MAI-2004-27

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Metal and Nonmetal Mine Safety and Health

REPORT OF INVESTIGATION

Surface Nonmetal Mine
(Limestone)

Fatal Other Accident (Drowning)
December 13, 2004

Jobe Concrete Products Inc.
McKelligon Canyon
El Paso, El Paso County, Texas
Mine ID No. 41-00046

Investigators

Gary L. Cook
Supervisory Mine Safety and Health Inspector

Stephen R. Kirk
Mine Safety and Health Inspector

Steve M. Powroznik
Mine Safety and Health Specialist

Originating Office
Mine Safety and Health Administration
South Central District
1100 Commerce Street, Room 462
Dallas, Texas 75242-0499
Edward E. Lopez, District Manager

OVERVIEW

On December 13, 2004, Victor M. Montes, laborer, age 56, was fatally injured when he fell into a five and a half foot high concrete decanting structure and drowned. The decanting structure contained about four feet of sand and water. Montes was found floating near the overhead valve that directed the plant discharge water that was flowing into the structure.

The accident occurred because safe operating procedures were not established to ensure that persons were protected from hazards while working over and around decanting structures. Life jackets were not provided for persons who performed tasks at the decanting structures.

GENERAL INFORMATION

McKelligon Canyon, a crushed limestone operation, owned and operated by Jobe Concrete Products Inc., was located near El Paso in El Paso County, Texas. The principal operating official was Irene Epperson, executive vice-president. The mine normally operated one, 9-hour shift per day, five days per week. Total employment was 52 persons.

Rock was drilled and blasted from multiple benches in the pit and loaded into trucks by front-end loaders. The broken rock was transported to an on-site plant where it was crushed, screened, washed, and stockpiled. The finished products were used to make asphalt and concrete.

The last regular inspection of this operation was completed on August 12, 2004.

DESCRIPTION OF THE ACCIDENT

On the day of the accident, Victor M. Montes (victim) reported to work and clocked in at 8:32 a.m., 92 minutes after his normal starting time. He began his routine duties, tending eight concrete decanting structures located just north of the plant. No one remembered talking to Montes that morning but, Alfredo Salinas, rock washer operator, saw him working near decanting structure No. 1 at 10:30 a.m. Gabriel Najera, supervisor, saw him at the same location at 11:00 a.m.

At 11:00 a.m., Aselmo Reyes, wash plant operator, opened a valve to allow plant discharge water to flow from a plant hopper to the decanting structures. Even though Reyes could see the decanting structures from the location of the valve, he did not see Montes during the 5 or 6 minutes that it took to empty the hopper.

At 11:15 a.m., Reyes opened the plant discharge valve again, saw Montes floating face down near the south end of decanting structure No. 6, and went to get help about 200 feet south of the plant. Hilario Pasillas and Roberto Reza, maintenance workers, ran to decanting structure No. 6 and removed Montes from the water.

Najera notified Hector Paquian, risk manager, who called emergency personnel. Emergency personnel arrived a short time later and transported Montes to a nearby hospital, where he was pronounced dead. Death was attributed to drowning.

INVESTIGATION OF THE ACCIDENT

MSHA was notified of the accident at 12:30 p.m. on December 13, 2004, by a telephone call from Hector Paquian, risk manager, to Mitchell Adams, assistant district manager. An accident investigation was started on the following day. MSHA's accident investigators traveled to the mine, made a physical inspection of the accident scene,

interviewed employees, and reviewed conditions and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and their employees.

DISCUSSION

Location of the Accident

The accident occurred at decanting structure No. 6. The weather was warm and dry, yet the ground around the decanting structures was wet and muddy.

Decanting Structures

Eight concrete decanting structures were built on top of the ground north of the plant. They were aligned in an east-west row, well below the plant elevation. Each structure was rectangular and measured approximately 52 feet north-south, 13 feet east-west, and 5 feet 6 inches high. The decanting structures were about three feet apart and could be identified by the large number painted on the north end of each structure.

Each decanting structure was constructed of 1-foot-thick walls with six vertical filter slots on the long sides. The filter slots contained crushed aggregate that was held in place by wire screen over the inside and outside of the slots. There was a removable gate across the north end of each structure.

Plant Water

The plant washing circuit discharged slurry that consisted of fine sand suspended in water. The slurry accumulated in a hopper at the plant and discharged by gravity flow when the plant operator opened a valve. From the hopper, slurry could flow through either of two 8-inch pipes that ran downhill to the eight decanting structures.

One 8-inch pipe extended to a diversion valve about 13 feet above the ground between the south end of decanting structures No. 3 and No. 4. Slurry could be diverted into one of four outlet pipes by turning the hand wheels on the diversion valve. Each of the outlet pipes discharged into one of the decanting structures No. 1 through No. 4.

The second 8-inch pipe extended to a diversion valve about 10 feet above the ground at the south end of decanting structure No. 6 about 10 feet. Slurry could be diverted into one of three outlet pipes by turning the hand wheels on the diversion valve. One outlet pipe discharged into structure No. 5 and one outlet pipe discharged into structure No. 8. The third outlet pipe was moved routinely and could discharge into structure No. 5 or No. 6.

Employees accessed the hand wheels on the diversion valve for decanting structures No. 1 through No. 4 by using a small platform with steps that had been built for that purpose. Employees accessed the hand wheels on the diversion valve for decanting structures No. 5 through No. 8 by standing on the second rung of a 3-rung ladder that had been placed

against the outside of the south wall of decanting structure No. 6. Life jackets were not available at either location.

When slurry was discharged into a decanting structure, the water filtered through the crushed aggregate in the vertical filter slots, leaving the sand in the decanting structure. Filtered water flowed into a gathering ditch around the decanting structure and was pumped back to the plant. After a decanting structure filled with sand, the hand wheels on the associated diversion valve were opened and/or closed to direct slurry to another decanting structure. When the sand in a decanting structure was sufficiently dry, the north gate was opened and a small loader removed the sand.

Training and Experience
Montes had 4 years and 4 weeks of mining experience, all at this mine. He had received training in accordance with 30 CFR, Part 46.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted and the following causal factor was identified:

Causal Factor: Management policies and administrative controls were inadequate. Safe operating procedures were not established to ensure persons were protected from the hazard of falling into water at the decanting structures.

Corrective Action: A risk assessment should be performed to identify all possible hazards at the decanting structures. Train all employees regarding company policies and procedures for performing safe work around the decanting structures. Monitor employees to ensure compliance with company policies and procedures.

CONCLUSION

The accident occurred because safe operating procedures were not established to ensure persons were protected from hazards while working at the decanting structures. Life jackets were not provided for persons who performed tasks at the decanting structures.

ENFORCEMENT ACTIONS

Citation No. 6230395 was issued on February 8, 2005, under the provisions of Section 104(a) of the Mine Act for a violation of 56.15020:

A fatal accident occurred at this operation on December 13, 2004. The victim was not wearing a life jacket where there was a danger of falling into the water.

This citation was terminated on February 15, 2005. The operator provided a life jacket at the decanting structures and trained employees on when and how to use it.

Approved: _____ Date: _____

Edward E. Lopez
District Manager

APPENDIX A

Persons Participating in the Investigation

Jobe Concrete Products Inc.

H. Van Brenk	vice-president of operations
Victor Garcia	assistant production manager
David Macias	production manager
Hector Paquian	risk manager

Mine Safety and Health Administration

Gary L. Cook	supervisory mine safety and health inspector
Stephen R. Kirk	mine safety and health inspector
Steve M. Powroznik	mine safety and health specialist