

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Sand, Industrial NEC)

Fatal Slip or Fall Accident
February 25, 2021

Sierra Ready Mix Quarry Site
Sierra Ready Mix
Jean, Clark County, Nevada
ID No. 26-02594

Accident Investigators

Eric Wiedeman
Mine Safety and Health Inspector

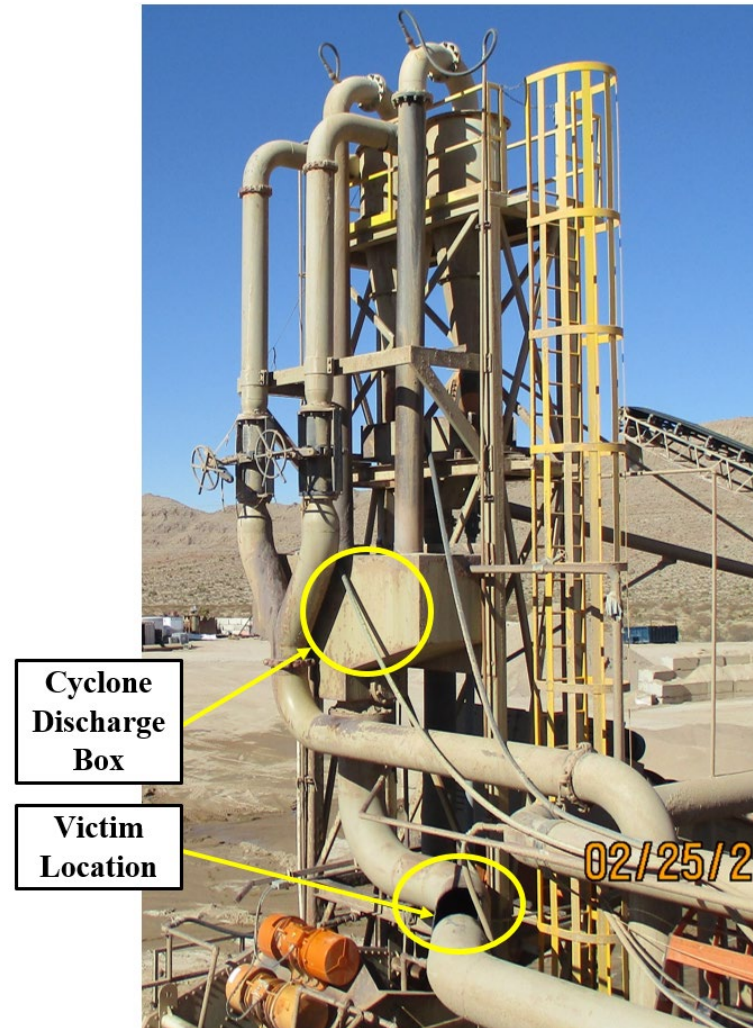
Kenneth Pettus
Mine Safety and Health Inspector

Bartholomew Wrobel
Supervisory Mine Safety and Health Inspector

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

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OVERVIEW

On February 25, 2021, at 8:48 a.m., Angel Mariscal-Robles, a 26-year-old plant operator with three years of mining experience, died when he entered a cyclone discharge box. Emergency personnel later found his body in a pipe connected to the bottom of the cyclone discharge box.

The accident occurred because the mine operator: (1) did not have adequate policies and procedures in place for confined space or safe access, and (2) did not assure that miners were trained in confined space and safe access policies and procedures.

GENERAL INFORMATION

Summit Materials, LLC is the parent company of Sierra Ready Mix who owns and operates the Sierra Ready Mix Quarry Site. Sierra Ready Mix Quarry Site is a surface industrial sand mine located near Jean, Clark County, Nevada and employs nine miners. The mine operates two 10-hour shifts, five days per week. The mine operator uses bulldozers to loosen and push material in an open pit. A belt conveyor transports the material to the processing plant. The plant

separates the sand from the rock and dirt and uses a wet process to wash the sand. The water from the sand washing process is recovered through a cyclone, which routes water through the cyclone discharge box, into classifying tanks. Sierra Ready Mix uses some of the sand to make concrete in their concrete batch plant and sells the remainder to the construction industry.

The principal officers for Summit Materials, LLC and Sierra Ready Mix at the time of the accident were:

Joe Johnson
Mike Sosa

Vice President, Summit Materials, LLC
Operations Manager, Sierra Ready Mix

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on July 1, 2020. The 2019 non-fatal days lost (NFDL) incident rate for Sierra Ready Mix Quarry Site was zero, compared to the national average of 1.29 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On February 25, 2021, Angel Mariscal-Robles, Plant Operator, arrived on-site at 5:00 a.m. Mariscal-Robles performed a workplace examination on the dry side of the plant and met with Matt Birch, Plant Manager, at 5:30 a.m. Birch instructed Mariscal-Robles to perform maintenance because they would not be operating the plant due to high winds.

The following information is based on interviews during the investigation and closed circuit video footage of the cyclone tower. Around 8:15 a.m., Mariscal-Robles talked to Birch about going up on the cyclone tower to assess what would be required to remove the pipe elbows for the cyclones. Mariscal-Robles retrieved some tools and went to the cyclone tower.

At 9:44 a.m., Birch noticed Mariscal-Robles was not working on the cyclone tower and began searching for him. Birch asked other miners if they had seen or heard from Mariscal-Robles. Birch climbed up to the top of the cyclone tower and noticed an aerosol can sitting on the cyclone discharge box below. Birch climbed down from the top of the cyclone tower and climbed up to the dewatering screen to look in the cyclone discharge box. He saw Mariscal-Robles's hard hat inside of the cyclone discharge box and called 911 at 10:42 a.m.

The Clark County Fire Department arrived at 10:56 a.m. and began searching for Mariscal-Robles by cutting a hole in the pipe connected to the bottom of the cyclone discharge box and inserting a camera. Rescuers found Mariscal-Robles in the pipe and cut a larger hole to recover him. Desmond Brentley, Clark County Coroner Investigator, pronounced Mariscal-Robles dead at 1:30 p.m.

INVESTIGATION OF THE ACCIDENT

On February 25, 2021, at 11:15 a.m., Rich Kauss, Safety Manager, called the Department of Labor National Contact Center (DOLNCC). The DOLNCC contacted Patrick Barney, Supervisory Mine Safety and Health Inspector. Barney contacted Bartholomew Wrobel,

Supervisory Mine Safety and Health Inspector, and Wrobel contacted Curtis Roth, Assistant District Manager. Roth dispatched Wrobel to the mine. Wrobel issued an order over the telephone at 11:57 a.m. to the mine operator under the provisions of Section 103(j) of the Mine Act to assure the safety of the miners and preservation of evidence.

Wrobel arrived at the site at 1:00 p.m., modified the 103(j) order to a 103(k) order, and began gathering information in preparation for the lead accident investigator's arrival. Roth assigned Eric Wiedeman, Mine Safety and Health Inspector, as the lead investigator and dispatched him to the mine site. Wrobel assigned Kenneth Pettus, Mine Safety and Health Inspector, to assist Wiedeman during the investigation. MSHA's accident investigation team conducted a physical examination of the accident, interviewed miners, and reviewed conditions, policies, 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 classifier cyclone tower of the water recovery operations, located on the west side of the plant.

Equipment Involved

The cyclone discharge box (see Appendix B) is a transfer point from the cyclones to the classifying tanks. Water from the cyclones travels down through two pipes and drops into the cyclone discharge box. The bottom of the box is sloped toward the center. The water travels from the bottom of the box to the classifying tanks through a pipe with an inside diameter (ID) of 17-inches (see Appendix C).

Investigators found several tools on the top deck. They also found six hexagonal nuts on top of the cyclone that Mariscal-Robles removed from the west cyclone, water discharge flange. The nuts were wet with penetrating oil used to help remove them.

The investigators determined that Mariscal-Robles dropped the spray can of penetrating oil into the cyclone discharge box from the top deck. The investigators found the can sitting on top of the box and pieces of the nozzle in the bottom of the box and in the 17-inch ID pipe, beneath the victim (see Appendices B and C).

The mine operator provided closed circuit video footage of the cyclone tower to the investigators. The footage showed Mariscal-Robles on the top deck just before the accident. Mariscal-Robles then climbed down to the cyclone discharge box using the outside of the ladder back guard and crossed over the piping without using fall protection or safe access. He entered the top of the cyclone discharge box, briefly reappeared from the top, and then re-entered the box. The investigation team determined that Mariscal-Robles climbed down to the box to retrieve the spray can of penetrating oil that fell from the top deck.

Mariscal-Robles accessed the cyclone discharge box without wearing a safety belt or harness equipped with a lifeline and without a second person stationed near the cyclone discharge box.

Mariscal-Robles entered the box through a 24-inch by 24-inch opening in the top of the box, which was partially blocked by a cyclone discharge pipe. Mariscal-Robles slipped or fell into a 17-inch ID opening at the bottom of the cyclone discharge box, connected to a water pipe feeding the classifier. From the box, the victim slid down the water-filled pipe to the place where the emergency personnel located and extricated his body.

Weather

At the time of the accident, the weather was 52 degrees Fahrenheit, the skies were clear. Investigators determined that weather was not a factor in the accident.

Training and Experience

Jerry Anguiano, Training Specialist, reviewed training records. Mariscal-Robles had three years of mining experience, approximately 8 months at this mine, and the same number of months as a plant operator. He received annual refresher training in 2021, in accordance with MSHA's Part 46 training regulations. He did not receive task training for confined spaces or safe access.

Examinations

Mariscal-Robles was responsible for conducting workplace examinations in the plant area. Birch observed Mariscal-Robles perform an examination on the dry side of the plant. The classifier cyclone tower was located on the wet side of the plant and investigators were unable to determine whether Mariscal-Robles, a competent person, conducted a workplace examination for that area.

Policy and Procedures

The mine operator usually held job assignment meetings called "TRACK" (Think through the task; Recognize the hazards; Assess the risks; Control the hazards, and Keep safety first in all tasks) before every out-of-the-ordinary-task. The mine operator did not hold a TRACK meeting before Mariscal-Robles began the task, such as working from heights or working alone.

The mine operator did not provide training on confined spaces at this location, because it did not consider the cyclone discharge box to be a confined space. The mine operator had a written confined space policy for other locations. However, this policy did not include Mariscal-Robles's assigned work area or adequately address all hazards associated with confined space entry including access and egress, the use of safety belts or harnesses, and the prevention of unintentional material movement. The mine operator should have provided confined space training to the Mariscal-Robles because of the confined spaces in his assigned work areas.

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 and procedures in place for confined space entry or safe access.

Corrective Action: The mine operator revised their written policies and procedures for safe access and confined space entry for this site. The mine operator updated their training plan for this site to include the revised policies and procedures. The mine operator provided training to all employees and managers in the revised policies/procedures. The mine operator will also include the training in annual refresher, newly hired experienced miner, and new miner training.

2. Root Cause: Miners were not task trained on safe access or confined space entry policies and procedures.

Corrective Action: The mine operator provided training to all miners and managers in the revised written policies and procedures. The mine operator will include the training in annual refresher, newly hired experienced miner and new miner training.

CONCLUSION

On February 25, 2021, at 8:48 a.m., Angel Mariscal-Robles, a 26-year-old plant operator with three years of mining experience, died when he entered a cyclone discharge box. Emergency personnel later found his body in a pipe connected to the bottom of the cyclone discharge box.

The accident occurred because the mine operator: (1) did not have adequate policies and procedures in place for confined space or safe access, and (2) did not assure that miners were trained in confined space and safe access policies and procedure.

Approved By:

James M. Peck
District Manager

Date

ENFORCEMENT ACTIONS

1. A 103(k) Order No. 8694601 was issued to Sierra Ready Mix on February 25, 2021:

A miner went missing on the mine site later to (be) found in the clarifier water feed pipe resulting in a fatal injury to the miner. This J order was verbally issued to Rich Kauss, safety manager for Sierra Ready Mix, to protect all miners on site while recovery of the miner was taking place. Mr. Kauss was informed that all mining processes are to be stop and no equipment or material is removed from the mine site until authorized by MSHA. The J order was reduce to written form after arrival on the mine site.

2. A 104(a) Citation was issued to Sierra Ready Mix for violation of 30 CFR § 56.16002(c):

A miner accessed the cyclone discharge box without wearing a safety belt or harness equipped with a lifeline, and without a second person stationed near the cyclone discharge box. The bottom of the box is angled towards the opening. The miner accessed the box through a 24-inch by 24-inch opening in the top of the box. There was a cyclone discharge pipe located in the opening, which contributed to the confines of the space. The miner slipped or fell into a 17-inch opening at the bottom of the cyclone discharge box going to a water pipe feeding the classifier. From the box, the miner slid down the water-filled pipe where emergency responders located and extricated his body.

3. A 104(a) Citation was issued to Sierra Ready Mix for a violation of 30 CFR § 46.7(a):

The mine operator did not provide task training for working above and in the cyclone discharge box. A miner climbed into the cyclone discharge box to retrieve a spray can and slipped or fell into a 17-inch wide opening, leading to a pipe at the bottom of the box. The miner slid down the water-filled pipe and emergency responders extricated his body. The mine operator did not train miners how to access confined spaces at this mine site. The Federal Mine Safety and Health Act of 1977 declares that an untrained miner is a hazard to themselves and to others.

APPENDIX A – Persons Participating in the Investigation

Sierra Ready Mix

Joe Johnson	Vice President, Summit Materials, LLC
Brad Smith	General Manager of Aggregates
Sam Koceja	Sierra Ready Mix General Manager
Austin Williams	Safety Director
Rich Kauss	Safety Manager
Matt Birch	Plant Manager
Daniel Padeken	Loader Operator
Bradley Louis	Mechanic
Gene Garcia	Laborer
Gil Hernandez	Laborer

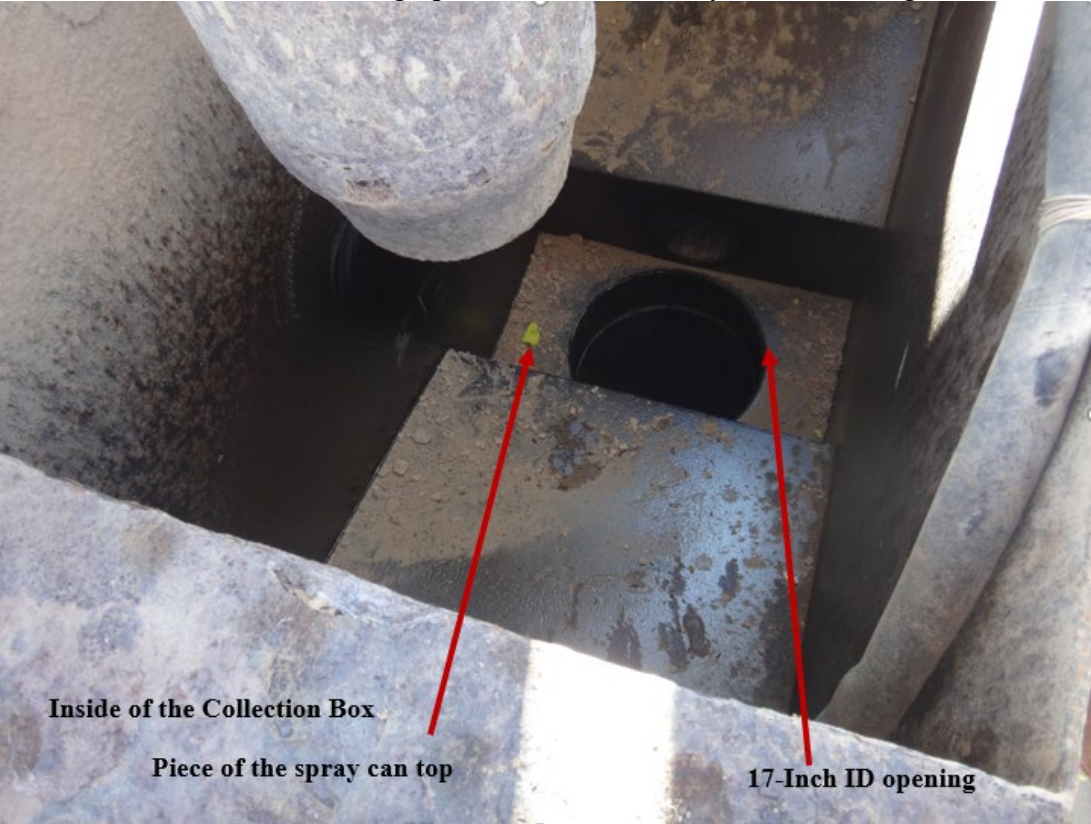
State of Nevada Mine Safety and Training

Ambrose Murray	Mine Inspector
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Mine Safety and Health Administration

Kenneth Pettus	Mine Safety and Health Inspector
Eric Wiedeman	Mine Safety and Health Inspector
Bartholomew Wrobel	Supervisory Mine Safety and Health Inspector
Jerry Anguiano	Training Specialist

APPENDIX B – Photograph of the Inside the Cyclone Discharge Box



APPENDIX C – Photograph of the Pipe

