FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION
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August 23, 1996

SECRETARY OF LABOR, MINE SAFETY AND HEALTH ADMINISTRATION (MSHA), Petitioner	:	CIVIL PENALTY PROCEEDING Docket No. WEST 93-402 A.C. No. 42-01435-03549
v.	:	Skyline Mine #1
UTAH FUEL COMPANY, Respondent	:	

DECISION

Appearances: Tambra Leonard, Esq., Office of the Solicitor, U.S. Department of Labor, Denver, Colorado, for Petitioner;
Michael L. Larsen, Esq., Elisabeth R. Blattner, Esq., Salt Lake City, Utah, for Respondent.

Before: Judge Cetti

This case is before me upon a petition for assessment of civil penalties under section 105(d) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § et seq. the "Act". The Secretary of Labor, on behalf of the Mine Safety and Health Administration, (MSHA), charges Utah Fuel Company (Utah Fuel) with the violation of three mandatory safety standards. Utah Fuel is the operator of the underground coal mine, Skyline No. 1 located in Carbon County, Utah. MSHA issued the citations after its investigation of a fatal rib and roof fall accident. Utah Fuel timely contested each of the three alleged violations.

I

THE ACCIDENT

Tom Kubota, while working with a crew, rehabilitating a previously caved area in the underground coal mine sustained fatal injuries in a fall of rib and roof rock accident. The accident occurred in a previously caved area in the No. 3 entry

of the 6 Left Tailgate Developmental section between crosscuts Nos. 71 and 72 of the Skyline Mine No. 1. At the time of the accident the decedent was kneeling on the head of a continuous mining machine, trimming (cutting to fit with a torch) a steel crossbar in preparation to installing the crossbar as a part of the rehabilitation of the previously caved area. The size of the rock that fell was approximately 6 feet long by 5 feet wide by 2 feet thick.

II

ISSUES

After due notice, a four-day hearing on the merits was held in Salt Lake City. At the hearing the parties presented oral and documentary evidence, including a total of 131 exhibits. The parties filed post-trial briefs which I have considered in reaching this decision.

The issues at the hearing were as follows:

1. Citation No. 3850249

(a) Did Utah Fuel violate C.F.R. § 75.202(a)?

(b) If the standard was violated: (1) Was it a significant and substantial violation? (2) What is the appropriate penalty?

2. Citation No. 3412737

(a) Did Utah Fuel violate 30 C.F.R. § 75.211(b)?

(b) If this standard was violated: (1) Was the violation of a significant and substantial nature? (2) Was the violation a result of the operator's unwarrantable failure to comply with the safety standard? (3) What is the appropriate penalty?

3. Citation No. 3412738

(a) Did Utah Fuel violate 30 C.F.R. § 75.223(a)?

(b) If the standard was violated. (1) Was the violation of a significant and substantial nature? (2) What is the appropriate penalty?

III

STIPULATED FACTS AND STATEMENT OF MATTERS NOT IN DISPUTE

A. Utah Fuel is engaged in mining and selling of coal in the United States and its mining operations affect inter-state commerce.

B. Utah Fuel Company is the owner and operator of Skyline Mine No. 1, MSHA I.D. No. 4201435.

C. Utah Fuel Company is subject to the jurisdiction of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. §§ 801 et seq. ("the Act").

D. The Administrative Law Judge has jurisdiction in this matter.

E. The subject citations were properly served by a duly authorized representative of the Secretary upon an agent of respondent on the dates and places stated therein, and may be admitted into evidence for the purpose of establishing their issuance, and not for the truthfulness or relevancy of any statements asserted therein.

F. The exhibits offered by Respondent and the Secretary are stipulated to be authentic.

G. The proposed penalties will not affect Respondent's ability to continue in business.

H. The operator demonstrated good faith in abating the violations.

I. At the time of the roof fall on February 11, 1992, Utah Fuel Company was operating under its Roof Control Plan approved by MSHA on November 27, 1991.

J. Utah Fuel complied with 30 C.F.R. § 50.20-5(a) in reporting the three prior roof falls and one prior lost time accident referenced in Citation No. 3412738.

K. The certified copies of the MSHA Assessed Violations History (Ex. P-10) accurately reflects the history of this mine for the two years prior to the date of the citations.

L. Utah Fuel is not contesting the Imminent Danger Order No. 3850248 issued in conjunction with Citation No. 3850249 to the extent that the imminent danger order relates to the condition which existed after the roof-fall accident. (Tr. 17-18).

IV

THE MINE - UNDISPUTED FACTUAL INFORMATION

The Skyline Mine No. 1 is an underground coal mine located at Scofield, Carbon County, Utah. The mine portals were developed in August 1982. The mine was then idled until January 1988, when full production was started. At the time of the accident, the mine operated one retreating longwall and three continuous mining machine sections in the Upper O'Conner coal seam. Numerous faults and dikes are associated with this coal seam. The coalbed dips five degrees to the southwest and is accessed by four entries located near the main surface facilities. It also has three return air portals. The mine produced 3,594,110 tons of steam coal in 1991. The coal is taken to the surface by conveyer belts and then transported by truck and railroad to various customers.

Panel entries are developed in sets of three, off the Main West entries. These entries were driven about 18 to 20 feet wide on varying center dimensions with connecting crosscuts for an average distance of approximately 7,000 to 9,000 feet. The entries were developed with continuous mining machines for the purpose of installing retreat longwalls. At the time of the accident, four longwall panels had been successfully extracted.

A total of 119 miners are employed. They work underground on three rotating shifts per day, five days a week. The mine produces an average of 9,822 tons per day.

The approved roof control plan for Skyline Mine No. 1 at the time of the accident was a full roof-bolting plan with the minimum length of bolts being 48 inches, installed on 5-foot centers. When adverse roof was encountered, 10-foot point anchor bolts were used. Roof trusses, wood, or steel square sets could be installed or a number of supplementary support materials could be used as needed, depending on the mining conditions.

Ventilation of the mine was accomplished by a 16-blade propeller type fan properly installed on the surface. The fan is equipped with a 300 HP motor with all necessary safety devices and operates continuously. The fan induces a blowing system of ventilation with a positive pressure of 3.4 inches of water gauge at about 409,150 C.F.M. The mine does not liberate methane gas.

The day before the accident, the last regular MSHA safety and health inspection was completed.

V

After the fatal rock fall accident, MSHA's inspectors Richard Bury and Bruce Andrews went to the mine and investigated the accident. Their Accident Investigation Report received in evidence as Government Exhibit 4 concisely states many of the undisputed facts which were affirmed by testimony of witness at the hearing. Prior to the accident, work was in progress to rehabilitate the previously caved domed-out area in the No. 3 entry return of the 6 Left Tailgate Development section between crosscuts No. 71 and 72.

At approximately 8 a.m. (about 3 1/2 hours before the accident), the section foreman, Zabriskie, held a meeting with the rehabilitation crew on the surface of the mine. At this meeting the crew was instructed on how rehabilitation work of the previously caved area in the No. 3 entry between crosscut Nos. 71 and 72 was to take place.

The rehabilitation plan called for the installation of steel crossbars beginning under supported roof on both the inby and outby ends of the faulted area and work towards each other until the last span, a distance of approximately 20 feet which was unsupported, could be supported by laying galvanized metal beams, skin to skin, across the last set of steel crossbars.

After the instructions, given at the meeting at the surface, the rehabilitation crew proceeded underground to the section where they were met by Gary Long, fireboss/leadman (who had already been given this instruction), and Kurt Clawson, continuous mining machine operator. After viewing the work site and observing no hazardous conditions, the crew then began doing the necessary preparatory work prior to the installation of the steel sets. This work consisted of cleaning with the continuous mining machine from the inby end. Two and one-half ram cars of rock were removed from the area where the outby sets were to be installed. Because of the span of unsupported roof, this was done with the continuous mining machine being operated remotely. After the cleanup was completed, measurements were taken and the first sets of crossbars to be installed on the outby end were cut to length.

Zabriskie, the section foreman, and Long, the leadman, decided that the safest way to move the sets to where they were needed would be to load them on the head of the continuous mining machine and remotely tram them to the work area. After shutting off the breaker to the cutter head, the machine was trammed remotely through the unsupported top to the outby work area. With

the head of the continuous mining machine positioned under supported roof, the support leg on the east side of the entry was positioned. Long and Tom Kubota, standing on the head of the machine, remeasured for the crossbar and found that an additional piece of the crossbar needed to be cut off before the bar would fit. Kubota, while standing on the ground in front of the machine, cut the first bar to the proper length. He then climbed onto the head of the continuous mining machine, and in a kneeling position with his back to the west rib, began to cut the second crossbar. With little or no warning, the west rib and associated roof rock collapsed, striking and completely covering Kubota.

Due to the very unstable ground conditions that were present immediately after the fall, Long instructed the continuous mining machine operator, to remotely tram the machine back to the inby end of the area, where the roof was supported prior to the rock being removed from Kubota. This was done for the safety of the miners engaged in the rescue effort. Kubota was taken to the Castleview Hospital in Price, Utah, where he succumbed to his injuries.

The previously caved area that the tailgate development section crew (including Kubota) were rehabilitating was a caved domed out area, approximately 18 feet wide and 20 feet high. Whereas the coal seam mining height was only about 9 feet high. There was an area of unsupported roof and rib in the caved out domed area. Wooden cribs, constructed in a single and triple configuration, were installed on each side of the No. 3 entry, ending approximately 7 feet outby the outby brow of the cave. The outby edge of the brow was supported with 6-foot resin grouted roof bolts. One crossbar leg, an 8-inch "I" beam, had been installed on the east rib.

In an effort to reduce air slacking and the spilling of rock throughout the 18-foot wide, 20 foot-high caved area, 30 yards of shotcrete had been applied to the roof of the caved area a few days before the accident. The shotcrete was applied to the caved area roof and ribs by miners working under the roof that was supported and stable.

VI

Citation No. 3850249

This citation alleges a violation of 30 C.F.R. § 75.202(a) which requires the following:

> (a) 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 the roof, face or ribs and coal or rock bursts.

Subsection (b) of the above quoted section provides:

> (b) No person shall work or travel under unsupported roof unless in accordance with this subpart.

MSHA did not cite or charge Respondent with a violation of subsection (b) and the evidence presented at the hearing satisfactorily established that no person worked or traveled under unsupported roof.

The citation charges Respondent with a violation of subsection (a) of § 75.202 as follows:

> Hazardous roof and rib conditions were present in the #3 entry, between crosscuts No. 71 and 72, in the 6 Left Tailgate Development Section. The rock through this area consisted of unconsolidated sand and slit (sic) stones and had fallen out to a height of approximately 20 feet, resulting in very high ribs of questionable stability. In addition, an area of roof approximately 20 feet in length had been left unsupported. Shotcrete from a remote location had been applied to the roof and ribs making it very difficult to observe any hazardous condition and virtually impossible to determine where the last row of permanent supports had been installed. A fall of rib and roof rock in this area resulted in fatal injuries to one (1) employee.

There is no dispute that these hazardous roof and rib conditions were present in the #3 entry, between crosscuts Nos. 71 and 72, in the 6 Left Tailgate Development section and that rock through this area consisted of unconsolidated sand and silt stones and had fallen out to a height of approximately 20 feet and thus carving out a 20-foot high dome in the caved area.

It was this hazardous roof condition described in the citation that Respondent's rehabilitation team, including Kubota, was in the process of rehabilitating so as to make the area safe for

the miners. The roof of the caved area had been supported with roof bolts and mesh wherever conditions allowed. Due to the height of the cave, the angle of the dome and the fractured and laminated conditions approximately 15 to 18 feet of roof could not be bolted. Consequently, the entire area was dangered-off from both ends (inby and outby) of the cave. Pursuant to its rehabilitation plan, shotcrete was applied over the roof and surface of the cave. Next, multiple steel sets were to be built and placed at both ends of the cave, proceeding inward into the cave to the last row of roof bolts on each side. Each steel set would be wedged to the roof as it was placed. Steel I-beams then would be placed skin-to-skin from the steel sets inby to the steel sets outby to span the unbolted area. Roof jacks would be placed on top of the I-beams to provide support from the structure to the roof, and cribs would be placed below the I-beams to provide support from the floor to the structure. The structure would then be lagged to form a tunnel, bulkheaded at both ends, and the cavern above pumped full of aqualite (a lightweight concrete).

Respondent presented evidence that the miners in the rehabilitation team were trained in the rehabilitation plan and knew where supported roof ended. Only those miners on the rehabilitation team were allowed inside the dangered-off area.

To establish a violation of 202(a), the preponderance of the evidence must be established that the area in question was (1) an area "where persons work or travel" and (2) an area that was not "supported or otherwise controlled to protect persons." The preponderance of the evidence does not establish either of these elements.

The domed-out cave area in question was not an area "where people work or travel" within the meaning of section 202(a). In Cyprus Empire Corporation, 12 FMSHRC 911 (May 1990) that Commission determined that areas where persons work or travel do not include areas which are dangered-off and in which the only work being performed is rehabilitation work. Whether a person worked or traveled or was required to enter the area was viewed in light of "normal circumstances." The fact that miners entered the dangered-off area to install needed roof support did not make the dangered-off area one "where persons worked or travel" within the meaning of subsection 212(a). The Commission in reversing the Administrative Law Judge's decision to the contrary stated:

> Cyprus argues that the judge erred in concluding that it violated Section 75.202(a) for two reasons: (1) under the cited standard the area at issue was not an area "where persons work or travel;" and (2) "dangering-

> off" the area is an acceptable form of "control" of the roof. Because we find the first issue dispositive, we need not reach the second.

To establish a violation of 30 C.F.R. § 75.202(a), the Secretary was required by the terms of the standard to prove that the cited area was an area "where persons work or tra-vel." As discussed above, the judge found that "under normal circumstances, the tail-gate end of the long wall would allow a miner to come directly off the long wall into the return entry." 11 FMSHRC 3376 (emphasis added). What the judge did not consider, however, is whether "normal circumstances" are presented here.

> The record in this case establishes that as soon as Cyprus encountered the poor roof conditions, it dangered off the area to prevent miners from entering the area of adverse roof conditions. In doing so, Cyprus acted in accordance with accepted safe-mining practice. There is no evidence that at any time during the existence of the dangerous roof conditions, other than during the attempt to install additional roof support, any miner worked or traveled in the cited area. . . . Thus, the record established that the operator acted appropriately in dangering off the area of bad roof and that no miners worked, traveled or were required to enter the area at issue.

In the instant case, large, readily visible danger signs had been properly placed on both the inby and outby ends of the cave area prohibiting travel. No persons were allowed to work or travel in this properly dangered-off area. The only exception was the recognized permissible exception of those members of the rehabilitation crew who were doing the rehabilitation work under supported roof. Dangering-off a hazardous area, as was done here, is a recognized means to control so as to protect persons from hazards related to falls of the roof and ribs.

A preponderance of the evidence presented fails to establish a violation of the cited standard, subsection (a) of section 75.202.

VII

Citation No. 3412737

Citation 3412737 alleges a violation of 30 C.F.R. § 75.211 subsection (b) § 75.211 in pertinent part subsection (a) and (b) mandates the following:

> (a) A visual examination of the roof, face and ribs shall be made immediately before any work is started in an area and thereafter as conditions warrant.
>
> (b) Where the mining height permits and the visual examination does not disclose a hazardous condition, sound and vibration roof tests, or other equivalent tests, shall be made where supports are to be installed.

There is no dispute that Respondent fully complied with the requirement of subsection (a). A visual examination of the roof and ribs was made by experienced miners immediately before any rehabilitation work started in the area. This examination did not disclose a hazardous condition.

Respondents are charged with a violation of subsection (b) of section 75.211. That subsection requires "sound and vibration roof tests" or other equivalent tests "where mining height permits." It does not specify what tool to use, what length the tool must be, or set a height limit for testing. It is clear, however, as discussed below in more detail, that in order to perform a sound and vibration test the height cannot exceed the ability of the tester to place the fingers of the free hand against the roof.

I credit the testimony of Gary Long and I find that Long made a proper sound and vibration test in the area in question "where mining heights permits."

A sound and vibration test requires the miner to hold the tool in one hand, place the fingers of the other hand against the roof, thump the roof with the tool, listen for the sound, and feel for vibrations. See Long, T.433:20; accord Davidson, T.338:13-20. See also Respondent Ex. 61, pg. 71. Consequently, mining heights do not permit a sound and vibration test where the roof is higher than the tester's extended arm and hand can reach the roof. Mr. Long testified that he is 6'2" tall, that he tapped "down low to begin with, and when the miner got into the area where I could get on it, I got on the head and tapped up higher, as high as I could reach."

Mr. Ralston tapped the roof with the tapping head of a 12" long tool, a Rastall. He had years of experience testing roofs and ribs with this acceptable tool. No evidence was presented that simply sounding the roof without checking it for vibration was in fact equivalent to the "sound and vibration" test.

The preponderance of the evidence presented fails to establish a violation of the cited safety standard subsection (b) of section 75.211.

VIII

Citation No. 3412738

This citation alleges a violation of C.F.R. § 75.223(a).

This safety standard provides as follows:

> (a) Revisions of the roof control plan shall be proposed by the operator-
>
> (1) When conditions indicate that the plan is not suitable for controlling the roof, face, ribs, or coal or rock bursts; or
>
> (2) When accident and injury experience at the mine indicates the plan is inadequate. The accident and injury experience at each mine shall be reviewed at least every six months.

The citation issued by MSHA to the Operator reads as follows:

> The Skyline Mine No. 1 has had 3 unintentional roof falls in the last 4 months the dates of falls are 10/22/91, 10/28/91 and 11/12/91, this mine has also had a lost time accident on 12/30/91 due to a rib roll. The operator has not revised or requested a revision of the Roof Control Plan as required by the Code of Fedralations [sic] 30 CFR 75.223(a) which requires this operator to submit this to an authorized representive [sic] of the Secretary. This falls and accidents were prior to the fatal fall of roof which resulted in fatal injuries to one person on 2/11/92.

Thus, MSHA's citation points to the three unintentional roof falls and one lost time accident in the four months before the fall that struck Kubota and asserts that Utah Fuel "has not revised or requested a revision of the roof control plan as required by 30 C.F.R. § 75.223(a).

The evidence at the hearing established that the four prior incidents required only one revision to Utah Fuel's roof control plan before the roof fall of February 11, 1992, and that the required revision was incorporated into Utah Fuel's roof control plan approved by MSHA on November 27, 1991, approximately 2 1/2 months before the February 11, 1992, accident. The evidence establishes that three falls and one lost time accident occurred; that Utah Fuel determined the causes of the roof falls and that Utah Fuel determined the only revision needed to be made to the roof plan at that time, was incorporated in its roof control plan by MSHA's approval of the revised plan on the 27th day of November 1992, 2 1/2 months before the February 11, 1992, accident.

IX

Before the hearing, Utah Fuel submitted a prehearing memorandum of points and authorities. During the hearing, the parties presented the testimony of 14 witnesses and 139 exhibits. The parties stipulated to a number of material facts. Following the hearing, both parties submitted post-hearing memoranda. Utah Fuel submitted proposed findings of fact and conclusions of law; MSHA did not.

Having heard, considered, and evaluated the testimony of all witnesses, the exhibits, the stipulations by the parties, and the arguments of the parties at trial and in their pre- and post-hearing memoranda, I enter the following findings of fact and conclusions of law based upon the evidence presented and the reasonable inferences to be drawn from the evidence presented.

X

FINDINGS OF FACT

1. Utah Fuel is engaged in the mining and selling of coal in the United States and its mining operations affect interstate commerce.

2. Utah Fuel is the owner and operator of Skyline Mine No. 1, MSHA I.D. No. 42-01435.

3. Utah Fuel is subject to the jurisdiction of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 801.

4. The Administrative Law Judge has jurisdiction in this matter.

5. The subject citations were properly served by a duly authorized representative of the Secretary upon Utah Fuel on the dates and places stated therein.

6. Utah Fuel demonstrated good faith in timely abating the citations.

7. On February 11, 1992, a fall of roof and rib rock occurred in Skyline Mine No. 1, 6 Left Tailgate Section, No. 3 Entry, between crosscuts 71 and 72, which rock fall caused fatal injuries to Tom Kubota, a Utah Fuel employee.

8. Mr. Kubota's death is the only fatality ever to occur at the Skyline Mines.

9. At the time of the rock fall, Utah Fuel was operating under its revised roof control plan approved by MSHA approximately 2 1/2 months before the accident.

10. Utah Fuel complied with 30 C.F.R. § 50.20-5 in reporting the three prior roof falls and one prior lost time accident referenced in Citation No. 3412738.

11. At the time in question, Utah Fuel produced more than five million but less than ten million tons of coal annually.

12. At the time of the rock fall, Mr. Kubota was involved in work to rehabilitate a caved area.

13. The cave formed in the No. 3 entry as Utah Fuel attempted to mine through a faulted section. As Utah Fuel progressed down the entry, it encountered bad roof, and significant caving.

14. Utah Fuel's previous experience with faults indicated that driving the No. 1 and No. 2 entries inby the problem area in the No. 3 entry and then mining from the inby side out ("backmining") would have a positive effect on the mining conditions and Utah Fuel's ability to mine through the fault.

15. Utah Fuel decided to backmine and proceeded to do so, installing a variety of primary and supplemental roof supports, and placing a readily visible danger sign and restrictive ribbon across the No. 3 entry.

16. As Utah Fuel backmined and encountered the fault from the inby end of the No. 3 entry, roof conditions deteriorated. Utah Fuel shortened its cuts with the continuous miner to five feet in length but caving still occurred, which resulted in bolting problems.

17. The caving required the roof bolters to operate the bolting machine on a ramp in order to reach the roof. The resultant angle of the machine tipped the TRS (temporary supports) on the machine back, making it unsafe to proceed.

18. To avoid exposing the roof bolters to these hazards, Utah Fuel decided to cut through the coal block that remained in one pass with the continuous miner (the "punch through") and then rehabilitate the resulting cave in a way that would not expose people to hazards.

19. Utah Fuel allowed the cave to "dome out" before beginning rehabilitation work because Utah Fuel's past experience indicated that allowing a cave to "dome out" increased its stability. Utah Fuel allowed the cave to set before applying shotcrete.

20. Conflicting evidence was introduced at the evidentiary hearing concerning whether or not allowing a cave to dome out leads to a state of equilibrium, and whether the caved area at issue was in a state of equilibrium during the rehabilitation work. Dr. Ben Seegmiller, an expert on work mechanics and roof control systems with bachelor's degrees with honors in geological engineering and mining engineering, a master's degree in mining engineering with a specific emphasis on rock mechanics, and a doctorate degree in mining engineering based on the study and evaluation of acoustic energy into rock, gave his expert opinions that allowing a cave to "dome out" would result in equilibrium, and that the cave at issue reached equilibrium before rehabilitation efforts began and remained in equilibrium until the roof falls that fatally injured Mr. Kubota.

21. MSHA did not seek to have Mr. Ponceroff qualified as an expert. Mr. Hansen's opinion was offered by MSHA as an expert opinion. Dr. Seegmiller's opinions were credible and persuasive.

22. Before the rehabilitation work began, Utah Fuel applied shotcrete containing fiberglass to the roof and ribs of the cave to stop the raining of rocks caused by air slacking and spalling.

23. MSHA recognized the utility of shotcrete as a sealant and its application of shotcrete to the cave was reasonable.

24. Utah Fuel developed a rehabilitation plan for the cave which called for the placement of steel sets under supported roof on both the inby and outby sides of the cave. As each set was placed, it would be supported to the roof before the next set was placed. The sets would then be spanned with 22-foot long steel Kennedy beams. The area above the beams to the roof and the area under the beams to the floor would be supported with jacks and cribs. Lagging then would be applied to the sides of the tunnel, the cave edges above and around the tunnel would be sealed off, and the cavity around the tunnel would be filled with a lightweight concrete.

25. The rehabilitation plan did not call for anyone to work beyond the last row of roof bolts at any time and no one did so.

26. Utah Fuel developed the rehabilitation plan, reviewed it at the highest levels of mine management, and modified it before rehabilitation work was begun.

27. Utah Fuel selected David Zabriskie's crew to do the rehabilitation work because that crew had the most experience in rehabilitation.

28. At the time of the accident, Foreman Zabriskie had 14.5 years mining experience, and Gary Long, Zabriskie's fire boss, had 20 years mining experience, the last 10 of which involved rehabilitation work.

29. At the time of the accident, Karl Clawson and Tom Kubota, members of Zabriskie's crew, had prior experience rehabilitating caves with steel sets.

30. Foreman Zabriskie and Fireboss Long, who were leading the rehabilitation effort, were known to be safety-conscious individuals who emphasized safety with their crew.

31. Crew members knew they were expected to communicate any safety hazards or concerns they had to Long or Zabriskie, and that those concerns would be acted upon.

32. On the morning of the accident, readily visible danger signs prohibiting normal work or travel were present on both the inby and outby side of the cave area.

33. The danger signs complied with the requirements of 30 C.F.R. § 75.212 for rehabilitation work.

34. Only those persons designated to rectify the hazard and trained on the rehabilitation plan were allowed beyond the danger signs.

35. During rehabilitation work, Karl Clawson was placed on lookout on the inby side of the cave to prevent entry into the area by unauthorized persons and to warn the other crewmen of any change in conditions.

36. Everyone involved in the rehabilitation effort was trained on the rehabilitation plan before they arrived at the rehabilitation work site.

37. Utah Fuel employees involved in the formulation and the execution of the rehabilitation plan felt the plan was safe. No one voiced any concern about the safety of the plan.

38. No one who was not involved in the rehabilitation effort proceeded past the danger signs posted inby and outby the cave area.

39. On the outby side of the cave, in the area where the rehabilitation work was being done, there was a roof mat with four roof bolts present on the brow of the cave. See, Ex. R-45.

40. Inby of the roof mat, there was another row of roof bolts, constituting the last row of bolts proceeding inby from the outby side of the cave.

41. The last row of bolts consisted of five bolts, located in an approximate line with the hanging bolt depicted on Ex. R-45 and in photograph Ex. R-54.

42. The last row of bolts was covered with shotcrete, but the crew was able to and did discern the location of the bolts by their visible outlines under the shotcrete.

43. Gary Long made sure the crew knew where the last row of bolts was by pointing it out to them.

44. The testimony of every eyewitness to the accident was that the last row of bolts was inby the brow and inby the row of roof bolts with the mat at the brow.

45. Three used roof bolts were found in the material resulting from the fall, one of which was found on top of Kubota and the others in gob and material that fell from the roof.

46. There was no "lip" present on the floor of the cave which prevented the head of the continuous miner from moving into position under supported roof.

47. The head of the continuous miner was positioned under supported roof at the time of the rock fall.

48. Based on the uncontroverted testimony of every eyewitness to the accident, I find that at the time of the rock fall, Kubota was located under permanently supported roof. Kubota was up on the head of the continuous miner located between the row of bolts securing the last roof mat at the brow and the row of bolts further into the caved out area.

49. There was no indication that the support under which Mr. Kubota was working was failing until an instant before the roof fell when two small pieces of material dropped on Mr. Kubota's hardhat.

50. The crew recognized and immediately acted upon that warning--Mr. Clawson called out to Mr. Kubota, Mr. Kubota looked up--but there was not enough time for Mr. Kubota to make it to safety.

51. At least three roof bolts in the last row of bolts were pulled out of the roof by the rock fall that struck Kubota and one of the bolts lay on top of Kubota after the rock fall.

Sound and Vibration Test

52. Visual inspections of the work area done by Gary Long and others were properly performed as required by subsection (a) of section 202.

53. Before the work began, Gary Long did sound and vibration tests on the roof and ribs in the area where the work was to be done, with the exception of the roof inby the brow, which Long could not reach because of the height of the roof in the caved area.

54. Mr. Long conducted the sound and vibration tests using a 12" Rastall S12/H Miners Wrench, a combination tool designed as a hammer, box-end wrench and adjustable-end wrench. The handle of the wrench has a hammer end. The hammer end has a solid, flat surface area of approximately one inch by 1/2 inch. The Rastall tool is similar in size and weight to a geologist's hammer.

55. Standing on the ground and then up on the head of the continuous miner, Mr. Long held the Rastall by the handle in one

hand, and used the hammer end of the Rastall to thump the roof, feeling for vibration in the free hand and listening for the sound being made.

56. Mr. Long did the tests as high as he could reach with both hands from a position on the ground and then from a position on the head of the continuous miner. He did not perform sound and vibration tests on the roof inby the brow because, even standing on the head of the continuous miner, it was too high to perform a sound and vibration test.

57. Mr. Long had tested roofs with a Rastall or similar device for at least four years before the Kubota accident, performing thousands of tests in that timeframe, and was very familiar and comfortable with the Rastall.

58. The sound and vibration tester's experience in conducting sound and vibration tests is one of the most important, if not perhaps the most important, factor when conducting a sound and vibration test.

59. When shaken, the Rastall can make a clicking or rattling sound if the jaw is loose, which sound disappears when the jaw is tightened.

60. When used to thump the roof three or four consecutive times, the Rastall omits no rattling sound. After continued thumping, the Rastall's jaw can loosen slightly and omit a slight metallic rattling sound. Minimal effort is necessary to quickly thumb-tighten the jaws before continuing with the test.

61. The metallic sound caused by the Rastall is a totally different sound than the sound the tester is listening for in the roof, and definitely distinguishable. The metallic sound did not interfere with Long's performance of the sound and vibration test.

62. The type of tool to be used for sound and vibration tests is not specified in the Mine Safety and Health Act, 30 U.S.C. § 801 et seq.; Code of Federal Regulations, 30 C.F.R. § 75.200 et seq.

63. The MSHA Roof and Rib Control Manual NMSHA-CE-003 likewise does not specify the tool to be used, stating merely that the test should be done with a "solid object."

64. MSHA District Manager William Holgate stated in a letter to Utah Fuel that a Rastall could be an appropriate tool; for conducting sound and vibration tests. See Ex. R-67.

Roof Control Plan

65. On October 21, 1991, Utah Fuel experienced a reportable roof fall in Skyline Mine No. 1, in the 6 Left Tailgate section, No. 1 Entry, at crosscut 64. See Ex. P-19. The failure was related to high horizontal stresses in the roof. No one was injured in the fall.

66. At the time of the fall, Utah Fuel was engaged in an extensive study of different types of longer torque-tension bolts to help address horizontal movement problems, and already had forms of support in its roof control plan to adequately control the roof once it failed.

67. Utah Fuel's tensionable bolt study was scheduled to be completed in Spring 1992. MSHA was aware of Utah Fuel's bolt study and its estimated completion date and agreed with Utah Fuel that a plan amendment concerning longer torque-tension bolts was not necessary until the study was finished.

68. On October 27, 1991, Utah Fuel experienced a reportable roof fall in Skyline Mine No. 1, in the 6 Left Tailgate Section, at crosscut 4. The fall was caused by a wet roof condition. No one was injured in the fall.

69. The fall indicated that a revision to Utah Fuel's plan was needed. Utah Fuel, in conjunction with MSHA, determined that providing drain holes in intersections would alleviate some of the wet roof problems. Utah Fuel submitted a drain hole revision to the roof control plan to address the wet roof situation. That amendment was approved by MSHA as part of the November 27, 1991, MSHA approved roof control plan.

70. During MSHA's investigation of each of the October falls, MSHA's inspector Hanna may have had some discussion about the use of six-foot torque tension bolts to prevent such falls. However, following the October 1991 roof falls, Mr. Bunnell and MSHA's Denver roof-control specialist, Mike Stanton, discussed Utah Fuel's ongoing torque-tension bolt study. Mr. Stanton agreed that Utah Fuel should continue the study, and was not concerned that the study would not finish until Spring 1992. Mr. Stanton told Mr. Bunnell it was not necessary to amend the plan to a six-foot bolt at that time, and Bunnell understood that no plan amendment was required with respect to roof bolts until the bolt evaluation process was finished.

71. On November 10, 1991, Utah Fuel experienced a reportable roof fall in Skyline Mine No. 1, in the 6 Left Tailgate Section, No. 1 entry, at crosscuts 67-68. The fall occurred in a dike

section of the entry, and the failure was due to an undetected fault within the dike. No one was injured in the fall.

72. Utah Fuel rehabilitated the cave resulting from the November 10, 1991, falls with steel sets, a supplemental support provided for in Utah Fuel's roof control plan.

73. The November falls did not indicate that a revision to Utah Fuel's plan was needed.

74. In December 1991, Utah Fuel experienced a lost time accident, which occurred when two miners were installing supplemental roof bolts with a Cobra hand drill. The drill vibrated and a loose slab of rock fell from the roof, striking the miner on the foot. The incident did not indicate that an amendment to the roof control plan was needed.

75. MSHA approved Utah Fuel's roof control plan on November 27, 1991, with knowledge of, and after having investigated, the three prior roof falls.

76. From December 30, 1991, through January 21, 1992, MSHA inspector Hanna, a roof-control specialist, conducted a section 75.223(d) six-month review and evaluation of the roof-control plan, which review took into account all prior roof falls and lost-time accidents.

77. As a result of his inspection, Inspector Hanna found no MSHA violations in the 6 Left Tailgate Section, the same section where the Kubota fall occurred two weeks later, and determined that no revision to the roof control plan was needed.

78. MSHA did not call as witnesses Mike Stanton, the roof specialist, nor Inspector Hanna, the only MSHA personnel in direct contact with Utah Fuel during the roof control review process. Evidence presented by Utah Fuel on the roof-control plan revision issues is credible and persuasive.

XI

CONCLUSIONS OF LAW

1. Utah Fuel "supported or otherwise controlled" the roof and ribs in the area referenced in Citation No. 3850249, Utah Fuel did not violate 30 C.F.R. § 75.202(a).

2. By dangering-off the rehabilitation area, Utah Fuel prevented miners from normal work and travel in that area, and thereby, otherwise controlled the area as required by 30 C.F.R. § 75.202(a).

3. Utah Fuel, through Fireboss Long, conducted visual inspection and performed sound and vibration tests where mining height permitted as required by 30 C.F.R. § 75.211(b)(2).

4. The Rastall used by Mr. Long is a solid object and an adequate tool for conducting sound and vibration tests.

5. The violation of 30 C.F.R. § 75.211(b)(2) as alleged in Citation No. 3412737 was not established.

6. As a result of the three prior roof falls, only one revision to Utah Fuel's roof-control plan was reasonably and foreseeably necessary before the fatal accident of February 11th. That revision was approved by MSHA and the roof-control plan as amended with this revision in accordance with 30 C.F.R. § 75.223 was approved by MSHA on November 27, 1991. The violation of 30 C.F.R. § 75.223(a) as alleged in Citation No. 3412738 was not established.

XII

Without the benefit of hindsight, the preponderance of the evidence presented failed to establish that the actions taken by Utah Fuel were not reasonable actions that a "reasonably prudent person, familiar with the mining industry and protective purpose of the standard, would have taken and provided in order to meet the protection intended by each of the three cited safety standards. Reviewed under the "reasonable prudent person standard I find Utah Fuel acted as a reasonable prudent mine operator in recognizing and addressing the potential hazards. The actions taken by Utah Fuel are what a "reasonably prudent person, familiar with the mining industry and protective purpose of the standard, would have provided in order to meet the protection intended by the cited standards. See Canon Coal, 9 FMSHRC 667 at 668 (1987). Each of the citations should be vacated.

ORDER

Citation Nos. 3850249, 3412737 and 3412738 and their corresponding proposed penalties are **VACATED** and this case is **DISMISSED**.

August F. Cetti
Administrative Law Judge

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