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CLIMAX MOLYBDENUM V. SOL (MSHA)
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Federal Mine Safety and Health Review Commission
Office of Administrative Law Judges

CLIMAX MOLYBDENUM COMPANY,
APPLICANT

Application for Review

v.

Docket No. WEST 79-325-RM

SECRETARY OF LABOR,
MINE SAFETY AND HEALTH
ADMINISTRATION (MSHA),
RESPONDENT

Citation No. 333105 7/27/79

Climax Open Pit

DECISION

Appearances: W. Michael Hackett, Esq., Richard W. Manning,
Esq., Climax Molybdenum Company, Golden,
Colorado Robert A. Cohen, Esq., Michael Bolden,
Esq., Office of the Solicitor, Arlington, Virginia

Before: Judge Charles C. Moore, Jr.

At 4:30 p.m. on July 18, 1979, Terry Carter, a 28-year old miner, lost his life in his M-120 Lectra-Haul haulage truck when it turned over while coming down the road that leads from Ceresco Ridge to the crusher. Joint Exhibit No. 1(FOOTNOTE 1) is a drawing of the area of the accident and has the victim's route from shoveling on Ceresco Ridge Road to the accident site marked thereon. No one disputes the fact that the victim lost control of the haulage truck after passing the lower 835 curve and that he turned over about 2,000 feet farther down the hill in the vicinity of the K stockpile. As to the cause of the accident, there is complete disagreement.

MSHA itself has two positions. The enforcement branch, that is the inspectors and the Solicitor's Office, contend that the accident was caused because both the dynamic brakes and the air hydraulic brakes failed and that they failed because of poor maintenance practices and that management knew or should have known of the condition of the brakes. An unwarrantable failure order was issued by the inspectors. MSHA's technical support branch, however, conducted an extensive examination of the haulage truck after the accident and concluded that both the dynamic brakes and the air hydraulic brakes were functioning. The State of Colorado, on the other hand, says the accident was caused by the poor training program conducted by Climax and Climax contends that the accident was caused by the driver's failure to operate the haulage rig and the two sets of braking devices properly.

The two sets of brakes on the Lectra-Haul M-120 haulage rig are a standard air-over hydraulic mechanical braking system and an electric dynamic retarding system. The air-over hydraulic system is sometimes referred to in the testimony as the "air brakes" and sometimes as the "service brakes," but they are not intended to act as the normal slowing system. The instructions given to the drivers and contained in the operator's manual are that unless there is an emergency, these brakes are not to be used when the vehicle is moving in excess of 3 miles per hour. They can be engaged by a foot pedal, by a knob on the instrument panel or by a lever on the floor. If they are not engaged by the foot pedal, the system is referred to as "dump brakes" (I gather from the testimony this is similar to parking brakes) or emergency brakes, but regardless of how actuated, the system involves air at a pressure in excess of 60 pounds per square inch actuating the hydraulic system which applies hydraulic pressure to cylinders which force brake pads (sometimes referred to in the testimony as "pads" or "brake linings") against the disks which are affixed to the wheels. The disks do not float laterally as in some braking systems where the hydraulic pressure is applied from only one side, but are firmly fixed and hydraulic pressure is applied from both sides of each disk. There are four disks in the rear section of a Lectra-Haul truck, two disks for each set of dual rear wheels. The devices containing the hydraulic cylinders and brake linings are called "calipers" and there are four cylinders and two brake linings to each caliper. One caliper is attached to each of the four disks in the rear section of the truck and to each of the two disks in the front section of the truck. These brakes would be damaged if used in excess of 3 miles per hour, but there is no dispute that they are capable of stopping the Lectra-Haul M-120 even if the dynamic braking system fails unless the rig is being operated at a speed in excess of 30 miles per hour (see testimony of Linda Knight).

The dynamic brakes are designed to slow the rig down to 3 miles an hour, but will not actually stop it. The driving mechanism in this type of rig is similar to a diesel electric locomotive. A diesel engine runs a generator and the generator provides the power to operate the truck. There is an electric motor for each rear dual wheel and when the dynamic retarding pedal (a pedal similar to and located next to the air brake pedal) is depressed, the electric motors in the wheels create some kind of magnetic retardation that will slow the truck in ordinary circumstances to 3 miles per hour. Several witnesses explained that when the dynamic retardation pedal is pressed the electric motors turn into generators and generate electricity which is dispersed into grids, thus slowing the truck. I have no idea what that means or why dispersing electricity created by the generators would slow the truck, but I suspect that the electricity is used to actuate an electromagnet which acts against the movement of the rig. But in any event, there was no dispute about the fact that, if working properly, the dynamic system would slow the haulage rig to 3 miles per hour.

There were 30 of these Lectra-Haul M-120 rigs at Applicant's mine. The No. 16 rig was the one in which Terry Carter lost his

life on July 18, 1979, and there was considerable testimony that this was a troublesome piece of

equipment. Truck driver Linda Knight testified that she had driven rig No. 16 on several occasions and that the last time, on July 8, it had weak dynamic brakes. She testified that she was bringing it down unloaded from the Cirque Dump (see Joint Exhibit No. 1) on a route very similar to the one that Terry Carter had taken on July 18, and that she had had to use full dynamics to control the speed of the rig even though she had no load in the hopper. There was some documentary evidence indicating she had not driven the truck on July 8 but she was such an impressive witness that I believe her testimony rather than the entries in the documents. Mr. Miller is a truck driver trainer, that is, a truck driver who also trains new drivers. He testified that he had driven rig No. 16 on occasion and that he found the service brakes (air hydraulics) spongy and the dynamics bad. Carlos Archuleta testified that he was assigned regularly to rig No. 16 and that he had lost his dynamics approximately a month prior to the accident. He used his air hydraulic brakes to control the truck at that time. He stated that he did not like rig No. 16 because of the brakes and that he used several excuses to refuse it during the month before the accident. On the day of the accident when he heard that Terry Carter had been assigned to rig No. 16, he made a hand motion to Mr. Carter to refuse to drive the rig. Mr. Carter did not do so, however. Mr. William Harbuck testified that he had driven rig No. 16 on July 13 and that he noticed leaky brake hydraulics, poor suspension and weak dynamics. He had had to use his service brakes to control his speed and did not want to drive rig No. 16 anymore. During the accident investigation, however, the one conducted by MSHA shortly after the accident, he stated that the dynamics on rig No. 16 were as good as those of any of the other rigs. Truck driver Dries, on the other hand, who was the driver of rig No. 16 immediately preceding the shift during which the fatality occurred, stated that he was satisfied with rig No. 16 and that he had made eight trips using the same route as the victim without trouble. He did state, however, that because of a previous incident where a wheel fell off of a rig, he was extremely conscious of speed and never exceeded what he considered to be a safe speed with rig No. 16.

The haulage rigs at this mine are equipped with two-way radios so they can inform the base coordinator of any problems and also so they can receive instructions from the base coordinator as to what functions they are to perform and where they are to perform them. Shortly before the accident, evidently within 2,000 feet of the accident scene itself, Mr. Carter transmitted a message to the base coordinator that he was having trouble with his dynamics. According to the base coordinator, Lee Heilman, he stated that he was losing dynamics. She asked for his location and he replied "upper K." She asked him if he could make it to the F stockpile and said that he replied in the affirmative. According to Linda Knight, he said either "I'm losing dynamics" or "I have lost dynamics," but she could not state exactly which he had said. Mr. Miller heard Mr. Carter say "I lost my dynamics." He heard someone else say "Hit your service brake" and then heard the statement "I tried." Mr. Archuleta heard Mr. Carter say "Hello, base, I have lost my

dynamics." Then he heard something like "I can't" or "It won't work now." He did not hear the intervening conversation that would indicate what Mr. Carter was referring to and no one has been able to identify who stated

"Hit your service brake." No witness indicated there was panic in Mr. Carter's voice when he reported his service brake problem and while there is obviously a difference between losing dynamics and lost dynamics, there is no way to determine whether Mr. Carter had actually lost his complete dynamic braking system or whether it was not performing to his satisfaction. He was obviously having trouble, but there was no indication that he was frightened. Like many radio communications, all statements were not heard in the same way by all of the people listening. A common feature of radio communication is having a transmission cut out by another transmission for one listener while another listener hears the original transmission intact. Someone heard Mr. Carter ask if he could use the service brakes, meaning the air hydraulic system. In a panic situation, I doubt that he would ask permission.

Mr. Carter's location at the time he announced that he was losing or had lost his dynamics, can be fixed with reasonable accuracy. The route he was traveling from the No. 3 shovel (all of the areas which I am now discussing are depicted upon Joint Exhibit No. 1) to the accident scene involved first negotiating a sharp curve known as the 835 upper curve. According to Linda Knight, it was clear that his dynamics had been working when he negotiated this curve or he could not possibly have made it. At the lower 835 curve, there is a road where, if the victim had been having trouble with his brakes, he could have turned up hill and thus stopped. It is therefore fairly clear that he had passed the lower 835 curve when he complained about his dynamics. He told Coordinator Heilman that he was in upper K, but all this means is that he was above the K stockpile where the accident occurred. But the transmission must have been made shortly after the victim went over the level spot at 835 lower curve and started down hill again on a grade that is between 8 and 9 percent. The location can also be fixed by the fact that Carlos Archuleta was driving the rig immediately preceding the one driven by Mr. Carter and was in the vicinity of the K stockpile when he heard the first transmission. He looked in his mirror and could not see rig No. 16, but when he turned around and looked directly back over his shoulder, he could see it and then when he turned back to make sure that he was still in the proper part of the road, he could pick up rig No. 16 in his mirror and he observed it for a few seconds noting that it was going at an excessive rate of speed. There are lights on the front of these rigs which indicate whether the dynamic or air hydraulic braking systems are being actuated. He did not see either of these lights on. It was later determined that the lights are actuated by the pedals themselves and do not indicate whether the braking system is actually working, but merely whether the pedals are being depressed. It was also later agreed that sometime before the accident Mr. Carter probably ceased his efforts to stop the truck and was preparing to abandon it. The fact that the door was open at the time of the rollover lends credence to this proposition. It is also supported by the fact that pictures taken at the scene and the testimony as to the description of the tire tracks indicate that the air hydraulic brakes were working at one point, but that no braking was evident immediately before

the area where the rig struck the berm on the K stockpile. The photographs themselves are not convincing, but they do support the testimony that was given.

Inspector Stoutenger issued the first citation, but shortly after the accident investigation began, he left town. Inspector Marti, who accompanied Inspector Stoutenger during the initial field investigation at the scene of the accident, after studying numerous records provided by the company, amended the citation to charge an unwarrantable failure.(FOOTNOTE 2)

Inspector Marti relied on the radio communication from the victim as evidence of the failure of the dynamic brakes and he relied on his inspection of the left rear dual after the rig was righted as evidence that the air hydraulic brakes were not working. In issuing the modification to allege an unwarrantable failure he relied on the maintenance records that he examined for a total of about 40 hours as indicating that management knew or should have known that the brakes were defective.

There were a number of discrepancies between the two inspectors' testimony and the testimony of the company witnesses and they disagreed on the interpretation of the photographs that were offered in evidence. There was disagreement between the inspectors themselves as to when the photographs were taken and as to whether the inspectors were present when the rig was righted and when it was moved approximately 25 feet. There is disagreement as to how some air may have gotten into the left dual wheel hydraulic system. There is disagreement about whether damage was done to the braking system when Applicant was moving the rig to the shop area, but it is clear that one of the MSHA officials authorized the move.

It is also clear that there was some tampering with the rig after the accident and before the physical investigation supervised by MSHA's technical support staff commenced. The throttle control lever was found to be hooked up improperly, in such a fashion that neither the dynamic braking system nor the electrical tramming system would work. It was therefore obvious, since the tramming system had worked during the climb to the No. 3 shovel and since the dynamic braking system must have been working when the rig came around the upper 835 curve, that someone for some reason unhooked this particular device and then reattached it in the wrong place. But no motive was speculated upon by either side and the wheels and other components were padlocked to prevent tampering. In the absence of any indication as to the motive for tampering or how such tampering could have affected the final results of the inspection, I see no alternative but to disregard it. If the MSHA investigators or attorneys know something about this tampering that they did not wish to present in evidence before me, they may wish to present it in a criminal case, but since I have heard no evidence as to who did the tampering or why it was done, it will not affect this decision.

There are many other troublesome factors involved in this case. For example, batteries are important components of the dynamic braking system. If they are not fully charged, the system will be impaired. When the truck overturned, the battery electrolyte spilled and had to be replaced before the technical support tear-down and investigation could be completed. Also, since the rig had lost its air pressure as a result of the destruction of air hoses in the accident, the service or air hydraulic brakes were mechanically locked at the time the truck was righted.

In order to remove it to the shop, it was necessary to back off on some nuts or bolts to release the spring pressure on the brakes because when all air is lost or when it goes below 60 pounds per square inch, the brakes are spring loaded to set automatically. Therefore, when the technical support inspectors were preparing for their inspection, they had to reset the spring loading bolts or nuts and thus were not inspecting the braking systems in the exact condition in which they were at the time of the accident. The technical support recommendation was that more care should be taken in the future to avoid destroying evidence while moving a piece of equipment.

The technical support group nevertheless concluded that the dynamics and air hydraulic systems were working properly. When Mr. McGuire of the technical support group was testifying, there was an attempt to pin him down as to whether he meant the brakes were operable on the day of the accident or the day of the inspection and while he had apparently previously testified during the initial investigation that they were operable on July 18, he qualified this to say that they were operable on the date that he conducted the inspection. I think that is all that he could properly testify to.

Inspector Marti relied on an entry in a document in Government Exhibit No. 9 to show that a dynamic complaint about rig No. 16 on an earlier date had been ignored. The entry on the document said "Could not fix, maybe next time." When Applicant's first class electrician, Mr. Valverde testified, however, and identified Applicant's Exhibit No. 12, it became absolutely clear that before the rig left the shop, Mr. Valverde fixed the dynamics. He did so by replacing one or more of the so-called "cards" which are in fact devices containing a printed circuit on one side and various electrical components such as condensers and transistors on the other side. These are plugged in at various places in the electrical system of the M-120 rig and if certain ones heat up and fail, it affects the dynamics. Mr. Valverde replaced the particular one that concerned stabilizing the current and it appeared to work. He then tested the machine and released it. There was evidence in the case that this was all explained to Inspector Marti, but that he either ignored it or did not understand it. I noticed during the trial that Inspector Marti did have some trouble understanding questions put to him but I attribute this to the stress of being on the witness stand. It is to this same stress that I attribute his erroneous statement that no photographs were taken by MSHA after July 19 when it was perfectly obvious that at least one of the

photographs was taken after the truck had been righted on July 20. His explanation was that he was talking about photographs he took and I believe him, but it was nevertheless his earlier

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testimony that none of the MSHA officials had taken pictures of the rig at the accident site after July 19 (Tr. 336). Inspector Stoutenger at first stated that the pictures were taken on the 19th and that he was present when the rig was uprighted. He later agreed that he was not present when the rig was uprighted, but he was of the opinion that he and Inspector Marti had examined the left rear dual brakes on July 19 sometime after 1:30. Inspector Marti said that the examination had been on the next day and he is apparently correct since the rig was not righted until July 20. All these factors I attribute to the stress of being a witness, but in a case where both parties have conducted extensive discovery and have reviewed their notes in a serious manner, I am surprised that such discrepancies occurred.

There was testimony that rig No. 16's suspension system was so bad that it "threw you all over the cab" when you were trying to drive it. There were complaints about its steering. Either the suspension system or the steering system may have caused Mr. Carter to lose control of rig No. 16, but that is not the charge that the Government has brought in this case. It has charged that he lost control of the rig because neither the dynamic braking system nor the air hydraulic braking system was working and that Climax knew or should have known that these systems were defective. I will not speculate as to whether the State of Colorado or Climax have the correct answer to the cause of this accident. There are certain facts, however, that convince me that the cause was not the cause alleged by MSHA.

First, truck driver Dries had no trouble with either the dynamic system or the air hydraulic system on the previous shift. Second, as testified by Linda Knight, the dynamic system must have been working when rig No. 16 negotiated the upper 835 curve on the afternoon of the accident. Third, skid marks on a portion of the distance between the lower 835 curve and the K stockpile supported by the testimony of two witnesses that upon examining the brakes during the technical support investigation, they found heat checks and glazed cracks indicating extremely heavy use of the mechanical braking system, and their further testimony that the components appeared to be almost new (brake linings thicker than required, disks thicker than required and calipers properly positioned) indicated to me that the air brakes were working. Fourth, two witnesses testimony that when the vehicle was righted and pulled off the berm on July 20, the rear brakes were set and locked and caused the tires to skid when the vehicle was moved. In addition, the vehicle could not be moved to the shop without loosening the bolts or nuts which are attached to the springloaded braking system. There was some evidence that Inspector Stoutenger saw company personnel attempt to move the rig back up the hill, but that does not overcome the fact that the wheels skidded when the attempt was made to move the vehicle forward; the direction it was traveling at the time of the accident. I cannot ignore these facts despite the sympathy I have for miners who may be driving rigs that they consider unsafe. If the M-120 Lectra-Haul truck is inherently unsafe for this type of mining operation MSHA should act to prohibit its use. In this case, however, I cannot find that Applicant's

maintenance procedures were insufficient. I am also somewhat surprised that a complete autopsy was not performed. Although I understand the examining physicians declared neither

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drugs nor alcohol were involved in the accident, there was no investigation as to whether a heart attack or other disabling condition could have developed during the course of the accident.

The citation is VACATED.

Charles C. Moore, Jr.
Administrative Law Judge

~FOOTNOTE 1

The exhibit is attached to this decision.

~FOOTNOTE 2

A key element of an unwarrantable failure citation is the absence of an imminent danger. If a violation causes the death of a miner, how can it be said that the violation did not create an imminent danger? The parties have not addressed this issue, however, so I will not pursue it further.

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Joint Exhibit No. 1

TABLE