FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION
1244 SPEER BOULEVARD #280
DENVER, CO 80204-3582
303-844-3577/FAX 303-844-5268

December 18, 1995

SECRETARY OF LABOR, MINE SAFETY AND HEALTH ADMINISTRATION (MSHA), Petitioner	:	CIVIL PENALTY PROCEEDING Docket No. CENT 94-108-M A.C. No. 29-01380-05511
v.	:	
WESTERN MOBILE NEW MEXICO, INC., Respondent	:	Sedillo Hill Mine

DECISION

Appearances: Robin S. Horning, Esq., Office of the Solicitor, U.S. Department of Labor, Dallas, Texas, for Petitioner;
Katherine Shand Larkin, Esq., Jackson & Kelly, Denver, Colorado, for Respondent.

Before: Judge Manning

This case is before me on a petition for assessment of a civil penalty filed by the Secretary of Labor, acting through the Mine Safety and Health Administration ("MSHA"), against Western Mobile New Mexico, Inc. ("Western Mobile"), pursuant to sections 105 and 110 of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. '' 815 and 820 ("Mine Act"). The petition alleges one violation of the Secretary's safety standards. For the reasons set forth below, I find that the Secretary did not establish the violation and I vacate the citation.

A hearing was held in this case on April 11 and 12, 1994, in Albuquerque, New Mexico. The parties presented testimony and documentary evidence and filed post-hearing briefs.

I. FINDINGS OF FACT

Western Mobile operates the Sedillo Hill Mine, a surface limestone mine in Bernalillo County, New Mexico. Limestone is mined and crushed at the mine site. The pit consists of several benches, the faces of which are between 15 and 35 feet high.

(Tr. 221). Limestone is loosened from a bench using explosives. A series of holes are drilled down from the top of the bench, explosives are loaded into the holes and the explosives are detonated from some distance away. The loosened material is loaded and transported to the crushing plant. At the time the citation was issued, drilling and blasting at the Sedillo Hill Mine were performed by an independent contractor, Sandy Jones Construction Company ("Jones Construction"). Each bench was blasted once every week or two. (Tr. 166).

On September 15, 1993, an employee of Jones Construction, Marvin Anglin, blasted a bench near the northwest corner of the pit. Three individuals were in the same area of the pit as Mr. Anglin at the time of the blast: Matt Carnahan, Western Mobile's plant manager; and two employees of Jones Construction's insurance carrier. One of these insurance agents, Mike Wilson, was seriously injured when fly rock from the blast struck him. He suffered a bruised liver and back trauma. (Tr. 149-50). Apparently, his injuries were not of a permanent nature.

Mr. Sandy Jones, owner of Jones Construction, notified MSHA of the accident and MSHA Inspector Omar Sauvageau was sent to the mine to investigate. He was accompanied by Thomas J. Loyd, an MSHA supervisory mining engineer. After conducting an investigation, Inspector Sauvageau issued citations to Western Mobile and to Jones Construction. The section 104(a) citation issued to Western Mobile alleges a violation of 30 C.F.R.' 56.6330. The citation states:

> On 9/15/93 a blasting accident occurred at the Sedillo Hill Mine, where one person was injured and hospitalized by fly rock, and two other persons were peppered by small material from the round which was blasted in the pit. The men were located approximately 500 feet from the blast site when they initiated the blast. There was not a suitable blasting shelter in the area where the blast was initiated. The men were standing next to pickup trucks which were intended to be used as shelters, not behind them as intended.

(Ex. G-6). In the citation, the inspector determined that the alleged violation was significant and substantial and was caused by Western Mobile's moderate negligence. The inspector also determined that the alleged violation was reasonably likely to cause a fatal injury. (Ex. R-1). The Secretary assessed a penalty of $3,000.00 against Western Mobile.

The cited safety standard provided:

> Ample warning shall be given before blasts are fired. All persons shall be cleared and removed from the blasting area unless suitable blasting shelters are provided to protect persons endangered by concussion or flyrock from blasting.

The term "blasting area" is defined as "the area near blasting operations in which concussion or flying material can reasonably be expected to cause injury." 30 C.F.R. ' 56.2. The issue in this case is whether the four individuals were in the "blasting area" at the time the explosives were detonated.

Inspector Sauvageau testified that a mine operator must look at a number of factors when establishing its blasting procedures. He stated that these factors include the geological makeup of the rock, type of round that is drilled, depth of the holes, amount of explosives used, and the history of blasting at the pit. (Tr. 28, 52). Based on his analysis of these factors, he determined that the individuals were within the blasting area.

He believed that the fact that a man was injured showed that the people were too close to the blast site. (Tr. 27, 30, 53). He concluded that the history of blasting at this particular mine should have alerted Western Mobile to the hazard. He also considered the fact that the pit wall was highly fractured, and the blasting contractor, Jones Construction, had difficulty loading at least one of the holes because of cracks in the rock. He believed that the explosive material went into cracks in the rock and that this condition created an increased risk of fly rock.

On this particular blast, 27 holes were drilled from the top of the bench. Each hole was 19 feet deep and was 3½ inches in diameter. Nine holes were in each of three rows and the first row was about seven feet back from the edge of the bench. The holes were filled with an ammonium nitrate-fuel oil blasting agent ("anfo"). In one to four of the holes, the anfo entered cracks in the rock. Mr. Anglin, the contractor's employee, followed his usual practice when cracks are encountered. He placed empty ammonium nitrate bags into the hole to block the cracks,

---

This safety standard was effective through January 31, 1994. It has been superseded by section 56.6306, which differs substantially from the standard at issue in this proceeding.

placed cuttings into the hole, and then continued to fill the hole with anfo.

The Secretary's witnesses testified that because anfo went into the highly fractured rock, the rock did not blast as it should. When blasted, rock will "pull out" in the direction of least resistance. (Tr. 35) In this case, rock came straight out the side of the bench. Inspector Sauvageau testified that rock went a total of about 600 to 800 feet into the pit. (Tr. 32). Matt Carnahan testified that when anfo enters cracks in the rock, the contractor follows an established procedure to minimize the risk and that fly rock does not usually travel 500 feet in such circumstances.

II. SUMMARY OF THE PARTIES' ARGUMENTS

A. Secretary

The Secretary argues that because Western Mobile did not have a suitable blasting shelter, it was required to remove all people from the blasting area. He refers to the definition of "blast area" at 30 C.F.R. ' 56.6000. The Secretary relies heavily on the first sentence of this definition and argues that the evidence establishes that people were in an area in which flying material caused injury to an individual. He further maintains that the limestone formation contained numerous vertical and horizontal cracks that created weak zones and that a prudent

---

Cuttings are ground rock that is removed from the drill bit. (Tr. 233).

"Blast area" is defined as:

> The area in which concussion (shock wave), flying material, or gases from an explosion may cause injury to persons. In determining the blast area, the following factors shall be considered:
>
> (1) Geology or material to be blasted.
> (2) Blast pattern.
> (3) Burden, depth, diameter, and angle of the holes.
> (4) Blasting experience of the mine.
> (5) Delay system, powder factor, and pounds per delay.
> (6) Type and amount of explosive material.
> (7) Type and amount of stemming.

person would recognize that such weak zones may blow out and create a fly rock problem. Anfo entered these cracks around a number of holes, creating a greater potential for fly rock. He contends that blasters frequently initiate shots at this mine from a distance of 1000 feet or more and that this history demonstrates Western Mobile's knowledge of the hazard.

B. Western Mobile

Western Mobile does not dispute that it did not have a blasting shelter. It contends that it did not violate the safety standard because it removed all persons from the area where fly rock was reasonably expected to cause injury. It relies on the definition of blasting area in 30 C.F.R. ' 56.2 and the Commission's decision in Hobet Mining & Construction Co., 9 FMSHRC 200 (February 1987). It contends that the blaster, Mr. Anglin, considered the relevant factors, including the blasting history, geology of the area, the amount and type of explosives and stemming used, and the depth and pattern of the holes. It argues that Mr. Anglin reasonably concluded that the men were not within the blasting area when he fired the shot. Western Mobile maintains that the Secretary failed to establish that the blaster did not consider or employ these factors when initiating the blast. Western Mobile believes that the citation was issued solely because there was an injury. It contends that it complied with the requirements of the standard and that the cited fly rock incident was a "fluke occurrence." (W.M. Br. 4).

III. DISCUSSION WITH FURTHER FINDINGS AND CONCLUSIONS OF LAW

The issue in this case is whether Western Mobile removed all persons from the blasting area as required by section 56.6330. The applicable definition provides that the blasting area is the area near blasting operations in which "concussion or flying material can reasonably be expected to cause injury." I reject the Secretary's contention that the definition of "blast area" is applicable to the safety standard. Because the new safety standard at section 56.6306 uses the term "blast area," the definition of that term applies to that regulation and not to the old

---

Western Mobile also argued that it was not properly cited for the alleged violation because Jones Construction was solely responsible for drilling and blasting in the pit. Because I find that the safety standard was not violated, I have not reached this issue.

standard at issue in this case. The Secretary's expert witness, Richard Fisher, could not explain why the definition for the new standard should be applied in a case involving the old standard. (Tr. 114-15).

In Hobet, the Commission interpreted the definition of "blasting area" in conjunction with an identical safety standard for surface coal mines. The Commission held that in order to establish a violation, the Secretary must "establish the factors that a reasonably prudent person familiar with mine blasting and the protective purposes of the standard would have considered in making a determination under all of the circumstances posed by the blast in issue." Hobet, 9 FMSHRC at 202. The Secretary "must then prove that the factors were not properly considered or employed." Id. The Commission went on to hold:

> An operator's pre-shot determination of what constitutes a blasting area is based not only upon the results of prior shots, but also depends upon a number of variables affecting the upcoming shot. The variables may include, but are not limited to, the amount and type of explosives used, the depth of the holes that constitute the shot, the topography, and the expertise and prior experience of the blaster.

9 FMSHRC at 202-03 (citation and footnote omitted).

There is little dispute about the factors that a blaster should consider when determining the boundaries of the blasting area. The issue is whether the blaster considered and employed these factors in this case. The burden of proof lies with the Secretary to establish a violation.

The first factor, the geology of the rock, was addressed extensively at the hearing. The rock at the Sedillo Mine is highly fractured and contains many horizontal and vertical cracks, called "voids" at the hearing. These voids are plainly visible in the photographs of the pit. (Exs. G-3, G-5). The evidence establishes that a rock formation with voids is more

---

Nevertheless, the seven factors that are to be considered in determining the "blast area" are similar to the factors that all witnesses agreed should be considered by a reasonably prudent blaster before he detonates explosives. It is the first sentence of the definition of "blast area" that I have not considered in resolving the issues in the present case.

likely to produce fly rock because the rock is highly fractured and because explosive material can enter these voids when the shot is loaded. The evidence does not establish, however, that the presence of fractured rock should have put Western Mobile or Mr. Anglin on notice that fly rock could reasonably be expected to travel 500 feet into the pit. Mr Carnahan discussed this particular shot with Mr. Anglin prior to its detonation and Mr. Anglin did not express any concerns about fly rock. (Tr. 208).

The individuals in the pit were about 500 feet from the area being blasted. Mr. Carnahan testified that he has observed 10 to 12 shots while working at the pit. (Tr. 200). In each case, Mr. Anglin was the blaster who determined the blasting area. In these shots, Mr. Anglin established a blasting area that varied between 400 and 550 feet. (Tr. 200, 203). Fly rock was not observed at these distances in any of these shots. (Tr. 201-02).

Mr. Anglin has an established procedure he followed when voids were encountered. He places ammonium nitrate bags down the drill hole to block the void and stem off the hole. He then places cuttings into the hole and continues to load the hole. (Tr. 206). He adds a second detonator to reduce the risk of a misfire. Voids were encountered in a number of the holes in the shots that Mr. Carnahan observed. He did not see any fly rock. (Tr. 207).

The Secretary's witnesses did not testify that Mr. Anglin's procedures are inadequate when encountering voids in the rock. Indeed, Mr. Fisher speculated that the blaster must have "missed one" of the holes when using this procedure and that this "missed" hole created the fly rock. (Tr. 250). The Secretary's witnesses concluded that the procedures were inadequate in this instance because a person was hit and injured. This analysis begs the question. There was no showing that the fact that voids were encountered, a not infrequent occurrence, should have put Western Mobile on notice that the people in the pit were in an area where fly rock could reasonably be expected. The procedures used by Mr. Anglin were designed to compensate for the voids and had apparently been successfully applied in previous blasts. I note that Mr. Anglin has over 20 years of experience in blasting and is a certified blaster. (Tr. 63, 209).

Matt Carnahan measured the distance between the shot and his location as 530 feet. (Tr. 198).

Despite the fact that Mr. Anglin knew more about the factors considered in establishing the blasting area than anyone else at the mine, Inspector Sauvageau did not talk to Mr. Anglin during

A second factor is the blasting history at the mine. Inspector Sauvageau testified that he observed Jones Construction conduct a blast at the mine in 1991 that was detonated from the plant. He stated that the distance between the shot and the detonation point was about 1,500 feet. He also stated that all employees not involved in the blast assembled at the entrance to the plant some 2,000 feet from the blast site. Mr. Carnahan testified that Western Mobile requires employees to assemble at the plant gate so that a head count can be made to make sure that no employees are in the blasting area. (Tr. 210-12). In addition, under New Mexico law certain nearby roads are required to be blocked during all blasts and employees are dispatched from the plant gate to perform this function. Id.

Moreover, the fact that one blast was detonated from a greater distance than the September 1993 blast does not establish an adverse "blasting history" at the mine. All witnesses agreed that the blasting area changes with the factors discussed above. Nothing in the record indicates that blasts are routinely detonated from 1,500 feet or that the blast at issue was detonated from an unusually close location. In addition, Inspector Sauvageau did not have any knowledge of factors considered by Jones Construction when establishing the blasting area in the 1991 blast. For example, the blaster could have used significantly more explosives in that blast, thereby requiring that a larger blasting area be established. Thus, the record does not establish that Western Mobile or Mr. Anglin failed to consider the blasting history when establishing the blasting area in this case.

There is no evidence that MSHA considered any of the other factors in determining that a violation occurred. For example, MSHA did not consider the depth, diameter, and angle of the holes, the delay system, powder factor, or the amount or type of

---

his investigation of this accident. (Tr. 57, 87).

Inspector Sauvageau also referred to an incident that occurred in the late 1980's in which a piece of fly rock struck the mine's scale house. (Tr. 37). He testified that the scale house was located about 1,500 feet from the blast site. Id. Western Mobile presented evidence that the scale house was at a different location at the time of that incident and that the distance to the blast site was about 300 feet. (Tr. 177). For the reasons stated above, this incident does not establish a blasting history that should have put Western Mobile on notice that 500 feet was not a safe distance.

explosives used. MSHA is not required to consider all factors, but it is difficult to determine whether the blasting experience at a mine should have alerted an operator to the danger of fly rock in a particular blast without some consideration of these other factors.

In this case, the Secretary adequately set forth the factors that a reasonably prudent person should consider in establishing the blasting area. I find, however, that the Secretary did not establish that Western Mobile or its contractor failed to adequately consider or employ these factors when the blast was detonated on September 15, 1993. Instead, the Secretary's witnesses asserted that because someone was injured, all persons were not cleared and removed from the blasting area.

Although the Secretary showed that fly rock is more likely in the presence of highly fractured rock, it is clear that large areas of the pit are fractured and that the blaster takes precautions to deal with these conditions and the resulting voids. The Secretary did not establish that the blaster failed to consider the fractured nature of the rock when detonating the blast or that he was unqualified to establish a safe blasting area as a result of these conditions.

IV. ORDER

Accordingly, Citation No. 4109895 issued to Western Mobile New Mexico, Inc. is hereby **VACATED** and this proceeding is **DISMISSED**.

Richard W. Manning
Administrative Law Judge

Of course, the blast that caused the accident in this case is now an important part of Western Mobile's blasting history.

Distribution:

Robin S. Horning, Esq., Office of the Solicitor, U.S. Department of Labor, 525 Griffin Street, Suite 501, Dallas, TX 75202 (Certified Mail)

Katherine Shand Larkin, Esq., JACKSON & KELLY, 1660 Lincoln Street, Suite 2710, Denver, CO 80264 (Certified Mail)

RWM