

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

REPORT OF INVESTIGATION

Surface Nonmetal Mine
(Sand and Gravel)

Fatal Machinery Accident
May 26, 2005

Hugo Sand Company Inc
The Hugo Sand Company Inc
Kent, Portage County, Ohio
Mine I.D. 33-01519

Investigator

Herbert D. Bilbrey
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
North Central District
515 West First Street, Room 333
Duluth, MN 55802-1302
Steven M. Richetta, District Manager



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OVERVIEW

On May 26, 2005, Gilbert A. Binegar, dredge operator, age 66, was injured when he was struck in the head with a pipe. Binegar was engaging the clutch to rotate the shaft of the dredge water pump. When the pump started, a socket, ratchet, and pipe combination spun, striking the victim in the head. Binegar was hospitalized and died on July 3, 2005, from his injuries.

The accident occurred because the procedures used to check the impeller on the pump were inadequate. The tools used to perform the task were inadvertently left on the pump's impeller shaft nut when the victim started the pump.

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GENERAL INFORMATION

The Hugo Sand Company, Inc., a sand and gravel operation, owned and operated by Hugo Sand Company, Inc., was located in Kent, Portage County, Ohio. The principal operating officials were Gilbert B. Binegar, foreman, and Dorothy Strohm, president. The mine normally operated one, 9-hour shift, five days a week. Total employment was eight persons.

Sand and gravel was dredged and then transported to the plant classifier by a pipeline. The material was screened and sized. The finished product was sold for use in the construction industry.

The last regular inspection at this operation was completed on October 20, 2004.

DESCRIPTION OF ACCIDENT

On the day of the accident, Gilbert A. Binegar (victim) arrived at the mine at 6:00 a.m., his normal starting time. He went to the dredge and began his regular duties of servicing the machinery.

At approximately 7:15 a.m., he started mining with the dredge. At 3:00 p.m., he radioed his son, Gilbert B. Binegar, foreman, to report that the Pearce dredge water pump was vibrating. Gilbert A. Binegar also reported that he had back-washed the pump and checked for lodged rocks.

Gilbert B. Binegar and Lincoln Gibson, plant operator, went to the dredge to assist. About 4:00 p.m., they took the face plate off of the water pump by removing several bolts. The decision was made to remove the impeller from the water pump. A 2-3/4 inch socket on a 3/4 inch drive ratchet with a 47 inch pipe was placed on the pump's impeller shaft nut to remove it.

After the impeller was removed, Gilbert A. Binegar started the engine and engaged the water pump clutch to check for vibration in the bearing. The socket, ratchet, and pipe, still positioned on the pump's impeller shaft nut, rotated as the clutch was engaged, striking him.

Emergency medical personnel were summoned and transported the victim to a hospital where he died of his injuries on July 3, 2005. Death was attributed to blunt trauma.

INVESTIGATION OF THE ACCIDENT

MSHA was notified of the accident at 8:50 a.m. on May 27, 2005, by a telephone call from Gilbert B. Binegar, foreman, to Herbert D. Bilbrey, mine safety and health inspector. An investigation was started the same day.

The MSHA accident investigator traveled to the mine, conducted a physical inspection of the accident scene, interviewed employees, and reviewed documents and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and employees.

DISCUSSION

WEATHER CONDITIONS

Weather conditions were not a contributing factor. The weather was sunny and hot with temperatures near 90 degrees Fahrenheit.

DREDGE AND PUMP

The dredge was an independently designed unit engineered with a chain and suction system that normally worked at approximately an 80 foot depth. The dredge was the primary mining method of extracting sand and gravel from the lake. It was powered by a model 3412, Caterpillar diesel engine. The motor was reportedly operating at idle speed when the accident occurred.

The Pearce, high performance, dredge pump model, No. PF-10X12X36-SBRHBDV-4V-w/2V, was used for drawing sand and gravel through the dredge suction system. The pump's impeller and bearing assembly were reportedly replaced approximately 30 days prior to the accident.

TOOLS

The hand tools used to remove the pump's impeller were a 2-3/4 inch socket attached to a 3/4-inch drive ratchet with a 20 inch long handle. A steel pipe measuring 47 inches long and 2-1/2 inches in diameter was slipped over the handle of the ratchet to provide additional leverage.

TRAINING AND EXPERIENCE

Gilbert A. Binegar had received training in accordance with 30 CFR, Part 46. He had 48 years of mining experience and had worked 32 years at this mine as a dredge operator.

ROOT CAUSE ANALYSIS

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

Causal Factor – The procedures used to check the impeller on the dredge water pump were inadequate. The socket, ratchet, and pipe used as hand tools were inadvertently left on the pump's impeller shaft nut.

Corrective Action – Conduct a risk assessment to identify and eliminate or control any hazards. Discuss what could go wrong as the task is performed. Review procedures during each step of the task to ensure hazards do not exist.

CONCLUSION

The accident occurred because the procedures used to check the impeller on the pump were inadequate. The tools used to perform the task were inadvertently left on the pump's impeller shaft nut when the victim started the pump.

Approved by:

Date: August 19, 2005

Steven M. Richetta
District Manager
North Central District

APPENDIX A

Persons Participating in the Investigation

Hugo Sand Company, Inc.

Gilbert B. Binegar	foreman
Lincoln Gibson	plant operator

Mine Safety and Health Administration

Herbert D. Bilbrey	mine safety and health inspector
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