FAI-6871921-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

# REPORT OF INVESTIGATION

Surface
(Construction Sand and Gravel)

Fatal Machinery
August 18, 2020

HJ Hove
Hi-Grade Materials Co.
Robar Enterprises Inc
Indio, Riverside County, California
I.D. No. 04-01854

Accident Investigators

Charles Snare
Mine Safety and Health Inspector

Gary Hebel
Assistant District Manager

Originating Office
Mine Safety and Health Administration
West Region
Vacaville District
991 Nut Tree Road
Vacaville, California, 95687
James M. Peck, District Manager

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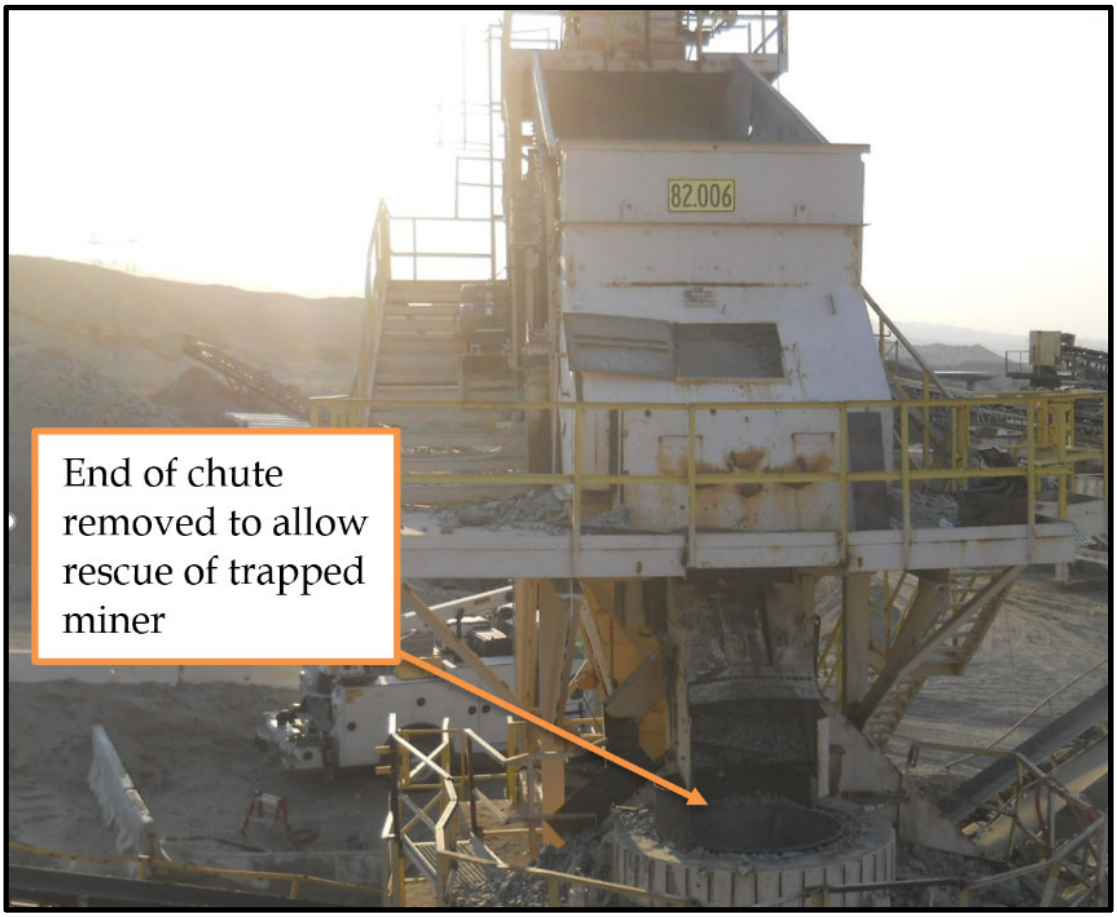



## OVERVIEW

On August 18, 2020, at 6:15 a.m., Diego Resendiz, a 21-year-old Laborer/Equipment Operator with 15 months of mining experience, entered the cone crusher to remove an obstruction when falling material entrapped him beneath the hopper chute. The rescue team extricated Resendiz, but he died the next day.

The accident occurred because Hi-Grade Materials, Co. did not: 1) train miners in the health and safety aspects of the assigned tasks, 2) have adequate controls in place to prevent, safely access, and remove material blockages, and 3) conduct workplace examinations before work began.

## GENERAL INFORMATION

Robar Enterprises Inc owns Hi-Grade Materials Co., which operates the HJ Hove mine located in Indio, Riverside County, California. Miners excavate, crush, and screen construction sand and gravel at this site. The mining company sells the material to the public and supplies a cement ready mix plant adjacent to the mine site.

The principal officers for Robar Enterprises Inc at the time of the accident were:

Jonathan D. Hove.....President
Lori A. Clifton ..... Secretary/Treasurer

The Mine Safety and Health Administration (MSHA) last completed a regular mine inspection of this site on October 10, 2019. The 2019 non-fatal days lost (NFDL) incident rate for HJ Hove was 0, compared to the national average of 0.69 for mines of this type.

## DESCRIPTION OF THE ACCIDENT

On August 17, 2020, a blockage of material flow occurred both in the cone crusher and in the hopper chute which feeds coarse material into the cone crusher. This blockage occurred near the end of the shift. Due to the excessive heat that day, the miners planned to remove the blockage the following morning when the temperature would be cooler. On August 18, 2020, at 4:00 a.m., Resendiz started his shift by receiving the day's work assignment during the morning line out. Jacob DeRuiter, Foreman, issued work assignments to Andres Aguilar, Crusher Operator; Jose Flores, Laborer/Equipment Operator; and Resendiz to clear the blockage in the cone crusher and hopper chute. At approximately 4:45 a.m., the three miners started to remove the blockage by removing rock by hand from the cone crusher. By approximately 6:00 a.m., the miners had removed most of the rock near the cone crusher. Resendiz climbed down over the rock guard onto the cone crusher, kicking small material down and handing large material out to the other two miners. At 6:15 a.m., Aguilar noticed rock starting to trickle from the hopper chute into the cone crusher and tried to warn Resendiz to get out. Resendiz started to stand up, but the material began to engulf him. Aguilar and Flores attempted to prevent rocks from striking Resendiz and called out on the radio for help. Aguilar's and Flores's attempts to stop the material flow did not work, and the material further engulfed the victim. At 6:38 a.m., Juan Avila, Laborer/Equipment Operator, called 911.

At 6:50 a.m., the first fire department unit arrived and began rescue efforts. Several other fire rescue units arrived and continued the extrication efforts with cutting torches and an air arc unit. The rescue team extricated Resendiz from the cone crusher at 10:23 a.m., and medical personnel evaluated him on the site. Resendiz was trapped for over 4 hours, and was, at times, buried above his shoulders in coarse material. At 10:55 a.m. a helicopter ambulance flew the victim to Desert Regional Medical Center and he was admitted to the Intensive Care Unit. Resendiz died as a result of is injuries on August 19, 2020, at 12:32 p.m.

## INVESTIGATION OF THE ACCIDENT

On August 18, 2020, at 7:20 a.m., Lori A. Clifton, Robar Enterprises Inc, Secretary/Treasurer, called the Department of Labor National Contact Center (DOLNCC). The DOLNCC contacted Gary Hebel, Assistant District Manager. Hebel

contacted Miles Frandsen, Supervisory Mine Safety and Health Inspector, and Frandsen dispatched Chad Hilde, Mine Safety and Health Inspector to the mine. Frandsen orally issued an order to the mine operator under the provisions of 103(j) to ensure the safety of miners and rescue personnel, prior to inspector Hilde's arrival at the site at 10:00 a.m. Curtis Roth, Assistant District Manager, contacted Patrick Barney, Supervisory Mine Safety and Health Inspector. Barney dispatched Charles Snare, Mine Safety and Health Inspector to the mine.

On August 19, 2020, Snare and Hebel arrived at the mine site at 8:30 a.m. to continue the investigation. MSHA's accident investigation team conducted a physical examination of the accident, 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 cone crusher, located roughly in the center of the plant near the stockpiles (see Appendix B).

### Equipment Involved

A feed conveyor transports un-sized rock to a two-deck, Telsmith vibrating screen. The screen separates the rock into specific sizes. The top screen separates large rock, which moves through a hopper chute to the Telsmith D-style 66S cone crusher (see Appendix C). The bottom screen allows smaller sized rock to move through and drop onto conveyors for stockpiling. Prior blockages of material flow in the hopper chute and cone crusher had occurred frequently.

### Weather

On the day of the accident, the weather was clear and hot. Investigators determined that weather was not a factor in the accident.

### Training and Experience

Diego Resendiz had 15 months of mining experience, all at this mine. He received new miner training and annual refresher training in 2019 in accordance with Part 46. Investigators determined that his annual refresher training was current; however, there were task training deficiencies. Mine management did not train the victim or any other miners on how to safely clear blockages in the cone crusher and hopper chute.

### Examinations

Management did not perform workplace examinations of the cone crusher for two consecutive days. Management did not identify hazardous conditions or initiate appropriate corrective actions before work began.

## ROOT CAUSE ANALYSIS

The accident investigation team conducted a root cause analysis to identify the underlying causes of the accident. The operator implemented the corresponding corrective actions to prevent a recurrence.

1. Root Cause: Management did not adequately train miners in health and safety aspects of assigned tasks.

   Corrective Action: Hi-Grade Materials Co. developed a written policy based upon a Job Hazard Analysis to identify the hazards of specific tasks, and related safe procedures and personal protective equipment (PPE) requirements, including on-the-job training. Hi-Grade Materials Co. revised its training plan to include this policy and implemented it, and trained all miners on the policy.

2. Root Cause: Mine management was aware of frequent material blockages in the hopper chute and cone crusher, and did not develop or implement measures to prevent blockages, nor did mine management provide safe points of access or safe procedures for clearing blockages when they occurred.

   Corrective Action: Hi-Grade Materials Co. analyzed the material flow through the hopper chute and cone crusher and made adjustments to allow the material to flow more freely. The company also modified access to the cone crusher to allow safe removal of blockages and has provided tools and PPE for use in such instances. The mine operator has trained all miners on the modified process, tools, and PPE.

3. Root Cause: Management did not conduct workplace examinations before work began.

   Corrective Action: Hi-Grade Materials Co. revised its training plan to emphasize the importance of regular and frequent workplace examinations, including the identification of hazards and corrective actions to address them. Hi-Grade Materials Co. also implemented a policy for management to audit workplace examinations. Miners have been trained in these policies as well as in hazard identification and correction.

## CONCLUSION

On August 18, 2020, at 6:15 a.m., Diego Resendiz, a 21-year-old Laborer/Equipment Operator with 15 months of mining experience, entered the cone crusher to remove an obstruction when falling material engulfed the miner beneath the hopper chute. The rescue team extricated Resendiz, but he died the next day.

The accident occurred because Hi-Grade Materials, Co. did not: 1) train miners in the health and safety aspects of the assigned tasks, 2) have adequate controls in place to prevent, safely access, and remove material blockages, and 3) conduct workplace examinations and address identified hazards before work began each shift.

Approved by:

_____ _____

James M. Peck Date
Vacaville District Manager

ENFORCEMENT ACTIONS

1. A 103(j) Order was issued to Hi-Grade Materials Co., as follows:

   An accident occurred at this operation on August 18, 2020, at approximately 0630. As rescue and recovery work is necessary, this order is being issued, under Section 103(j) of the Federal Mine Safety and Health Act of l977, to assure the safety of all persons at this operation. This order is also being issued to prevent the destruction of any evidence, which would assist in investigating the cause or causes of the accident. It prevents all activity at the Telsmith 66S cone crusher, the screen above, the belts below and all the service trucks parked in the area, until MSHA has determined that it is safe to resume normal mining operations in this area. This order applies to all persons engaged in the rescue and recovery operation and any other persons on-site. This order was initially issued orally to the mine operator at 08:l7 and has now been reduced to writing.

   The 103(j) Order was modified to a 103(k) Order when the MSHA inspector arrived on site.

2. A 104(d)(1) Citation was issued to Hi-Grade Materials Co. for a violation of 30 CFR 46.7(a):

   A fatal accident occurred on August 18, 2020, when material from the hopper chute slid and partially engulfed a miner (victim). The victim climbed over the rock guard onto the cone crusher to dislodge built up material from the hopper chute that clogged the cone crusher. The victim moved material, which caused the material above him to move, engulfing the victim. The mine operator did not provide task training to the victim prior to him performing this task. The mine foreman engaged in aggravated conduct constituting more than ordinary negligence in that he assigned the victim to work on clearing this blockage and he knew the frequency of prior blockages. This violation is an unwarrantable failure to comply with a mandatory standard.

3. A 104(d)(1) Order was issued to Hi-Grade Materials Co. for a violation of 30 CFR 56.16002(a)(1):

   On August 18, 2020, a miner climbed over the rock guard onto the cone crusher in order to remove a blockage of material in the hopper chute which fed the cone crusher. The mine operator did not provide an effective means of handling materials so persons were not required to enter or work where they were exposed to entrapment by the caving or sliding of materials. The material in the chute slid and engulfed the miner, causing fatal injuries. The past blockages of material flow were so frequent that the mine operator had built a blockage inspection door at the upper end of the hopper chute which discharged onto the cone crusher. The mine foreman engaged in aggravated conduct constituting more than ordinary negligence because he knew the frequency of the blockages, but implemented no procedures, mechanical devices, access points, or other effective and

safe means to prevent and clear blockages. This violation is an unwarrantable failure by the mine foreman to comply with a mandatory standard.

4. A 104(d)(1) Order was issued to Hi-Grade Materials Co. for a violation of 30 CFR 18002(a):

   The mine operator did not ensure that workplace examinations were conducted at the plant on August 17 and 18, 2020. On both days, the plant experienced blockage in the hopper chute and cone crusher, which was a recurring issue. Miners were assigned to clear the blockage, but a competent person did not examine the workplace for conditions that may adversely affect the safety or health of the miners. A workplace examination would have detected that materials were lodged in the hopper chute and no efforts had been made to ensure that all materials had been cleared before a miner entered the cone crusher below the hopper chute. The materials flowed from the hopper chute and engulfed the miner, causing fatal injuries. The mine foreman engaged in aggravated conduct constituting more than ordinary negligence because he knew the frequency of the blockages but did not perform workplace examinations of the cone crusher and hopper chute for two consecutive days. This violation is an unwarrantable failure of the mine foreman to comply with a mandatory standard.

Appendix A
Persons Participating in the Investigation

Robar Enterprises Inc

Rosa Rivera ..... Human Resources Manager

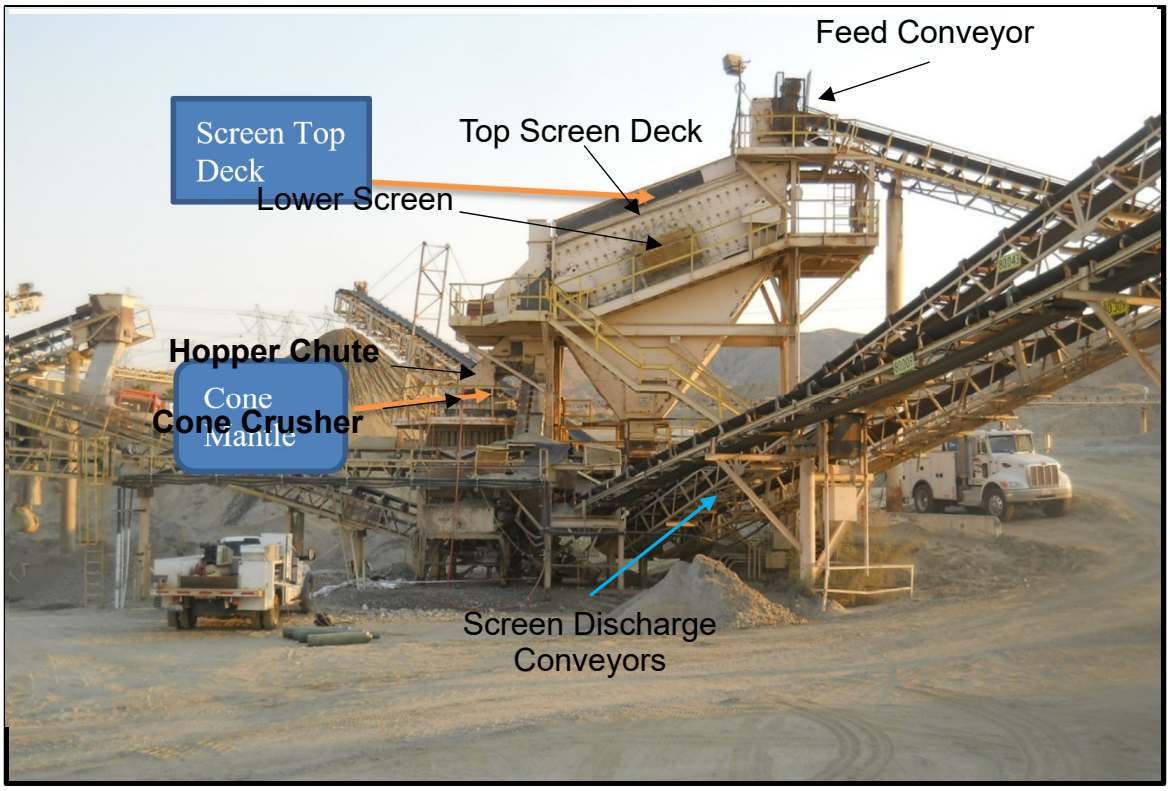
Hi-Grade Materials Co.

Bryon Forgey ..... Vice President Aggregate
TJ Lamb ..... Quarry Area Manager CVMB

Mine Safety and Health Administration

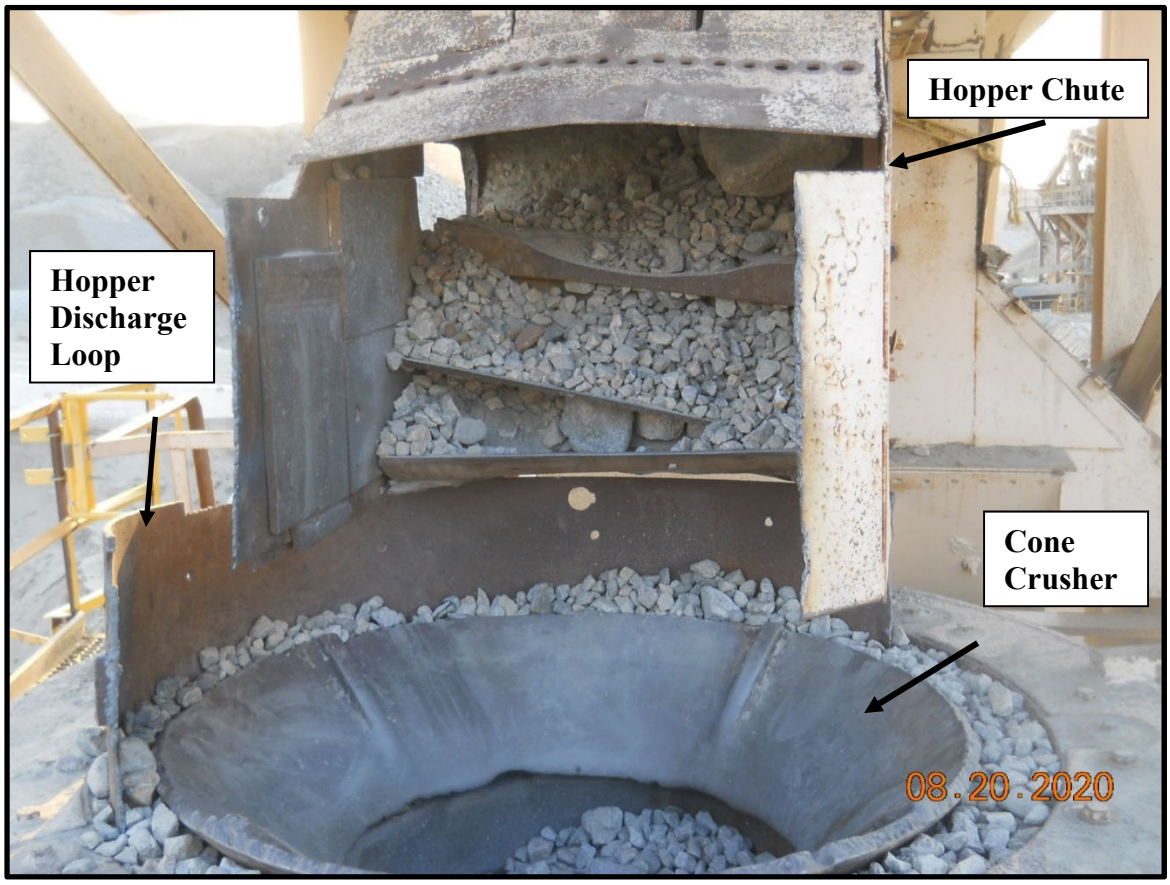
Charles Snare .....Mine Safety and Health Inspector
Gary Hebel .....Assistant District Manager
Chad Hilde .....Mine Safety and Health Inspector
Ralph Chavez ..... Educational Field and Small Mine Services

Appendix B
Side View of Plant




Side view of the plant. The feed hopper had an estimated 12 ft. vertical drop from the top screen deck to cone crusher.

Appendix C
Scene of the Accident




Part of the hopper discharge loop was removed during rescue operations.