mine may have increased the instability in the roof.

John Stankus, Bowie's expert witness, testified that the floor heave reduced the stress in the roof above the standing row. (Tr. 544). He believes that there was a reduced potential for a roof fall in the area because of the heaving. (Tr. 554). He testifies that the effect of the King Mine and the overburden on the stability of the roof was insignificant. Dr. Stankus concluded that the roof fell because of a "geologic anomaly in the roof over pillar 22" that was difficult or impossible to detect. (Tr. 564-65).

Because the roof fell, it is quite obvious that more should have been done to support the roof around Pillar 22 or the final cut should have not been made. Both experts were highly qualified and they presented competing theories about the cause of the accident. MSHA's investigation brought forth information that it believes contributed to the roof fall. As stated above, however, on the evening of December 14, Bowie management reasonably believed that the roof was adequately supported. Messrs. McFarland and Schreckengost reasonably believed that any abnormal stress on the roof had been released when the floor heaved and that it was safe to make the final cut in Pillar 22. Their belief was confirmed by the relatively stable conditions they observed that evening.

III. ORDER

For the reasons set forth above, the notice of contest in this case is **GRANTED** and Citation No. 7018205 issued on January 27, 1999, is **VACATED**.

Richard W. Manning
Administrative Law Judge

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