FAI-6781141-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Construction Sand and Gravel)

Powered Haulage Accident
January 19, 2021

Hansen Pit
Geneva Rock Products, Inc.
Draper, Salt Lake City, Utah
ID 42-02107

Accident Investigator

Ernesto A. Vasquez
Mine Safety and Health Inspector

Peter A. Del Duca
Assistant District Manager

Originating Office
Mine Safety and Health Administration
Western Region
Denver District
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Dustan Crelly, District Manger

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OVERVIEW

On January 19, 2021, at approximately 1:00 p.m., Jared Payne, a 39-year-old haul truck operator with over 15 years of experience, died when the ground under the dump site collapsed, causing the truck he was operating to overturn.

The fatality occurred because the mine operator did not: 1) have procedures for dumping material away from the edge of the dump site, 2) establish mining methods to assure stability of the dump site, 3) provide adequate dump site restraints, 4) examine dump sites prior to beginning work, and 5) assure that mobile equipment operators wore seat belts.

GENERAL INFORMATION

Geneva Rock Products, Inc. owns and operates the Hansen Pit mine. Hansen Pit is a surface sand and gravel mine located in Draper, Salt Lake County, Utah. Hansen Pit employs 44 miners and operates two shifts per day, five to six days per week. The miners use bulldozers to extract material from multiple benches in the pit, and haul trucks transport the material to the dump site. Front-end loaders load the material into the processing plant for crushing, sizing, and screening. The mine operator sells the finished product to the construction industry.

The principal officer for Hansen Pit at the time of the accident was:

Jim Golding	President

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on December 14, 2020. The mine was not mining or hauling material out of the location of the accident at the time of the inspection. The 2020 non-fatal days lost (NFDL) incident rate for Hansen Pit was 1.76, compared to the national average of 0.90 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On January 19, 2021, at 6:00 a.m., Payne arrived at the mine and conducted a pre-operational examination of the Caterpillar 773B haul truck he operated. Payne then began hauling raw material from the loadout area to the dump site near the processing plant.

At 7:00 a.m., loader operators Brian Cheney, Mauricio Garcia, and James Sorenson began loading material from the bottom of the dump bank into the processing plant, after completing pre-operational examinations of their equipment.

Just before 1:00 p.m., while Payne was backing his haul truck to the edge of the dump site, Cheney loaded a bucket of material out from the toe, or bottom, of the embankment. The edge of the dump site failed and Payne's haul truck slid backwards and overturned before sliding down the embankment.

Cheney witnessed the accident, stopped his front-end loader, and called for help over the two-way radio. Cheney left his front-end loader and ran toward the haul truck. Sorenson and Garcia, who were loading material into the hoppers when the accident occurred, also ran to the haul truck and began to manually remove material from the area near the cab. Garcia told Cheney to call 911. A number of other co-workers arrived at the accident site to assist and extracted Payne from the truck cab. Doug Holdaway, Foreman, and Zachary Richardson, Crusher Maintenance, administered cardiopulmonary resuscitation (CPR). Emergency Medical Services arrived at 1:15 p.m., and Cheney guided them to the accident scene where EMS took over Payne's care. EMS continued CPR unsuccessfully. Payne was pronounced dead at 1:30 p.m., and his death was certified by Andrew Guajardo, Medical Doctor, Office of the Medical Examiner.

INVESTIGATION OF THE ACCIDENT

On January 19, 2021, at 1:19 p.m., James Davis, Safety Manager, called the Department of Labor National Contact Center (DOLNCC). The DOLNCC contacted Thomas Stefansky, Safety Technical Supervisor. Stefansky contacted Peter A. Del Duca, Assistant District Manager. Del Duca dispatched Steven Polgar, Supervisory Mine Safety and Health Inspector to the mine. Polgar issued an order under the provisions of Section 103(k) of the Mine Act to assure the safety of the miners and preservation of evidence. Del Duca dispatched Ernesto A. Vasquez, Mine Safety and Health Inspector, to investigate the accident.

On January 20, 2021, at 1:35 p.m., Del Duca, Vasquez, and Michael H. Tromble, Educational Field and Small Mine Services Supervisor, arrived at the mine to conduct the investigation. MSHA's accident investigation team conducted a physical examination of the accident scene, interviewed miners, and reviewed conditions and work procedures relevant to the accident. See Appendix A for a list of persons who participated in the investigation.

DISCUSSION

Location of the Accident

The accident occurred at the Sage Canyon elevated dump site for the L-36 beltline (see Appendix B). The dump site is located east of the processing plant. Investigators measured the dump bank at the dump site to be 59 feet in height with an angle of 38.6º after the accident. The angle prior to the accident was much steeper, since the dump bank failed during the accident. A berm was located at the edge of the dump site with the backside of the berm sloped to the angle of the dump bank. The height of the berm varied between 18 inches to 70 inches with the majority of berm averaging 37 inches.

The berm was not an adequate dump site restraint. The mine operator did not construct the berm to provide adequate impedance to overtravel. The berm was not sufficiently high, wide, thick, or compacted.

Weather

The weather at the time of the accident was mostly clear, with a temperature of approximately 40 degrees at time of the accident. Investigators determined that weather was not a factor in the accident.

Equipment Involved in the Accident

The haul truck involved in the accident was a 1990 Caterpillar 773B. Investigators conducted a physical inspection of the truck and found no defects that contributed to the accident. The roll-over protective structure was intact. However, as the haul truck slid down the embankment, material broke the windshield and rushed into the operator's compartment.

Seat Belt Use

Based upon a review of the accident scene, investigators determined that Payne was not wearing his seatbelt at the time of the accident. The seat belt functioned correctly when tested.

Training and Experience

Jared Payne had over 15 years of mining experience, with almost a year at this mine. Payne had received training in accordance with MSHA Part 46 training regulations.

Examinations

Investigators determined the mine operator did not comply with the requirements for workplace examinations. The area manager and foremen performed workplace examinations, including at the dump site, but did so after work and dumping began. Also, the berm was visibly inadequate and had been in that condition for at least four shifts. The mine operator did not have records of

workplace examinations for the day shift since December 24, 2020, and had no examination records for the swing shift since the swing shift started on August 31, 2020.

Mining Methods and Unstable Ground

At the time of the accident, the mine operator's policy directed truck drivers to dump after the haul truck's rear tires contacted the dump site berm. Investigators determined the mining method involved removing material from the toe of the dump bank, which created an unstable condition at the dump site.

During the accident investigation, investigators learned that the mine operator had two previous dump site failures where trucks partially slid down the dump bank. The mine operator did not report these failures to MSHA because there were no injuries, no entrapment of a miner occurred, and the trucks did not overturn. The first failure occurred in September of 2020 (see Appendix C). After the first failure, the mine operator instructed truck drivers to dump material over the edge after contacting the berm. The mine operator did not change the practice of extracting the toe or removing material from the bottom of the dump bank that caused the dump site failure, nor did the mine operator instruct the truck drivers to dump short on the dump site. The second failure occurred approximately two to three weeks after the first failure. The mine operator did not take any corrective actions after the second failure.

ROOT CAUSE ANALYSIS

The accident investigation team conducted an analysis to identify the underlying causes of the accident. The team identified the following root causes, and the mine operator implemented the corresponding corrective actions to prevent a recurrence.

1. Root Cause: The mine operator did not have adequate policies or procedures in place to dump material a safe distance from the edge of the dump site.

   Corrective Action: The mine operator revised their policies and procedures for dumping a safe distance from the edge of the dump bank. The mine operator trained all miners on the new policies and procedures.

2. Root Cause: The mine operator did not use mining methods that maintained slope stability of the dump bank. The mining method involved removing material from the toe of the dump bank, creating a hazardous condition at the dump site.

   Corrective Action: The mine operator created a written policy to assure that the toe of the dump bank is intact to assure stability of the dump site. The mine operator trained all miners on the new written policy.

3. Root Cause: The mine operator did not provide adequate dump site restraints.

Corrective Action: The mine operator created a written policy addressing requirements for dump site restraints to assure that they adequately impede overtravel. The mine operator trained all miners on the new policy.

4. Root Cause: The mine operator did not inspect dump sites prior to dumping.

   Corrective Action: The mine operator revised their written policy to address inspecting dump sites before beginning work, including dumping, as part of workplace examinations required by 30 CFR § 56.18002. The mine operator included work place examinations as a task in its training plan and trained competent persons in the task. The mine operator instructed all miners not to begin work prior to the examination.

5. Root Cause: The mine operator did not assure that miners were wearing seat belts while operating mobile equipment.

   Corrective Action: The mine operator retrained miners in the mandatory use of seat belts while operating mobile equipment.

CONCLUSION

On January 19, 2021, at approximately 1:00 p.m., Jared Payne, a 39-year-old haul truck operator with over 15 years of experience, died when the ground under the dump site collapsed, causing the truck he was operating to overturn.

The fatality occurred because the mine operator did not: 1) have procedures for dumping material away from the edge of the dump site, 2) establish mining methods to assure stability of the dump site, 3) provide adequate dump site restraints, 4) examine dump sites prior to beginning work, and 5) assure that mobile equipment operators wore seat belts.

Approved by:

_____ _____

Dustan Crelly Date
Denver District Manager

ENFORCEMENT ACTIONS

1. 103(k) Order #9474259 was issued January 19, 2021, at 3:15 p.m.

   A fatal accident occurred on 01/19/2021 at approximately 1:00 p.m. when a haul truck backed up to the edge of an elevated dump site, overturned and landed on the cab of the truck. This order is issued to assure the safety of all persons at this operation. It prohibits all activity in the Sage Canyon area until MSHA has determined that it is safe to resume normal mining operations in the area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore normal operations to the affected area.

2. A 104(d)(1) citation was issued to Geneva Rock Products, Inc. for a violation of 30 CFR § 56.9304(b).

   A fatal accident occurred on January 19, 2021, when a haul truck overturned because the dump site collapsed. Because of the mine operator's dangerous mining practice, the mine had two previous failures of this dump within the past four months. These failures resulted in trucks partially sliding down the dump bank. The operator continued to dump where there was evidence that the ground may fail to support the truck, engaging in aggravated conduct demonstrating the absence of the slightest degree of care.

3. A 104(d)(1) order was issued to Geneva Rock Products, Inc. for a violation of 30 CFR § 56.3130.

   A fatal accident occurred on January 19, 2021, when a haul truck overturned because the edge of the dump site collapsed. The mine operator did not use adequate mining methods to assure slope stability of the dump bank. The operator's mining plan involved digging out the toe of the dump bank while trucks dumped above, a practice considered dangerous by any reasonably prudent mine operator. Because of this dangerous practice, the mine had two previous failures at this dump location within the past four months. These failures resulted in trucks partially sliding down. Instead of changing mining methods, the operator continued to mine using this method, engaging in aggravated conduct demonstrating the absence of the slightest degree of care.

4. A 104(d)(1) order was issued to Geneva Rock Products, Inc. for a violation of 30 CFR § 56.9301.

   A fatal accident occurred on January 19, 2021, when a haul truck overturned when the edge of the dump site collapsed. There have been two previous accidents in which trucks did not completely overturn, but did have the rear wheels go over the edge as the edge of the dump site collapsed. The Area Manager and the Foremen perform the workplace examinations for this area. MSHA's Dump-Point Inspection Handbook states that mid-axle height for dump site berms is recognized as a minimum value. Mine operators must maintain adequate height, width, thickness, and firmness for dump site berms. The mine operator did not construct the berms to provide substantial impedance. The berms did not have a steep inside

slope, were not high enough, wide enough, nor compacted to be firm enough to prevent overtravel. The backside of the berms were steeply sloped over the dump bank edge, resulting in a narrow berm. The condition was obvious and had existed for at least four shifts. The mine operator's policy was to dump after contacting the berm with the rear tires of the haul trucks. The operator engaged in aggravated conduct beyond ordinary negligence when the operator did not provide adequate dump site restraints despite having two previous accidents that should have put the mine operator on notice regarding how dangerous this condition was.

5. A 104(d)(1) order was issued to Geneva Rock Products, Inc. for a violation of 30 CFR § 56.9304(a)

   A fatal accident occurred on January 19, 2021, when a haul truck overturned when the edge of the dump site collapsed. The mine operator did not inspect the dump sites prior to dumping activities commencing. Area Manager and the Foremen conducted the examinations of the dump site after the start of the shift and multiple times during the shift; however, no examinations occurred prior to beginning work. The mine had two previous failures of this dump within the past four months. These failures resulted in trucks partially sliding down the dump bank. The operator engaged in aggravated conduct beyond ordinary negligence when the operator did not inspect the dump site prior to work commencing despite having two previous accidents that put the operator on notice of the high degree of risk and potential for instability that existed.

6. A 104(a) citation was issued to Geneva Rock Products, Inc. for a violation of 30 CFR § 56.14130(g).

   A fatal accident occurred on January 19, 2021, when a haul truck overturned when the edge of the dump site collapsed. The haul truck operator was not wearing his seat belt at time of accident.

Appendix A
Persons Participating in the Investigation

Geneva Rock Products, Inc.

Scott Thayn	Division Manager
Ed Clayson	Area Manager
James Davis	Safety Manager
Chris Hardy	Foreman
Doug Holdaway	Foreman
Beau King	Foreman
Derek Peterson	Truck Foreman
Brian Cheney	Loader Operator
Mauricio Garcia	Loader Operator
James Sorenson	Loader Operator
William Steele	Loader Operator
Branden Anderson	Haul Truck Operator
Brad Martin	Haul Truck Operator
Zachary Richardson	Crusher Maintenance

International Union of Operating Engineers Local 3

Jason Madsen	Business Representative

Lehi City Police Department

Gus Rodriguez	Detective
Bart Smith	Police Sergeant

Mine Safety and Health Administration

Peter A. Del Duca	Assistant District Manager
Ernesto A. Vasquez	Mine Safety and Health Inspector
Michael H. Tromble	Educational Field and Small Mine Services Supervisor

Appendix B
Aerial View of the Accident Scene

Appendix C
Photographs of First Dump Site Failure in September 2020

Photograph of Haul Truck Partially Slid Down Dump Bank from September 2020 Failure

Appendix C (cont'd)
Photograph of the Front of Truck from September 2020 Dump Site Failure

Appendix C (cont'd)
Photograph of Side of Truck from September 2020 Dump Site Failure