

FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION

OFFICE OF ADMINISTRATIVE LAW JUDGES
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August 31, 1998

SECRETARY OF LABOR,	:	CIVIL PENALTY PROCEEDINGS
MINE SAFETY AND HEALTH	:	
ADMINISTRATION (MSHA),	:	Docket No. WEVA 96-170
Petitioner	:	A. C. No. 46-04670-03629
v.	:	
	:	Hobet No. 21 Surface Mine
HOBET MINING, INC.,	:	
Respondent	:	Docket No. WEVA 96-185
	:	A. C. No. 46-02249-03607
	:	
	:	Hobet No. 7 Surface Mine
	:	
	:	Docket No. WEVA 96-178
	:	A. C. No. 46-06750-03576
	:	
	:	Docket No. WEVA 97-33
	:	A. C. No. 46-06750-03581
	:	
	:	Peats Branch No. 3 Mine

DECISION

Appearances: Caryl Casden, Esq., and Gretchen McMullen, Esq.,
Office of the Solicitor, U.S. Department of Labor,
Arlington, Virginia, on behalf of the Petitioner;
David J. Hardy, Esq., and John T. Bonham, II, Esq., Jackson & Kelly,
Charleston, West Virginia, on behalf of the Respondent.

Before: Judge Melick

These consolidated cases are before me upon the petitions for civil penalty filed by the Secretary of Labor pursuant to Section 105(d) of the Federal Mine and Safety Health of 1977, 30 U.S.C. ' 801, *et seq.*, the "Act," charging Hobet Mining, Inc. (Hobet) with eight violations of mandatory standards and seeking civil penalties for those violations. The general issue before me is whether Hobet committed the violations as alleged and, if so, what is the appropriate civil penalty to be assessed considering the criteria under Section 110(i) of the Act. Additional specific issues are addressed as noted.

At hearing, the Secretary vacated Citation No. 7152240 (Docket No. WEVA 96-170) and moved to settle Citation Nos. 4629642 (Docket No. WEVA 96-185) and 7152318 (Docket No. WEVA 96-170). The Secretary agreed to modify the citations and reduce the total penalty to

\$720.00. The proffered settlement is acceptable under the criteria set forth in Section 110(i) of the Act and an order directing payment will be incorporated in this decision. The remaining five citations allege violations of the standard at 30 C.F.R. ' 72.620. Hearings in these proceedings were bifurcated. The initial hearings were limited to fact witnesses. The experts for each party, utilizing transcripts of the testimony of these fact witnesses, then prepared written direct testimony, and the second portion of the bifurcated hearings followed with examination of those expert witnesses.

The mandatory standard at issue in these cases, 30 C.F.R. ' 72.620, provides as follows:

Holes shall be collared and drilled wet, or other effective dust control measures shall be used, when drilling non-water-soluble material. Effective dust control measures shall be used when drilling water-soluble material.

Docket No. WEVA 96-170

Citation No. 7152439

This citation alleges a "significant and substantial" violation of 30 C.F.R. ' 72.620 and, in relevant part, charges as follows:

The Marion rock drill co. no. 109622 located at the drill bench near the Wabco parking area is observed during drilling operations, with excessive amounts of visible suspended drill dust present around the operators cab, drill mast and entire front of the machine.

John Workman is an experienced MSHA surface coal mine inspector with 20 years additional experience in the coal mining industry ranging from general laborer to mine foreman. His testimony is largely undisputed. On May 21, 1996, Workman inspected Hobet's No. 21 Surface Mine. As he approached the drill bench near the Wabco parking area he observed a drill releasing "very noticeable" visible clouds of dust. The drill, Marion rock drill company number 109622, was operating on a level bench near the access road. Workman drove toward the drill, exited his jeep, and approached the drill on foot. He walked around the drill taking photographs of the conditions he observed. The drill cab was approximately 10 to 12 feet high and the dust rose above the cab and enveloped the machine. The wind was changing directions at the time of the inspection. Several holes had been drilled on the bench prior to Workman's arrival. He concluded that the dust collection system was not operating properly.

While the machine was drilling, Inspector Workman observed the driller helper exit the greasing room at the rear of the drill, walk through the dust cloud along the walkway, and enter the operator's compartment. He also saw the drill operator briefly leave his cab after drilling had ceased but while dust remained suspended in the air around the machine.

Workman opined, based on the amount of material around the drill hole, that the hole he observed being drilled had been collared before his arrival. Upon closer examination he found

that the skirt rubber on the drill had not been properly maintained in that it was pushed-out and bent-up, leaving an opening to impede the collection of dust. In particular, he observed that the rear corner was rolled up so that it could not seal the area under the drill deck. Workman believed that this condition existed before the current shift because rubber would not assume this shape and maintain that shape without having taken this position over an extended period of time.

Workman also examined the inside of the operator's cab. Drill dust, light to dark grey in color, coated the controls, window sills, and flat surfaces throughout the inside of the cab. He opined that the drill dust had entered the cab because the pressurization unit was not working properly. The air conditioning filters, air conditioning outlets, and the circulating system where the air conditioner was located, were full of dust. Workman testified that when he removed the vent covers to the air conditioning system, he could "dig" the dust out of the vents. The dust was "real thick and real heavy up in the compartment of the circulating part of the air conditioner," and the vents blew the air down from the ceiling into the cab where the driller operator and helper worked. The inspector opined that the large quantity of dust inside the cab and air conditioning system had accumulated over a long period of time and was not the result of the cab door having been left open or the brief process of collaring. In addition, based on the fact that there were holes in the dust hose (which had previously been taped and which needed re-taping) indicated to Workman that the system had not been maintained over a long period of time.

On May 28, 1996, when Inspector Workman returned to the mine to terminate the citation, repairs had not yet been made because the mine had been idle since May 22, 1996. Accordingly, he extended the abatement period to May 30, 1996. On May 30, he returned to the mine and again observed the drill while operating. There was no visible airborne dust present and he terminated the citation. Hobet foreman Jerry Simmons told Workman that in order to eliminate the dust clouds, Hobet installed new filters on the machine, installed belts on the drive motor to increase suction, repaired the damaged skirt rubber, and repaired a damaged suction line (dust hose). Workman observed that these components were essential to the drill's dust collection system, and that a problem with the filters alone would render the dust collection system inoperative.

According to Workman, as of May 30, 1996, however, the company had still not corrected the dust conditions inside the operator's cab. The Chief Maintenance Foreman, Lonnie Stanley, told the inspector that the drill was 15 years old, and that "possibly the technology had been outdated." He acknowledged that they were aware of the problem. Jerry Simmons also acknowledged that they knew that they had a problem with the drill.

On June 3, 1996, Inspector Workman again returned to examine the operator's cab. Jerry Simmons explained that the cab had been cleaned out, the circulating compartment of the cab had been eliminated, and another circulation area, that would allow the air to blow on the operator, had been formed. The cab now had neutral pressure and no outside air was entering.

Perry Bias was the drill helper working on the Marion drill on May 21, 1996. He had been working as a helper on the Marion drill for about 4 years. On May 21, they began drilling around 8:15 a.m. According to Bias, conditions outside the cab were very dusty and he was exposed to

drill dust. He was not wearing a respirator, and he had never been fit-tested for one. His duties as a driller helper required him to leave the cab during drilling to check fluid levels and to investigate any problems that arose. On these occasions, it was necessary for him to go to the rear of the machine by way of the outdoor catwalk. He also left the cab several times each shift to use the bathroom and to mark the holes for the drill operator. Drilling sometimes was in progress when he left the cab to mark holes. Bias estimated that on an average shift, he left the cab eight to twelve times while drilling was in progress and was not always able to avoid the dust.

Bias further testified that conditions inside the cab were always dusty, and that included May 21, 1996. He maintains that he reported the dusty conditions inside the cab on the Marion drill to management nearly every day for four years. The cab was not pressurized and the air conditioning system was pulling outside air into the cab through cracks. Part of Bias's job was to clean the cab. According to Bias, within an hour after he had cleaned the cab, the dust would return to the extent that he could write his name in the drill dust on the window sills.

Sanford Johnston was the drill operator working with Bias on the Marion drill that day. He had been operating that drill since February 1995, and worked six days a week, 8:00 a.m. to 4:00 p.m. He estimated that, when the inspector arrived, he had drilled the extant hole 25 to 35 feet deep. According to Johnston, conditions outside the cab that day were "very dusty," and were typical of conditions at that mine. Johnston was not wearing a respirator and had never been fit-tested for one. He acknowledged that, in any event, a respirator would not seal around his beard. After the citation was issued that day, holes were found in a large dust hose. Johnston maintains that he had previously reported that condition, but rather than replace the hose, duct tape had been used on several occasions in an effort to plug the holes.

Johnston confirmed that the cab was always dusty. The cab was not pressurized and outside air was being pulled inside through cracks and holes in the doors and windows. He and Bias had repeatedly plugged the larger holes in the windows and doors, but he noted that it was not possible to plug all the holes. He noted that when they took apart the vents to the air conditioning system that day, they found a "wheelbarrow load of dust" in the system. He claims that he and his helper always reported dust in the cab on their pre-operational checklists.

Citation No. 7159321

Inspector Workman issued this citation on May 30, 1996. It alleges a "significant and substantial" violation of 30 C.F.R. ' 72.620 and charges as follows:

The Robbins highwall drill co. no. 116181, operating in the no. 18 pit drill bench area is observed during drilling operations with excessive amounts of visible airborne drill dust present, around the cab, front and surrounding areas.

Workman left the Marion drill around 10 a.m. on that day. He then observed another drill generating dust over 100 yards away in the No. 18 pit drill bench area. Workman pulled up to the drill, parked his jeep and began to document the drill on his video camera as he approached. It was a Robbins highwall drill company number 116181. There was drill dust around the cab and

the drill. The hole was collared at the time of the inspection and the drill operator told Workman that the hole had been drilled to 28 feet.

Hole loaders and an endloader operator were working about 50 feet from the drill. Others were walking within 15 to 20 feet of the drill during the inspection. Workman acknowledged that he did not see any miners directly in the visible dust but noted that wind conditions were changing, and it was expected that several more hours would be required to finish loading the holes.

Jerry Simmons told the inspector that the filters were dirty and, in order to abate the conditions, they were changed. Hobet also installed a new piece of skirt rubber on the drill to replace skirting that had been torn away. On June 3, 1996, after the repairs, Inspector Workman observed the Robbins drill in operation with no visible drill dust, and terminated the citation.

Docket No. WEVA 96-178

Citation No. 7159340

This citation, issued July 17, 1996, alleges a significant and substantial violation of 30 C.F.R. § 72.620 and charges as follows:

The Ingersoll Rand Rock Drill Co. No. 61170, operating in the 295 shovel pit area is observed during drilling operations with excessive amounts of visible airborne dust present around the operators compartment and surrounding areas.

On July 17, 1996, Workman inspected the Hobet Peats Branch No. 3 Mine. As he drove along the 295 shovel pit area, he observed a drill more than 100 yards away releasing a lot of dust. It was Ingersoll Rand rock drill company number 61170. Workman photographed the drill and the surrounding conditions as he conducted his inspection. The visible dust extended above the top of the cab and in to the surrounding area. The rubber skirting was raised off the ground approximately three to four inches, and dust was emanating from under it. Dust was also being generated from the top of the drill deck through the donut. The filters were also dirty and needed to be changed. The drill bit was more than halfway down when the inspector approached, indicating that the hole had already been collared.

Charles Wiseman, a driller operator, was the miner's representative traveling with Inspector Workman that day. Wiseman observed an excessive amount of dust coming from under the drill curtain. It was so thick he could not see through it. Workman did not observe any miners working directly in the dust and Wiseman estimated that the powder crew of five or six men was working 50 to 100 feet away. Both Workman and Wiseman opined that the crew could have been exposed to dust if the wind should change direction. The drill holes were positioned about ten feet apart, and it is not disputed that blasters can work within 10 to 20 feet of the drill. An unidentified blaster purportedly told the inspector that they had been working in similar conditions for two weeks.

Edgar Chambers was operating the cited Ingersoll Rand rock drill on July 17. He had been a driller operator at the Peats Branch Mine for eight years. Chambers confirmed that the dust conditions outside of the cab that day were "pretty bad" and stated that the curtain was too short. Chambers claimed that he had problems having maintenance performed on his drill sometimes taking as long as a week before they would be fixed. He had recently waited three weeks for a dust curtain to be repaired and he continued to operate the drill under dusty conditions.

Frank Stover was working as a surface blaster near the Ingersoll Rand rock drill that day. Stover has worked in surface mining for 11 years and around drills for six to seven years. He loads the drill hole stems with drill cuttings, wires the shots, and blasts them. On July 17, he arrived at the worksite around 7:00 a.m. Dust was emanating from the drill "pretty bad" and, at times, Stover was working in the drill dust. He estimated that he was 100 feet from the drill when it was shut down and that one member of the crew was 50 feet closer. He testified that on a typical day, he would work as close as ten feet to the drill while drilling is in progress and although he tries to maneuver out of the dust, because of the wind, he is not always able to avoid it.

Rick Phillips was also working as a surface blaster near the Ingersoll Rand rock drill on July 17. According to Phillips the dust conditions were "pretty bad" around the drill that day. There was a large cloud of dust around the cab and drill and the dust was so thick near the drill that it was difficult to see through it. The dust was present from the time the blasters arrived around 7:00 a.m. While he was working between 50 and 100 feet from the drill when the inspector arrived, he usually works within 20 feet of the drill. The other blasters generally worked within 20 to 30 feet of him. According to Phillips, because of the changing wind conditions, dust from the drill reached the blasters. Phillips estimated that if the drill had not been shut down that day, the blasters would have worked approximately five hours near the Ingersoll Rand rock drill. Phillips did not recall whether he wore a respirator that day. On July 18, 1996, after repairs, the inspector observed the drill operating without generating dust.

Docket No. WEVA 96-185

Citation No. 4629641

Jerry Robertson, an MSHA surface mine inspector issued this citation on July 8, 1996, at the Hobet No. 7 Mine. The citation alleges a "significant and substantial" violation of 30 C.F.R. § 72.620 and charges as follows:

Management and/or the operator failed to effectively control the dust being produced by the Ingersoll Rand Drill DMSOE C/O 23161 at the 10 pit area. The writer observed the following: (1) dust in the air, over under and around the operator's cab (white in color), (2) defective door seals; defective air conditioning (temperature 80°); (3) dust coming up around drill stem, (4) defective cyclone discharge, (5) missing discharge flex tube, (6) cyclone system appears to [be] inadequate at the time of inspection, due to the amount of dust being discharged.

Robertson has five years experience with MSHA and 23 years experience in the coal mining industry, including work as an instructor and mine foreman. On July 8, 1996, Michael Hudak was a mining engineer with MSHA District 4. He is a 1961 graduate of West Virginia University with honors in mining engineering. On November 17, 1997, Hudak became a coal mine health and safety specialist in MSHA's safety department in Arlington, Virginia. He has 36 years experience in the mining industry including work as a project engineer and mine manager and has been with MSHA for about four years.

On July 8, 1996, Robertson and Hudak inspected the No. 7 Surface Mine. They were driving along the access road to pit 10, about one-quarter mile away, when they saw dust emanating from a drill operating at the pit on a reclaim bench. They approached the drill, an Ingersoll Rand DM 50, observed drilling operations for several minutes, and then shut it down. The dust cloud generated from drilling was approximately 15 to 20 feet wide by 15 to 20 feet high. Drill dust was seen over, under and around the operator's cab. The interior of the cab, where the drill operator worked, was also heavily dusted. Robertson placed his hand on a flat surface inside the cab, pulled it away, and saw that the imprint of his hand remained. Dust covered the ceiling, sides, doors and controls. Robertson concluded, based on the amount of dust, that it could not have accumulated as a result of collaring alone.

The rubber seals on the door to the operator's cab were ~~very~~, very ragged. Robertson stated that when he looked at the seals from inside of the cab, he could see light from the outside. Hudak noted that there were places where the seal itself was torn completely off and there were few places where the door was actually sealed. Robertson concluded that it would have taken several days for the seals to have deteriorated to the condition in which they were found. Curtis Lester, the driller operator, confirmed that the seals had been in poor condition for several days.

The air conditioner was also inoperative although its blower was functioning. However, given the defective door seals, dust from the outside was being brought in. The outside temperature in Charleston, West Virginia on July 8, 1996, was 80 degrees. Inspector Robertson speculated that it was only a matter of time before the heat inside the cab would become unbearable, and the operator would open the windows for relief, thereby exposing himself to even more of the drill dust. The driller operator told Inspector Robertson that there had been problems with the air conditioner for several days.

The inspectors opined that dust observed inside the cab was drill dust that had entered the cab through the deteriorated rubber door seals. With the door seals failing to seal, and the air conditioner failing to completely pressurize the cab, there was nothing to preclude drill dust from entering the cab.

The inspectors also found that the cyclone discharge was defective. It was not sealed against the side of the dust collector system. Therefore, when the system discharged the dust was blown sideways into the atmosphere at eye level instead of dropping down to the ground. In addition, the discharge flex tube was missing. This component of the drill dust control system consists of a long tube which is attached to the end of the discharge chute. It is designed to force the discharged dust to the ground in a concentrated form. Without the discharge flex tube, dust

was being propelled into the air in an uncontrolled manner. The drill stem collar was also defective and was allowing dust to be blown back into the drill deck and cab areas. Finally, the inspectors concluded that the cyclone, which is the vacuum for the drill dust control system, was inadequate.

The hole was well past the collaring stage. The drill was on its second steel, about 25 feet into the hole. Inspector Robertson noted that almost half of the drill steel was in the ground when he arrived.

Curtis Lester, the driller operator who ran the Ingersoll Rand DM 50 drill on July 8, 1996, had worked in surface mining for over 20 years and had worked for Hobet for over 17 years. He had been a driller operator at the No. 7 Surface Mine for 15 years, and had operated the Ingersoll Rand DM 50 drill for the three to four months it had been on the job site. On July 8, he arrived at the bench around 8:30 a.m. The dust that day was pretty heavy and conditions inside the cab were dusty. Inside the cab, he used rags to wipe the controls and windows, but a little bit later on, it would be dusted again. He typically worked inside the cab, unless he was laying out holes.

On several occasions before July 8, Lester had reported the dusty conditions inside the cab to management. The dust collector often broke down (about every other day) and the drill dust was entering the cab through cracks in the doors. Before July 8, the company tried to put a seal around the cracks but that was ineffective and the dust continued to enter. Lester also remembered that July 8 was a sunny, dry day, and it was possibly 80 degrees in the cab. The blowers were working but the air conditioning was not functioning, and therefore, hot air was merely being circulated.

Lester confirmed that there was drill dust coming up around the drill stem. He had reported that condition to management before. The dust around the drill stem was caused by a bent piece of steel. He also confirmed that there was a problem with the exhaust chute coming off the dust collector and that the cyclone system was inadequate. Lester stated that when he called mechanics to fix the dust collector, a lot of times they would be busy working on other equipment at the shop and the equipment foreman couldn't release their mechanics to send them out at that time. Lester was not wearing any respiratory protection that day.

On July 9, 1996, Inspector Robertson returned to the mine to re-inspect the drill. He found that the door seals had been repaired, the air conditioning was working, and the operator's cab had been cleaned. However, the drill was continuing to release dust into the work environment around the drill stem and around the discharge chute in the same quantity as the day before. Accordingly, he issued Section 104(b) failure to abate Order No. 4629643. That order is now final and will be considered in assessing a civil penalty for the violation at issue. On July 10, 1996, Robertson again returned to the mine to examine the drill. He found that the filters had been replaced, the discharge chute had been sealed against the dust collector and a flex tube and dust collars had been installed. As a result, the drill dust was under control, and no dust was released even during collaring.

Docket No. WEVA 97-33

Citation No. 7152206

This citation, issued on September 23, 1996, alleges a significant and substantial violation of 30 C.F.R. ' 72.620, and charges as follows:

The Ingersoll Rand DM 50 Drill, Co. No. 22875, does not have effective dust control measures being used during operation. The dust collection system is not working properly, causing a visible cloud of dust to be discharged from the exhaust blower. Two members of the blasting crew are exposed to the excessive discharge of dust.

Donald Winston has been an MSHA inspector for approximately three-and-a-half years. He has a master's degree in mining engineering, a bachelor's degree in civil engineering and is a registered professional engineer. Winston has also worked as chief engineer for two mining companies for a total of 17 years. At the time of the hearing, he was working as a Compliance Analysis Program (CAP) Specialist with MSHA. In that capacity, he visited surface mines and discussed the hazards of silicosis with employees.

On September 23, 1996, Inspectors Winston and Workman visited the Peats Branch No. 3 Surface Mine. Around 10:25 a.m., they drove up an inclined road towards a box cut, and parked their truck near the entrance. They observed a drill (Ingersoll Rand DM 50 company number 22875) operating in the box cut discharging dust from the exhaust blower. A stream of dust was shooting out the exhaust port of the dust collector at high velocity and blowing across the drill bench. The dimensions of the exhaust port were approximately eight by ten inches, and the visible dust stream was being pushed approximately 30 to 40 feet from the drill.

Two blasters, who were not wearing respiratory protection, were working within 70 to 80 feet of the drill. While these men were not engulfed in the visible dust at the time of the inspection, they were working directly across from the stream of drill dust. Winston speculated that if the wind should change direction, these miners would have been exposed to the drill dust. It was also Winston's opinion that high winds were likely to occur in the area in which the drill was operating. Peat's Branch No. 3 is a mountaintop surface mine from which the trees have been removed. Box cuts are more likely than other areas to have turbulent winds because of the turbulence produced when the wind hits the highwalls. This box cut had three highwalls and one open side. The highwalls on the sides were approximately 80 to 100 feet high. In the confined area of the box cut, it was opined that winds could carry drill dust to anyone working therein.

The drill was shut down, and new filters were installed on the dust collector. The inspectors then observed the drill operating without visible dust being discharged from the exhaust blower.

Evaluation of the Evidence

The mandatory standard at issue, 30 C.F.R. ' 72.620, provides as follows:

Holes shall be collared and drilled wet, or other effective dust control measures shall be used, when drilling non-water-soluble material. Effective dust control measures shall be used when drilling water-soluble material.

In the cases at bar it is undisputed that the subject holes were not drilled wet. I find that the Secretary has also clearly met her burden of proving in each of these cases by a preponderance of the evidence that other effective dust control measures were not being used. In each of these cases the Secretary has established by a preponderance of the evidence that dust controls were missing, defective, or ineffective. Under the plain meaning of the cited standard and the facts of these cases, that is sufficient to establish the violations. I note that this interpretation is also consistent with the preamble to the cited standard in which it is clearly stated that MSHA intends to cite mine operators for violations of this standard "when a dust control is missing, defective, or obviously ineffective by visual inspection" (Gov. Exh. 54 at 8324). The preamble also specifically rejects the proposition that a total mechanical failure of a drill dust control system would necessarily have to exist before a citation for a violation of this standard may be issued. In this regard, the preamble states:

Most failures of drill dust controls are readily identified and easily corrected. Rather than mechanical breakdown of the controls, malfunctions are generally the result of oversights or poor maintenance, such as failure to turn on water, to fill water-holding tanks, or to empty filters. (Gov. Exh. 54 at 8323).

It is therefore not necessary in these cases to determine whether the presence of visible dust alone can establish a violation of the cited standard. Moreover, contrary to Hobet's arguments, the language of the cited standard does in fact provide reasonable notice of what is forbidden and, therefore, the standard comports with due process. *Diamond Roofing Co. v. OSHRC*, 528 F.2d 645 (5th Cir. 1976); *Phelps Dodge Corp. v. FMSHRC*, 681 F.2d 1189 (9th Cir. 1982). The Commission in *Secretary v. U.S. Steel Mining Co.*, 15 FMSHRC 1541, 1546 (August 1993), also held that an operator cannot legitimately contend that it did not have notice of the conduct required by a regulatory standard if it has been cited previously by an authorized representative of the Secretary for a similar violation of the same standard. The record herein clearly establishes that Hobet has previously been so cited. (See Gov. Exh. 14).

Citation No. 7152439

The Secretary argues that dust control on the Marion drill here cited was ineffective because the dust collection system had not been maintained in proper working condition. The drill table shroud (skirt rubber) had not been maintained properly so as to provide an enclosed area for the dust collector to maintain the necessary capture of the dust being generated by the drilling process. In addition, the filters used in the dust collector had not been maintained to ensure that sufficient air could be moved by the collector to capture the dust laden air being expelled from the drill hole by the bailing air. The dust collector blower unit had also not been maintained as designed with the drive belts to maintain sufficient air movement through the dust collector to pick up the dust-laden air being generated by the drilling process. Finally, there were

holes in the dust hose which allowed rill dust to escape into the work environment . Robert Thaxton, MSHA's Supervisory Industrial Hygienist and expert witness in dust control opined that, indeed, these conditions constituted defects to the drill's dust collection system.

While not disputing the factual allegations, Hobet appears to argue that the evidence shows the dust control measures were inefficient but not ineffective within the meaning of the cited standard. I find however that the Secretary has met her burden of proving that effective dust control measures were not being used.

Citation No. 7159321

The Secretary maintains that dust control on the Robbins drill here cited was likewise ineffective because the dust collection system had not been maintained in proper working condition. A section on one side of the shroud had been torn away and the shroud was elevated so that there was a gap of about four inches between the bottom of the shroud and the ground. The dust collection filters also were dirty and reduced the quantity of air which could be moved through the dry dust collector. Thaxton opined that these conditions prevented the dust collector from maintaining a sufficient capture velocity to pick up the drill dust as it exited the drill hole. He further opined that these conditions constitute defects to the drill's dust collection system.

Hobet here argues that because both filters and skirt rubbers are routinely replaced "every 250 hours or as needed," there was no violation. This argument is no defense to the violation however, but goes only to the issues of abatement and negligence. The violation is accordingly proven as charged.

Citation No. 7159340

The Secretary argues that dust control on the Ingersoll Rand rock drill here cited was ineffective because the dust collection system had not been maintained in proper working condition. The drill was operating on an incline with the dust shroud elevated off the ground but the violation was also the result of dirty dust collection filters. Thaxton opined that the combination of the improper work practice and defective conditions on the drill decreased the capture velocity and rendered the system ineffective.

Hobet again does not dispute the factual allegations but argues that it is common industry practice to maintain skirt rubbers three to four inches off the ground and, under some circumstances, as high as six inches off the ground. This argument is no defense however and the undisputed facts alone are sufficient to sustain the violation as charged.

Citation No. 4629641

The Secretary maintains that dust control on this Ingersoll Rand drill was ineffective because the dust collection system had not been maintained in proper working condition. The facts are undisputed. Dust was being released into the work environment around the drill stem due to a bent piece of steel. The system also had a defective cyclone discharge and missing discharge flex tubes. Thaxton opined that these conditions were defects that rendered the system

ineffective. According to Thaxton, the drill stem collar and improperly operating cyclone allowed the dust from drilling to escape into the atmosphere. Moreover he concluded that the unsealed cyclone discharge and missing flex tube allowed drill dust that should have been pulled into the dust collection system to be released into the atmosphere surrounding the operator's cab.

Hobet does not dispute the facts but claims that the cited defects would be corrected by routine maintenance. These claims do not of course, afford a defense to the violation but is a factor that may mitigate negligence. Hobet also appears to argue that the Secretary has the burden of proving that the cited defects can be avoided by current technology. Since Hobet corrected the defects with current technology the argument is obviously without merit.

Citation No. 7152206

The Secretary notes that large quantities of visible airborne dust were being blown out of the exhaust blower of the cited Ingersoll Rand DM drill at high velocity. Hobet concedes that the filters were wet and clogged. Thaxton opined that the fact that the drill dust was exiting the dust collector exhaust established that the system was not filtering the small dust particles from the air, but was simply moving the drill dust from the confines of the deck shroud to the atmosphere around the drill. New filters were installed on dust collectors and visible dust was no longer observed exiting the exhaust blower. It may therefore reasonably be inferred that the filters had been defective or ineffective.

The facts are not disputed by Hobet but it argues that the citation should nevertheless be vacated because clogged filters cannot be avoided. This argument affords no defense. While clogged filters may not be avoided they can nevertheless be replaced.

In affirming the violations in these cases, I have not disregarded Hobet's repeated claims that dust control measures are "plagued with numerous problems brought about by hard use," that it utilized the "best dust control technology available," acted "promptly" to repair problems with the dust control systems, and "instructed miners to withdraw if dust conditions get too bad before maintenance could make repairs" (Resp.'s Brief Pg. 48). However, these claims do not provide a defense to the violations and are accordingly rejected. Such issues may be considered in regard to abatement and possible mitigation of negligence.

Significant and Substantial

Under present law, the elements for determining whether a violation of a mandatory health standard is significant and substantial are: (1) an underlying violation of the mandatory health standard; (2) a discrete health hazard - - a measure of danger to health - - contributed to by the violation; (3) a reasonable likelihood that the health hazard contributed to will result in an illness; and (4) a reasonable likelihood that the illness in question will be of a reasonably serious nature. *Secretary of Labor v. Mathies Coal Co.*, 6 FMSHRC 1, 3-4 (January 1984); *Secretary of Labor v. Consolidation Coal Company*, 8 FMSHRC 890, 897 (June 1986), *aff'd*, 824 F.2d 1071 (DC Cir. 1987); *See also Secretary of Labor v. FMC Wyoming Corp.*, 11 FMSHRC 1622, 1626 (September 1989).

The determination of "significant and substantial" must be based on the facts existing at the time the citation is issued but also in the context of continued normal mining operations without any assumptions as to abatement, *Secretary of Labor v. U.S. Steel Mining Company, Inc.*, 6 FMSHRC 1573, 1574 (July 1984). Thus, it cannot be inferred that the violative condition will cease. *Secretary of Labor v. Gatliff Coal Company*, 14 FMSHRC 1982, 1986 (December 1992).

In the *Consolidation Coal Company* case (*Consol*) the Commission adapted the *Mathies* test to a violation of a mandatory health standard. In that case, *Consol* received a citation for a violation of 30 C.F.R. Section 70.100(a), which requires that the average concentration of respirable dust in the mine atmosphere during each shift to which a miner is exposed be maintained at or below 2.0 milligrams of respirable dust per cubic meter of air as measured with an approved sampling device. Sampling results showed that miners had been exposed to an average respirable dust concentration of 4.1 mg/m³.

The Commission in *Consol* held that the violation was significant and substantial. The Commission concluded that any exposure above 2.0 mg/m³ based on designated occupation sampling would satisfy the second element of the test, and therefore, the violation posed a measure of danger to health. *Id.* at 898. The Commission also found that there was a reasonable likelihood that the health hazard contributed to would result in an illness. *Id.* at 899. The Commission recognized that the development and progress of respiratory diseases are due to the cumulative dosage of dust a miner inhales, and that proof of a single incident of overexposure does not, by itself, conclusively establish a reasonable likelihood that respirable disease will result. *Id.* at 898. The Commission recognized that although overexposure to respirable dust clearly can result in chronic bronchitis and pneumoconiosis, the effects of the health hazards associated with overexposure to respirable dust usually do not cause immediate symptoms, and that assessing the precise contribution that a particular overexposure will make to the development of respiratory disease is not possible.

Because of these considerations, the Commission concluded:

. . . given the nature of the health hazard at issue, the potentially devastating consequences for affected miners, and strong concern expressed by Congress for eliminating respiratory illnesses in miners, we hold that if the Secretary proves an overexposure to respirable dust in violation of section 70.100(a), based upon designated occupation samples, has occurred, a presumption arises that the third element of the significant and substantial test - - a reasonable likelihood that the health hazard contributed to will result in an illness - - has been established. *Id.* at 899.

The fourth element of the significant and substantial test, whether a reasonable likelihood that the illness in question will be of a reasonably serious nature, was not seriously disputed, and the Commission held that there is a reasonable likelihood that illness resulting from overexposure to respirable dust will be of a reasonably serious nature.

The Commission in *Consol* held that when the Secretary proves that an overexposure in violation of 30 C.F.R. Section 70.100(a), based upon designated occupation samples, had occurred, a presumption arises that the violation is significant and substantial. *Id.* The operator may rebut this presumption only by establishing that miners in the designated occupation were not exposed to the hazard posed by the excessive concentration of respirable dust. *Id.*

On appeal, the DC Circuit affirmed the Commission's decision and rejected Consol's argument that the presumption adopted by the Commission lacks a rational basis because short-term exposure to respirable dust can never result in a significant and substantial violation. *See Consol*, 824 F.2d at 1085.

The Court reasoned as follows:

Consol's argument fails to consider the inherent difficulties in enforcing a health standard designed to prevent diseases caused by the cumulative effects of repeated overexposure to a harmful substance. The harmful effect of any one incident of exposure to excessive concentrations of respirable dust is negligible - - as the ALJ phrased it, a "drop in the bucket." Thus, acceptance of Consol's argument would mean that *no* violation of the respirable dust could ever be designated as significant and substantial.

Id. at 1086.

In *Secretary v. U.S. Steel Mining Co., Inc.*, 8 FMSHRC 1274 (September 1986), the Commission applied the analysis used in *Consol* to a case involving the respirable dust standard when quartz is present. After considering the legislative history which discussed the Congressional intent to prevent respirable diseases induced by silica-bearing dust, the Commission held that any overexposure to respirable dust based upon designated occupation sampling results giving rise to a violation of 30 C.F.R. Section 70.101 presents a discrete health hazard. *See Id.* at 1279-1280. Thus the second element of the *Mathies* test had been met.

The Commission then concluded that there was a reasonable likelihood that the health hazard contributed to will result in illness:

. . . The nature of the health hazard posed by excessive concentration of respirable dust containing quartz is in some respects greater than that posed by respirable dust without quartz. The fibrosis associated with silica-bearing dust is irreversible and may continue to develop after exposure has ended. Although the present state of scientific and medical knowledge does not make it possible to determine the precise point at which respirable diseases induced by silica-bearing dust above the applicable exposure limit are an important risk factor. Accordingly, given the nature of the health hazards at issue, the potentially devastating consequences to affected miners, and the strong concern expressed by Congress for the elimination of occupation-related respiratory illnesses in miners, we hold that where the Secretary proves an overexposure to respirable dust in violation of section 70.101

based upon designated occupation samples, a presumption arises that the third element of the significant and substantial test - - a reasonable likelihood that the hazard contributed to will result in an illness - - is established.

Id. at 1281.

The fourth element of the significant and substantial test, a reasonable likelihood that the illness in question will be of a reasonably serious nature, was not disputed. *Id.* The Commission concluded by holding that proof of an overexposure to respirable dust containing silica gives rise to a presumption that the violation is significant and substantial. *Id.*

In the cases at bar, the first element of the *Mathies* test as modified in the *Consol* cases, has been met, i.e., the Secretary has proven a violation in each case of the mandatory health standard at 30 C.F.R. ' 72.620. It is the second element, i.e., the existence of a discreet health hazard - - that is, a measure of danger to health - - contributed to by the violation, for which the Secretary has failed to sustain her burden of proof. In contrast to the *U.S. Steel* case wherein the second *Mathies* element was met by proof of overexposure to respirable dust by designated occupational sampling, the Secretary here seeks to establish that element by first creating an evidentiary presumption that visible dust clouds emanating from surface coal mine drills such as those described in these cases by photographic and/or testimonial evidence contain hazardous levels of respirable coal mine dust and silica (Gov. Exh. No. 26 p. 12). In effect, the Secretary thereby seeks to shift the burden of proof to the operator to disprove that his miners were overexposed to respirable dust and silica -- and thereby to require the operator, rather than the Secretary, to create a program for, and to conduct respirable dust monitoring of, its miners.

However, as the Circuit Court for the District of Columbia recently stated, in reviewing a similar presumption sought by the Secretary, in *Secretary v. Keystone Coal Mining Corporation et al.*, No. 95-1619 (D.C. Cir. August 21, 1998):

Such a presumption is only permissible if there is "a sound and rational connection between the proved and inferred facts," and when "proof of one fact renders the existence of another fact so probable that it is sensible and timesaving to assume the truth of [the inferred] fact...until the adversary disproves it." *Chemical Mfrs. Ass'n v. Department of Transp.*, 105 F.3d 702, 705 (D.C. Cir. 1997) (quoting *NLRB v. Curtin Matheson Scientific, Inc.*, 494 U.S. 775, 788-89 (1990)) (internal citation and quotation marks removed).

Even assuming, arguendo, that the Secretary is not seeking to establish a presumption but rather is seeking on a case by case basis to utilize indirect or circumstantial evidence to prove that the miners at issue were overexposed to respirable silica-bearing dust there must be a rational connection between the evidentiary facts and the ultimate fact to be inferred. *Garden Creek Pocahontas*, 11 FMSHRC 2148 (November 1989). Moreover, contrary to the Secretary's suggestion, her burden of proof, by a preponderance of the evidence, is not reduced for the purpose of establishing the second element of the *Mathies* test because it may be difficult in a

particular case to prove that element or because she has not yet developed a monitor that will obtain accurate real time readouts of exposures by miners to respirable dust.

In attempting to prove the second element of the *Mathies* test the Secretary relies upon the testimony of her expert, Robert Thaxton. Thaxton, an MSHA Supervisory Industrial Hygienist, has a bachelor's degree in chemistry and a master of science degree in occupational health and safety engineering. He has been employed by the Petitioner and MSHA as an industrial hygienist since 1976. Thaxton was accepted at hearing as an expert witness in drill dust control systems and respirable dust sampling.

Thaxton was not present and did not observe first hand the conditions surrounding the issuance of any of the citations at issue. His conclusions were based on photographs (Citation No. 7152439 and 7159340), a videotape (Citation No. 7159321) and oral testimony of eyewitnesses regarding the existence of "excessive amounts of visible dust". With respect to Citations No. 4629641 and 7152206, there were no photographs or videotapes of the conditions and Thaxton relied solely upon testimony that "visible dust" was present. Thaxton asserts that visible dust clouds similar to those described in these cases result in respirable dust concentrations of 10 to 100 mg/m³, and that, therefore, there is no need to perform respirable dust sampling to establish individual overexposures to respirable dust.

Thaxton's analysis proceeds as follows:

There is no reason to sample in situations where visible dust is being emitted from a drill. NIOSH, The Bureau of Mines and MSHA have determined that highwall drills are the single greatest source of respirable coal mine dust at surface coal mines and that the dust generated from drilling operations contains large quantities of crystalline silica or quartz. This makes sense when one considers that the drilling process is a mechanical grinding, the purpose of which is to pulverize the rock into small particles. This grinding process inherently produces respirable dust along with larger particles and cuttings. The method used to remove this particulate matter from the drill hole is high pressure compressed air which forces this harmful material into the work environment. If the dust collector is working improperly, this harmful respirable dust is released into the work atmosphere.

We know that a large portion of the dust produced from surface drilling contains crystalline silica because the coal deposits are laid down with sedimentary rocks and clay, with much of the rock being sandstone and/or shale and clays. All three materials, as well as some coals, contain crystalline silica. The Bureau of Mines publication entitled "Sources and Characteristics of Quartz Dust in Coal Mines" found that at 9 different surface coal mines, the quartz content of drill cuttings ranged from 20.0% to 69.0%.

The presence of respirable dust as a component of visible dust is an elementary principle of industrial hygiene. The very existence of a visible dust cloud in suspension long enough to be seen 20-30 feet away from the drill hole established

the existence of significant amounts of respirable dust. This is so because respirable particles, that is, those particles that are 10F m or smaller in size, remain suspended in the air much longer than non-respirable particles. For example, a 10F m particle will only fall approximately 0.03 cm/sec in still air. This principle is discussed in the book titled "Pulmonary Deposition and Retention of Inhaled Aerosols." There it is stated that an aerosol includes a system of suspended particles in air that are fine enough to possess considerable stability as an aerial suspension. Particles in the 10-20F m size range are in suspension only briefly; however, if one observes a dust suspension or cloud, the majority of particles making up that cloud are in the respirable range C that is, smaller than 10F m. Similarly, the Occupational Safety and Health article titled "Dust Control in the Working Environment (Silicosis)" states that particles smaller than 10F m can remain airborne for a very long period and that these particles travel with the air currents. The Bureau of Mines article entitled "Transport of Respirable Dust from Overburden" concluded that 42% of the dust from drilling traveled a distance of 28.96 meters (95 feet). In addition, in the primer industrial hygiene text "Fundamentals of Industrial Hygiene" published by the National Safety Council (4th Ed.), it is stated that respirable dust particles are visible in strong light and that high concentrations of respirable dust particles may be perceived as a haze or have the appearance of smoke.

Studies by the former Bureau of Mines indicate that visible dust clouds similar to those photographed, videotaped and described in the current case have respirable coal mine dust concentrations of 10 to 100 mg/m³. For example, the Bureau of Mines study entitled "Quartz Dust Sources During Overburden Drilling at Surface Coal Mines" found dust concentrations as high as 98.0 mg/m³ at the drill shroud. My own fieldwork confirms the fact that visible clouds of dust contain high levels of respirable coal mine dust. Without exception, every time that I have sampled an occupation exposed to visible dust from drilling, I have found high levels of respirable dust.

(Gov. Exh. No. 26 pp. 7-8).

The weight to be given Thaxton's opinions in support of the Secretary's claims that the violations herein constituted a discrete health hazard depends on the relevance and reliability of the underlying scientific evidence, i.e., the above publications and studies and Thaxton's own "field work." In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), the U.S. Supreme Court provided guidelines for determining when scientific evidence is reliable:

[I]n order to qualify as "scientific knowledge," an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation - - i.e., "good grounds," based on what is known. . .

Ordinarily, a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it

can be (and has been) tested. "Scientific methodology today is based on generating hypotheses and testing them to see if they can be falsified; indeed, this methodology is what distinguishes science from other fields of human inquiry"... Another pertinent consideration is whether the theory or technique has been subjected to peer review and publication. Publication (which is but one element of peer review) is not a *sine qua non* of admissibility; it does not necessarily correlate with reliability . . . But submission to the scrutiny of the scientific community is a component of "good science," in part because it increases the likelihood that substantive flaws in methodology will be detected. . . The fact of publication (or lack thereof) in a peer reviewed journal thus will be a relevant, though not dispositive, consideration in assessing the scientific validity of a particular technique or methodology on which an opinion is premised.

Id. at 590, 593-594 (citations omitted).

The U.S. Supreme Court has also stated that the reliability of scientific evidence, or an expert opinion based thereon, can be called into doubt if the studies upon which an expert bases an opinion bear little factual similarity to the facts presented in a particular lawsuit. *General Electric Co. v. Joiner*, 118 S. Ct. 512 (1997). The Supreme Court also held in that case that the District Court did not abuse its discretion when it excluded an expert's opinion that was connected to existing data only by *ipse dixit* i.e. a bare assertion resting solely on the authority of the individual expert. *Id.* at 519.

Within this legal framework and for the reasons set forth below I find that the sources underlying Thaxton's opinions are unreliable and/or irrelevant (bearing insufficient factual similarity to the instant cases) and, accordingly, those opinions cannot be accorded any weight. Those opinions, at bottom, are indeed based only upon *ipse dixit*. There is simply too great an analytical gap between the cited studies and Thaxton's opinions. See *Turpin v. Merrell Dow Pharmaceuticals, Inc.*, 959 F.2d 1349, 1360 (6th Cir.), *cert. den.*, 506 U.S. 826 (1992). Without Thaxton's testimony the Secretary cannot sustain her burden of proving the second element of the *Mathies* test in these cases and has thus failed to prove that the violations at bar were significant and substantial. Neither the Secretary's proposed presumption nor the ultimate facts she seeks to have inferred can be established by the evidence.

Thaxton's conclusions correlating visible dust emanating from highwall drills and the exposure of the miners at issue to respirable dust concentrations of 10 - 100 mg/m³, are based upon seven sources: (1) a Bureau of Mines Publication entitled "Sources and Characteristics of Quartz Dust in Coal Mines," in which the quartz content of drill cuttings at nine different surface mines (not including any of the Hobet mines at issue in these cases) ranged from 20.0% to 69.0%, (2) selections from a book entitled "Pulmonary Deposition and Retention of Inhaled Aerosols," (3) an Occupational Safety and Health article entitled "Dust Control in the Working Environment (Silicosis)," (4) a Bureau of Mines article entitled "Transport of Respirable Dust from Overburden," (5) an industrial hygiene text "Fundamentals of Industrial Hygiene" published by the National Safety Council (4th Edition), (6) a Bureau of Mines study entitled "Quartz Dust Sources During Overburden Drilling at Surface Coal Mines" and (7) Thaxton's own field work in which

"without exception, every time that (Thaxton) sampled an occupation exposed to visible dust from drilling, (Thaxton) found high levels of respirable dust." These publications and studies have been examined and are rejected as irrelevant and/or unreliable for the reasons set forth below.

"Sources and Characteristics of Quartz Dust in Coal Mines" (Gov. Exh. No. 37)

This publication by the Bureau of Mines is cited by Thaxton for the proposition that the quartz content of drill cuttings at nine different surface coal mines ranged from 20.0% to 69.0%. However, since the location and the composition of the geological strata at the nine surface mines tested are not identified it cannot be known whether there is any correlation between the quartz content of drill cuttings at the tested mines and those of the Hobet mines at issue in these cases. The relevance of the cited study to the instant cases is therefore not established. There is no rational connection between the evidentiary fact alleged (that the quartz content of drill cuttings at nine unidentified mines ranged from 20% to 69%) and the ultimate fact to be inferred (that the miners at issue in the cases at bar were overexposed to hazardous levels of quartz bearing respirable dust at the times alleged). *Garden Creek Pocahontas*, 11 FMSHRC 2148 (November 1989).

"Pulmonary Deposition and Retention of Inhaled Aerosols" (Gov. Exh. No. 32)

This publication is cited by Thaxton in his direct examination for the following conclusions:

The very existence of a visible dust cloud in suspension long enough to be seen 20-30 feet away from the drill hole establishes the existence of significant amounts of respirable dust.

This is so because respirable particles, that is, those particles that are ten microns or smaller in size, remain suspended in the air much longer than non-respirable particles. For example, a ten micron particle will only fall approximately 0.03 centimeters/second in still air. This principle is discussed in the book entitled, "Pulmonary Deposition and Retention of Inhaled Aerosols." There it is stated that an aerosol includes a system of suspended particles in air that are fine enough to possess considerable stability as an aerial suspension. Particles in the 10-20 micron size range are in suspension only briefly; however, if one observes a dust suspension or cloud, the majority of particles making that cloud are in respirable range--that is, smaller than 10 microns. (Gov. Exh. No. 26 p. 7).

The cited text is inapposite to the cases at bar since it is based upon an "approximate range of air movement in the so-called <still air> of an ordinary closed room." These cases on the other hand involve open-air benches exposed to winds of varying velocities and directions. One case (Citation No. 7152206) also involved the propulsion of dust from a blower at high velocity. The effect of such velocities on the settlement rate of respirable and non-respirable dust particles is not discussed. The relevance of the cited study to the facts at bar has not therefore been established and the study is accordingly rejected.

In his testimony Thaxton also cited the above text for the proposition that a visible dust cloud is an aerosol, that aerosols are composed of particles less than 10 microns in size, and thus a dust cloud is composed primarily of respirable dust. According to Thaxton, a dust cloud could

not be 99 percent non-respirable dust, because "(i)f that cloud was 99 percent non-respirable, the dust would be falling out and it wouldn't be a cloud traveling 30 or 40 feet away from the drill." The Secretary in her posthearing brief also reasserts that "particles in the 10 to 20 micron range...are in suspension only briefly and cannot float 30 to 40 feet away from a drill." Thaxton's opinion and the Secretary's position are not based however on the factual record at bar. In particular, with the exception of testimony regarding Citation No. 7152206, neither the miners nor the MSHA inspectors described the dust clouds 30 to 40 feet from the drills. Nor did they state, contrary to Thaxton, that the dust clouds were 20 to 30 feet from the drills. MSHA Inspector John Workman indicated that the dust cloud he observed at the Hobet No. 21 Mine on May 21, 1996, was confined to the area around the operator's cab, drill mast, and front of the machine. (Citation No. 7152439). Similarly, Workman indicated that the dust he saw at the Hobet No. 21 Mine on May 30, 1996, was also confined to the front and cab areas of the drill. (Citation No. 7159321). MSHA Inspector Jerry Robertson described the dust cloud he saw at the Hobet No. 7 Mine on July 8, 1996, at 15 to 20 feet high and wide. (Citation No. 4629641). MSHA mining engineer Michael Hudak described that same dust cloud as being 15 feet, 18 feet, or 20 feet wide and high. Even Thaxton testified that the cloud depicted in Government Exhibit No. 12-1E was no more than 20 feet wide. (Citation No. 7159340). In addition the inspectors uniformly testified that they never saw non-driller operators or helpers who were located 50 feet to 300 feet from the drills, in the dust.

Since Thaxton erroneously assumed that the dust clouds at issue dispersed 20 to 40 feet from the drills, his conclusions based upon the size of the dust clouds are likewise erroneous. Accordingly for this additional reason Thaxton's conclusion that the visible dust in these cases must have been comprised principally of respirable particles can be given no weight.

As noted, Citation No. 7152206 issued September 23, 1996, at Peats Branch No. 3 Mine, by MSHA Inspector Donald E. Winston, can be further distinguished from the other citations. Winston stated that the dust he saw streaming from the blower "a substantial distance, 30, 40 feet" was not like the dust clouds at issue in the other citations. The dust Winston here observed was being propelled at a high velocity and was "not as dense" as the dust clouds. As noted, the studies relied upon by Thaxton do not discuss such high-velocity projections or address how a velocity of the type witnessed by Winston could affect the particle size or settling rates.

It is also noted that while Thaxton cites this article to support his statement that "if one observes a dust suspension or cloud, the majority of particles making up that cloud are in the respirable range --that is, smaller than 10 microns" nothing in the two-page portion of the text submitted as evidence in this hearing actually supports this statement.

"Dust Control in the Working Environment (Silicosis)" (Gov. Exh. No. 34)

This article is cited by Thaxton for the proposition that "particles smaller than 10 microns can remain airborne for a very long period and that these particles travel with the air currents." The generalization stated in this article does not however prove the issue central to these cases i.e. whether the miners at issue were overexposed to respirable dust, nor does it support Thaxton's conclusion that the visible dust in these cases contained high levels of respirable dust.

Indeed the article further detracts from Thaxton's conclusions and the previous study relied upon by Thaxton (Gov. Exh. No. 32) in that it corroborates that the rate of fall of the dust particles studied was established in still air. The article cautions that the studies are also based on an analysis of a spherical quartz particle and that the velocity of the fall of a particle also varies according to its density and shape. Since the density and shape of any dust particles in these cases as well as the velocity and direction in which the particles were being projected, are unknown, the relevance to these cases of studies relied upon by Thaxton involving spherical quartz particles in still air has not been established.

"Transport of Respirable Dust from Overburden Drilling at Surface Coal Mines"
(Gov. Exh. No. 36)

This article is cited by Thaxton for the proposition that "42% of the dust from drilling traveled a distance 28.96 meters (95 feet)". The relevance of the study to the instant cases has not been established. Indeed it is stated therein that "owing to the extremely complicated nature of gas and dust transport via ambient wind currents, the calculated values of R are presented with the intention of merely describing the maximum values obtained and the general trends of how R varies with distance". It is also noted that during sampling in this study "a recording wind anemometer was used to measure wind direction and velocity in order to establish and maintain proper sampling locations during the testing." In the cases at bar there were no such controls. Finally, the calculation of respirable dust exposure at varying distances still depends upon the amount of respirable dust emanating at its source--something that has been the subject of speculation but has not been established in the cases at bar.

"Fundamentals of Industrial Hygiene" (Gov. Exh. No. 33)

This text is cited by Thaxton for the proposition that "respirable dust particles are visible in strong light and that high concentrations of respirable dust particles may be perceived as a haze or have the appearance of smoke". (Gov. Exh. No 26 p. 7). The cited text states as follows:

Most industrial particulates consist of particles that vary widely in size; the small particles greatly outnumber the larger ones. Consequently, when dust is noticeable in the air around an operation, more invisible dust particles than visible ones are probably present.

Thaxton opined that more respirable particles than non-respirable particles are present in a drill dust cloud because respirable particles i.e. those less than 10 microns in diameter, are invisible. He was presumably relying upon the summary conclusion in the above text that more invisible particles than visible are "probably present" in noticeable dust. The mere probability of a presence does not however meet the standard of reliability needed to accord credibility and weight to scientific evidence.

Even more problematic however is the evidence that not all invisible particles are small enough to fall within the "respirable" range. Thaxton appears to have ignored this critical fact.

The various charts and discussion contained in the studies establishes that non-respirable particles ranging in size from 10 to 50 microns are not, and particles between 50 and 100 microns might not be, visible to the human eye. Government Exhibit No. 32 Figure 1.1 indicates by a dashed line that it is "doubtful" whether particles between 10 and 100 microns are visible to the human eye. It is also indicated in the instant text, Government Exhibit No. 33 at page 179, that a person with normal eyesight can detect individual dust particles as small as 50 microns in diameter.

It is further stated as follows:

(s)maller airborne particles can be detected individually by the naked eye only when strong light is reflected from them. Particulates of respirable size (usually considered to be below 5 microns) cannot be seen as individual particles without the aid of a microscope. However, high concentrations of suspended small particles may be perceived as a haze or have the appearance of smoke. (Gov. Exh. 33 and Fig. 8-2).

While Thaxton concluded from this language that the dust clouds at issue consisted primarily of respirable dust particles, the charts and discussion in Government Exhibits 32 and 33 establish that non-respirable particles ranging in size from 10 to 50 microns come within the classification of "small particles" that also may be perceived as haze or smoke.

The other studies also establish that non-respirable particles ranging in size from 10 to 50 microns fall within the classification of "aerosols" that Thaxton opined may be seen by the naked eye, if present in sufficient concentrations. According to Thaxton, the following language from the article "Pulmonary Deposition and Retention of Inhaled Aerosols" (Gov. Exh. No. 32), supports his conclusion that only aerosol particles of respirable size would remain in dust clouds 20 to 40 feet away from the highwall drills:

The term aerosol, comparable to hydrosol, refers to any system of liquid droplets or solid particles dispersed in air, of fine enough particle size, and consequent low settling velocity, to possess considerable stability as an aerial suspension. A 50 (micron) spherical particle of unit density settles through still air at a velocity of about 8 cm/sec or 16 ft/min. This is within the approximate range of air movement in the so-called "still air" of an ordinary closed room. Coarser particles, therefore, have relatively little aerial stability, and, indeed, the duration of an atmospheric suspension of considerably smaller particles ([less than] 10-20 [microns]) is so brief that the upper size limit of aerosols of practical interest is well below this size.

(Gov. Exh. No. 32 p. 7).

Thaxton's assertion that only particles less than 10 microns in size could have been in aerial suspension at a distance of 20 to 40 feet from the drills is therefore clearly erroneous. The above study demonstrates that aerosol particles of non-respirable size (i.e., between 10 and 50 microns in diameter) could be in aerial suspension 16 feet to 20 feet from a drill and the evidence

does not establish that the dust clouds at issue extended more than 15 feet to 20 feet from the drills.

As previously noted, Thaxton also failed to consider the caveat in the studies that the settling rates were obtained in "still air". Considering the windy conditions existing at the subject surface mines, the relevance of these studies to the cases herein has not been established. It is also noted that there are contradictory conclusions in Government Exhibit 34 that moving air keeps particles in suspension longer and in Government Exhibit 33 that moving air causes particles to settle out faster.

"Quartz Dust Sources During Overburden Drilling at Surface Coal Mines" (Gov. Exh. No. 35)

This study is cited by Thaxton for the statement that "dust concentrations as high as 98.0 milligrams per cubic meter [were found] at the drill shroud" studied (Government Exhibit No. 35). Thaxton was unable however to establish the relevance of the cited study to the facts at bar.

Thaxton lacked specific factual information regarding the studied conditions. For example, although he believed that the drills in this study and those at Hobet used the same drilling process, he did not know that only one mine was associated with the study, the name or location of the mine, the manufacturer of the drill, or the specifics of the type of dust control system utilized by the drill. In addition, he testified that, while the basic dust control technology for highwall drills has remained unchanged, filter, filter media, and motors had improved greatly since the study was done in 1983 and 1984.

However, even assuming, arguendo, that the conditions in this study and those cited were comparable, the study does not support Thaxton's conclusion that the dust clouds at issue had respirable coal mine dust concentrations of 10 to 100 mg/m³. Thaxton concluded that dust clouds can contain up to 100 mg/m³ of respirable dust based upon a RAM (Realtime Air Monitor) reading of 98 mg/m³ obtained at location where the highwall drill shroud meets the ground. This reading however constitutes only one reading out of approximately 178 contained in that exhibit and is the only reading of 98 mg/m³ included in the report. Thaxton's focus on the 98 mg/m³ reading not only ignores other ground shroud readings that were significantly lower than 98 mg/m³, but minimizes the researchers' findings that the time-weighted averages for the ground shroud readings were well below 10 mg/m³, and completely ignores the more relevant readings, for purposes of these cases, obtained at the cab.

In the study, seven RAM readings for respirable dust were taken on the ground next to the drill shroud. These RAM results are listed in Table V. Five of the readings obtained were greater than 25.5 mg/m³ over a test duration of 18 to 32 minutes, with cumulative test values ranging from 3.2 to 6.8 mg/m³. One reading of 24.4 mg/m³, over a test duration of 40 minutes with a cumulative test value of 3.2 mg/m³, was reported; while one reading of 98.0 over a test duration of 27 minutes, with a cumulative test value of 7.0 mg/m³ was reported. According to Thaxton, the readings listed as "greater than 25.5" probably did not exceed 98 mg/m³. Although Thaxton initially disagreed that the "cumulative test" values constituted time weighted averages ("TWAs"), in the following exchange he admitted that the values constituted TWA's comparable to those utilized to determine compliance with MSHA's respirable dust standard:

- Q. The MSHA standard is 2 milligrams over an 8-hour shift exposure?
- A. Or less.
- Q. Or less?
- A. It is full shift, whichever is less. Surface mines typically, in the past, ran seven and a quarter hours. Seven and a quarter hours would be plugged into the calculation.
- Q. You are measuring the miner's exposure over the entire working shift, correct?
- A. Yes.
- Q. That recognizes the fact, Mr. Thaxton, you are going to have ups and downs, highs and lows, in that 8-hour shift; does it not?
- A. Yes, it does.
- Q. When I say ups and downs, I mean varying readings of respirable dust over the shift; is that correct?
- A. That's correct.
- Q. In this case, even when you went to the shroud and measured a 98, isn't it true that for that 27-minute period the average was 7.0?
- A. That's correct.

Thaxton admitted that the one reading of 98 mg/m³ on Table V was the basis for his conclusion that respirable dust concentrations in a dust cloud can be as high as 100 mg/m³, even though the single entry on Table V was the only reading in the entire report that approached the 100 mg/m³ figure. Thaxton also admitted in the following colloquy that no study produced by the Secretary supports his contention that sampling results obtained on the ground at the shroud are representative of exposures for miners whose noses are not at ground level:

- Q. Can you show me any study in all this literature that would prove that a miner who is standing within five feet of a drill is going to be breathing the exact same respirable dust content as a pump or a measuring device that's on the ground by the shroud?
- A. I cannot point you to a study or a result, no.

The study also included the results of sampling conducted inside the drill cab, and outside the cab near the cab door. (Gov. Exh. No. 35, Table III). The time-weighted averages for the samples inside the cab was 1.65 mg/m³, while the TWA for the readings outside the cab near the door was 1.43 mg/m³. The researchers also noted that since the cab door "was normally open during the sampling period, almost the same amount of respirable dust and quartz dust was measured inside and outside the cab." (Gov. Exh. No. 35 at 366). Despite these findings, which indicated that significantly lower respirable dust readings exist at locations above ground level away from the shroud, Thaxton assumed that all personnel working in the vicinity of a highwall drill are exposed to respirable dust levels exceeding 10 mg/m³.

Thaxton testified that he disregarded the lower sampling results obtained by the researchers and reported throughout Government Exhibit 35, because his own undocumented fieldwork substantiated the readings of 10 to 100 mg/m³ reported in Government Exhibit 35, but

did not substantiate the lower readings. No determination can be made as to whether Thaxton's fieldwork, collected between 1976 and 1992, supports his use of the 10 to 100 mg/m³ figure, since he was unable to produce any of the field data. Neither the reliability nor relevancy of his field data can therefore be established. Thaxton's treatment of the lower readings obtained by the researchers, and the reliability of his conclusion that all dust clouds contain respirable dust levels of 10 to 100 mg/m³, is also further suspect because Thaxton had no field data on any of the drills at issue, and thus had no written field data of his own to contradict that gathered on April 21, 1997, by MSHA Inspector John Workman regarding two Hobet drills. Workman's samples found no unhealthy levels of silica in samples taken at a Hobet highwall drill that was generating visible airborne dust; however, samples taken at a Hobet drill that was not generating visible airborne dust indicated the existence of high levels of silica.

Under all the circumstances it is clear that Thaxton misconstrued the findings of Government Exhibit No. 35 to conclude that all dust clouds contain 10 to 100 mg/m³ of respirable dust/silica. Thaxton's testimony established that his opinion rests upon at least two erroneous assumptions; namely that respirable dust/silica readings obtained on the ground at the shroud are comparable to those that would be found in areas where driller operators, driller helpers, and blasters work and that he could ignore the majority of sampling results contained in Government Exhibit No. 35 that fell well below the 98 mg/m³ figure he relied upon in formulating his opinion.

Thaxton's Field Work

Thaxton also relied upon certain field work apparently performed between 1976 and 1992 to conclude that visible clouds of dust contain high levels of respirable dust. He concluded in his direct examination that "without exception, every time that I have sampled an occupation exposed to visible dust from drilling, I have found high levels of respirable dust." (Government Exhibit 26 page 8). In addition, he testified that he disregarded the lower sampling results obtained by the research and reported throughout Government Exhibit 35 because his own fieldwork substantiated the readings of 10 to 100 milligrams per cubic meter reported in Government Exhibit 35 and that such fieldwork did not substantiate the lower readings. Since there is no documentation of Thaxton's fieldwork however there is no basis to test the methodology and, therefore, the reliability of his results. *See Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Indeed there is no way to determine whether this fieldwork was conducted with any scientific rigor and there was no opportunity to subject this work to effective cross examination. Accordingly Thaxton's "fieldwork" cannot be given any weight. *See Secretary v. Keystone Mining Corp. et al.*, 17 FMSHRC 1819 at 1845 (November 1995), *aff'd*, *Secretary v. Keystone Mining Corp. et al.*, No. 95-1619 (D.C. Cir. August 21, 1998).

Civil Penalty Assessments

In assessing a civil penalty under Section 110(i) of the Act, consideration is to be given to the operator's history of previous violations, the appropriateness of the penalty to the size of its business, the effect on the operator's ability to continue in business, good faith abatement, negligence, and gravity. Hobet is a large company (Gov. Exh. 22-25) and it is undisputed that its ability to continue in business would not be affected by a penalty as high as that proposed by the

Secretary. Hobet has a history of drill dust related violations under the Act. (See Gov. Exh. 18, 19, 20, 21). With the exception of Citation No. 4629641, which was not abated until a Section 104(b) order was issued, the Secretary acknowledges that all citations were abated in a good faith and timely manner. As previously noted, the Secretary has failed in sustaining her burden of proving any discrete health hazard. Without such proof, the gravity of these violations cannot be deemed serious.

In each of the citations at bar the Secretary has alleged moderate negligence. Although she has not sought to modify or amend those citations, she now claims in her post-hearing brief that the violations resulted from "higher" negligence. Upon my *de novo* review I find that, indeed, the violations were the result of significant negligence. It is indeed apparent from the photographs, videotape, and testimony that the obvious visible dust should have triggered closer examination of the drills. The inspectors were able to observe the dusty conditions from distances of more than 100 feet. It may reasonably be inferred, therefore, that these conditions were also obvious to agents of the operator and warranted closer examination of the dust control devices on the cited drills.

More particularly, with respect to Citation No. 7152439, Thaxton opined that the faulty conditions of the drill shroud had occurred before the shift in which the citation was issued. He further testified that holes in the dust hose which had been taped-over indicated that the system had not been maintained over a long period of time. He also concluded, from the undisputed testimony of the drill operators that dust in the cab was a constant problem, that there were recurring problems with the drill dust collection system.

Driller helper Bias also testified that conditions inside the cab of his drill were always dusty and that he reported these conditions to management nearly every day for four years. Driller operator Sanford Johnston testified that the dusty conditions captured in the photographs of the drill were typical of conditions at the mine. Johnston testified that the cab was always dusty and that he reported this condition on his pre-operational checklist.

This evidence supports a finding of significant negligence. In reaching this conclusion I have not disregarded the testimony of drill operator Johnston that the cited defects could have occurred within the ten minutes time that the drill had been operating that day. However I can give such speculative testimony but little weight.

Thaxton concluded, with respect to Citation No. 7159321, that the shroud had been torn at some point before the drill had been moved to the hole it was drilling when cited. He further concluded that the gap on the "sneezer" side of the shroud had been present since the shroud was installed. Thaxton's testimony in this regard is not disputed. In addition, Hobet had previously been cited for a violation of Section 72.620 on the same drill and one of the same defects to the dust collection system noted in that prior citation, i.e., the filter needing replacement, was again cited in this case. Within this framework of evidence I find that there was significant operator negligence.

The Secretary had also previously issued a citation for a violation of Section 72.620 on the same drill as cited in Citation No. 7159340. Drill operator Edgar Chambers testified that it might take up to a week before maintenance corrected problems with the dust collection system on his drill. He recalled that on one occasion before the inspector's visit, when one of the blasters had asked him when he was going to get the dust problem fixed, he answered, " I don't know. I said, I wrote it and wrote it and wrote it. I get tired writing it to write it up, they don't do nothing about it." In addition, the men working on the benchline informed the inspector that they had been working in dusty conditions for two weeks.

Thaxton testified that the number of defects to the drill noted in Citation No. 4629641 led him to conclude that the drill had been out of compliance for some time. He found it highly unlikely that all of the defects occurred recently or immediately before the inspectors arrived. Drill operator Curtis Lester testified that when he called for a mechanic to fix the dust collector, "a lot of time they would be busy working on other equipment at the ship and the equipment foreman couldn't release their mechanics to send them out at that time." "Sometimes it would be a while before they'd respond, get there to fix the machine." In addition, only one month before the issuance of the instant citation, the Secretary had issued a citation for a violation of the same regulation on the same drill. Finally, it is noted that the drill charged in Citation No. 7152206, had been operating for at least two hours at the time it was charged.

Within the above framework of evidence and in consideration of the settlement presented at hearing I assess the civil penalties set forth in the Order below.

ORDER

Citation No. 7152240 has been **VACATED** by unilateral action of the Secretary. Citation Nos. 4629642 and 7152318 are **MODIFIED** and Hobet Mining Incorporated is directed to pay civil penalties of \$720.00 for the above violations within 30 days of the date of this decision.

The "significant and substantial" findings as to all remaining citations are **VACATED**, the citations are **AFFIRMED** and Hobet Mining Incorporated is hereby directed to pay the following civil penalties within 30 days of the date of this decision: Citation No. 7152439 - \$600; Citation No. 7159321 - \$600; Citation No. 7159340 - \$600; Citation No. 4629641 - \$1,000; Citation No. 7152206 - \$600.

Gary Melick
Administrative Law Judge

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