FAI-6875221-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Construction Sand and Gravel)

Fatal Machinery Accident
March 4, 2022

Brunswick Canyon Materials LLC
Brunswick Canyon Materials LLC
Carson City, Carson City County, Nevada
ID No. 26-02007

Accident Investigator

Chad Hilde
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Vacaville District
991 Nut Tree Road
Vacaville, California 95687
Gary Hebel, District Manager

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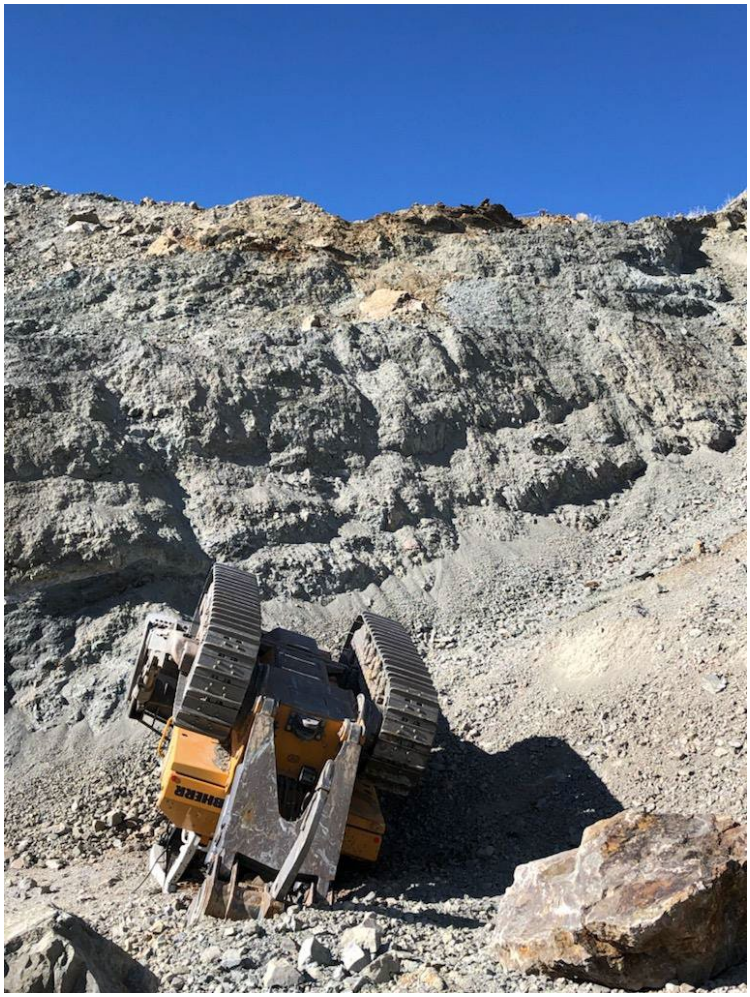


OVERVIEW

On March 4, 2022, at approximately 10:55 a.m., Robert Covington, a 37 year-old bulldozer operator with eight years of mining experience, died from injuries he sustained when the bulldozer he was operating traveled over the highwall and tumbled approximately 65 feet to the quarry floor.

The accident occurred because the mine operator did not: 1) assure the bulldozer operator maintained control of the bulldozer, 2) barricade or post warning signs to prevent the bulldozer operator from going to Bench #2, and 3) perform a workplace examination of Bench #2 before the bulldozer operator began work on Bench #2.

GENERAL INFORMATION

Brunswick Canyon Materials LLC owns and operates the Brunswick Canyon Materials LLC mine, which is a surface construction sand and gravel mine located in Carson City, Carson City County, Nevada. Brunswick Canyon Materials LLC employs six miners and operates one, eight-hour shift, five days per week. A bulldozer removes and pushes material from the top of the

highwall into a slot cut (narrow trench cut into a highwall). The bulldozer then pushes the material along the slot cut and then out of the slot cut to the quarry floor. A front-end loader takes material from the pile at the base of the slot cut and carries it to the plant's feed hopper. The material is sized, screened, and washed, and is either sold to the public or used in Brunswick Canyon Materials LLC's batch and asphalt plants that operate on the same property as the mine.

The principal management official at the Brunswick Canyon Materials LLC mine at the time of the accident was:

Cody Ballard	General Manager

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection on October 27, 2021. The 2021 non-fatal days lost incident rate for the Brunswick Canyon Materials LLC mine was zero, compared to the national average of 0.99 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On March 4, 2022, at approximately 7:00 a.m., Covington arrived at the mine site and received instructions from Ballard. According to an interview with Ballard, Ballard directed Covington to take the bulldozer to the top of the highwall (Bench #1) and push material on Bench #1 towards the slot cut. According to interviews with the other miners, Covington instead pushed material from Bench #1 to Bench #2 for approximately three hours. Gregory Heckathorn, Dry Plant Operator; Evan Craig, Groundman; and Sean Gress, Equipment Operator, observed Covington on Bench #1 pushing large boulders to Bench #2 below. Ballard stated that he observed Covington twice during the three hour period and was not alarmed at anything Covington was doing at those moments. Ballard also stated he was at the wash plant when he observed Covington for the third time and within a few seconds before the accident occurred.

According to interviews, Covington trammed the bulldozer over the top of Bench #1 to Bench #2 and began pushing the large rocks and boulders that collected to the southwest off the end of Bench #2. Covington began pushing an approximately five-foot wide, ten-foot long, and three-foot thick boulder to the southeast and over the side of Bench #2 to Bench #3 below. When the boulder went over Bench #2, the bulldozer also went over Bench #2 and landed at a steep angle of approximately 47 degrees, with the blade resting on the boulder. Heckathorn observed the tracks of the bulldozer moving into reverse, but the bulldozer appeared unable to move back up to Bench #2. Heckathorn and Craig witnessed the bulldozer begin to move forward and tip onto its right side, off the top of the boulder. Ballard, Heckathorn, Craig, and Gress watched the bulldozer roll over Bench #2, land on Bench #3, roll over Bench #3, and come to rest on the cab on the quarry floor. Heckathorn ran from the plant to the accident scene. Heckathorn looked into the cab and determined that Covington's injuries were likely fatal.

Ballard was at the wash plant when he saw the bulldozer tumble to the quarry floor. Ballard got into his truck and arrived at the accident scene just after Heckathorn. Ballard called 911 at 10:58 a.m. The Carson City Fire Department arrived at the accident scene at 11:03 a.m., followed by Sean Palamar, Deputy Sheriff, at 11:14 a.m. The Carson City Fire Department notified Palamar

that they were calling off the medical helicopter. Mihelic Brown, Captain of the Carson City Fire Department, pronounced Covington dead at 11:17 a.m.

INVESTIGATION OF THE ACCIDENT

On March 4, 2022, at 11:17 a.m., Ballard called the Department of Labor National Contact Center (DOLNCC). The DOLNCC contacted James Fitch, Supervisory Mine Safety and Health Specialist. Fitch called William Whitby, Supervisory Mine Safety and Health Inspector, who called the mine at 11:38 a.m. and issued an order under the provisions of Section 103(j) of the Mine Act to assure the safety of the miners and preservation of evidence. James Peck, District Manager, sent Troy VanWey, Supervisory Special Investigator, to the mine. VanWey arrived at the mine at 1:45 p.m. and secured the accident scene. Whitby arrived at 5:30 p.m. and modified the 103(j) order to a 103(k) order. Chad Hilde, Mine Safety and Health Inspector, was assigned as the lead accident investigator and arrived at the mine on March 5, 2022, at 12:00 p.m.

MSHA, along with the State of Nevada Department of Business & Industry, Mine Safety and Training Section, conducted an examination of the accident scene, interviewed mine management and miners, and reviewed conditions and work practices 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 base of the highwall, north of the quarry floor (see Appendices B and C).

Weather

The weather on the day of the accident was dry and sunny with a high temperature of 52 degrees Fahrenheit. Investigators determined that weather did not contribute to the accident.

Equipment Involved

The bulldozer involved in the accident was a 2018 Liebherr PR 756XL flat track bulldozer owned by Bejac Rental, a Liebherr dealer and equipment rental company. The bulldozer was equipped with a ripper mounting assembly and brought to the mine site on March 1, 2022.

To allow investigators to conduct an examination, the mine operator rolled the bulldozer over onto its tracks using two cranes. Due to the extensive damage, investigators were unable to perform operational tests on the bulldozer. The right side of the cab had most of the damage and all of the glass was broken. The roll-over protective structure was deformed on the right front corner and bent downward into the cab approximately one foot. The seatbelt was cut during the extraction, indicating that Covington was wearing it at the time of the accident. The tracks appeared to be in good condition. The ripper mounting assembly was bent where it attached to the bulldozer.

Bejac Rental removed two electronic controllers, one from the engine compartment and one from the cab. MSHA took the controllers into custody and sent them to MSHA Technical Support.

Brandon Boring and Davin Sweeney, Mechanical Engineers from MSHA Technical Support, took the controllers to Liebherr's facility in Newport News, Virginia to have the electronic data from the controllers downloaded. Boring and Sweeney observed the download of the electronic data from the controllers. MSHA Technical Support reviewed the electronic data contained in the diesel engine and machine controllers. The review did not identify any prior conditions affecting the operation of the dozer or provide any significant information relevant to the operating conditions of the dozer at the time of the accident. Investigators determined that the condition of the bulldozer did not contribute to the accident.

Mining Method

Bench #1, approximately 200 feet above the quarry floor, was a wide sloping area and with berms. Covington pushed the berms over the edge of Bench #1 prior to the accident. Investigators could not determine the reason. Bench #2, 156 feet above the quarry floor, measured 26 to 29 feet wide, and did not have berms. Bench #3, 117 feet above the quarry floor, measured 17 feet wide, and did not have berms. Benches #2 and #3 were covered in loose sand and gravel. The bulldozer was 9.2 feet wide, 26.8 feet long, and the blade was 13 feet wide. Covington did not have sufficient room to safely operate the bulldozer on Benches #2 and #3. The mine operator did not barricade to prevent the bulldozer operator from going to Bench #2 or post warning signs to indicate that the bulldozer could not be safely operated on Bench #2. Investigators determined that this contributed to the accident.

Communication

The mine operator provided Covington, other equipment operators, scale house personnel, and plant personnel with radios for communicating. Covington did not make any calls from the bulldozer indicating any problems prior to the accident. Investigators determined that this did not contribute to the accident.

Examinations

Hilde reviewed records of the highwall workplace examinations and pre-operational inspections of equipment. Covington conducted the workplace examinations for Bench #1 on March 3 and 4, 2022, and did not indicate any defects or conditions that could have contributed to the accident. The mine operator did not assure a workplace examination was conducted for Bench #2 prior to Covington tramming to Bench #2. The workplace examination would have identified that there was not sufficient room to safely operate the bulldozer. Investigators determined that the lack of workplace examination contributed to the accident.

Covington conducted the pre-operational inspection for the bulldozer involved in the accident March 1 through 3, 2022. A pre-operational inspection form could not be found for the day of the accident. The only issues documented on previous pre-operational inspection forms were cosmetic external damage and a missing fire extinguisher. Investigators determined that the workplace examination was adequate but there was no documentation to determine if the pre-operational inspection was completed.

Training and Experience

Covington had over eight years of mining experience, during which he worked as an equipment operator, a leadman, and a shift supervisor at three different mines. Covington had nearly one month of experience at this mine. Previous employers verified that Covington had operated 13 types of bulldozers, including wheel bulldozers, a remote-controlled bulldozer, Caterpillar D6 to D11 size bulldozers, and two types of Komatsu flat track bulldozers.

Upon Covington's arrival at this mine, he operated a John Deere Model 1050K Bulldozer. Investigators determined that the Caterpillar and John Deere bulldozers had the same operational controls as the Liebherr bulldozer involved in the accident. The day of the accident was Covington's fourth day of operating the Liebherr bulldozer. When this bulldozer was brought to the mine, Brian Bolver, Mechanic for Bejac Rental, reviewed the operation of the machine with Ballard. Bolver reviewed the operation of the machine with Covington in the company of Ballard. Ballard conducted additional task training with Covington on the operation of the bulldozer and made a record. Covington then conducted a pre-operational inspection on the bulldozer. Investigators determined that Covington's task training on the Liebherr bulldozer was adequate and did not contribute to the accident.

Michael Tromble, Supervisory Mine Safety and Health Training Specialist, reviewed the Part 46 training plan and training documentation for Covington. Covington's training records indicated that he had received training for pre-operational inspections and workplace examinations. Additionally, Covington's experience operating bulldozers at other mines indicated that he had the ability to recognize hazards at this mine. Based on these records, Tromble determined that all training was conducted in accordance with MSHA Part 46 training regulations and did not contribute to the accident.

ROOT CAUSE ANALYSIS

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

1. Root Cause: The mine operator did not assure the bulldozer operator maintained control of the bulldozer.

   Corrective Action: The mine operator established new written procedures on slot bulldozing and trained all miners on the procedures.

2. Root Cause: The mine operator did not barricade or post warning signs to prevent the bulldozer operator from going to Bench #2.

   Corrective Action: The mine operator established new written procedures that require berms and appropriate signage be installed on benches. As an additional precaution, the mine operator hired a mining engineering firm to survey the quarry and provide the mine operator with a written mining plan. The plan describes the proper bench widths and heights and specifies the type of equipment that the mine operator must use to perform work.

3. Root Cause: The mine operator did not perform a workplace examination of Bench #2 before the bulldozer operator began work on Bench #2.

   Corrective Action: The mine operator implemented a new written procedure to assure workplace examinations are conducted before miners begin work and trained all miners on the new procedures.

CONCLUSION

On March 4, 2022, at approximately 10:55 a.m., Robert Covington, a 37 year-old bulldozer operator with eight years of mining experience, died from the injuries he sustained when the bulldozer he was operating traveled over the highwall and tumbled approximately 65 feet to the quarry floor.

The accident occurred because the mine operator did not: 1) assure the bulldozer operator maintained control of the bulldozer, 2) barricade or post warning signs to prevent the bulldozer operator from going to Bench #2, and 3) perform a workplace examination of Bench #2 before the bulldozer operator began work on Bench #2.

Approved By:

_____ _____

Gary Hebel
District Manager

Date

ENFORCEMENT ACTIONS

1. 103(k) order was issued to Brunswick Canyon Materials LLC.

   A fatal accident occurred at this operation on March 4, 2022, at approximately 10:55 a.m. This order is being issued under the authority of the Federal Mine Safety and Health Act of 1977, under Section 103(k) to insure the safety of all persons at the mine, and requires the operator to obtain the approval of an authorized representative of MSHA of any plan to recover any person in the mine or to recover the mine or affected area. This order prohibits any activity in the affected area. The operator is reminded of the obligation to preserve all evidence that would aid in investigating the cause or causes of the accident in accordance with 30 CFR 50.12.

2. A 104(a) citation was issued to Brunswick Canyon Materials LLC for a violation of 30 CFR 56.9101.

   On March 4, 2022, a fatal accident occurred at this mine when the Liebherr PR 756XL bulldozer, Company #BE6J56, SN 16140, traveled over the highwall. The bulldozer was pushing a large rock off of the edge of Bench #2 to Bench #3 below. The bulldozer followed it, landing on the rock with the blade. The bulldozer traveled over the highwall and tumbled approximately 65 feet to the quarry floor, resulting in the death of the bulldozer operator. The mine operator did not assure that the bulldozer operator maintained control of the bulldozer.

3. A 104(a) citation was issued to Brunswick Canyon Materials LLC for a violation of 30 CFR 56.20011.

   On March 4, 2022, a fatal accident occurred at this mine when the Liebherr PR 756XL bulldozer, Company #BE6J56, SN 16140, traveled over the highwall. Bench #2 measured 26 to 29 feet wide, did not have berms, and was covered in loose sand and gravel. The bulldozer operator did not have sufficient room to safely operate the bulldozer on Bench #2. The mine operator did not barricade to prevent the bulldozer operator from going to Bench #2 or post warning signs to indicate that the bulldozer could not be safely operated on Bench #2.

4. A 104(a) citation was issued to Brunswick Canyon Materials LLC for a violation of 30 CFR 56.18002(a).

   On March 4, 2022, a fatal accident occurred at this mine when the Liebherr PR 756XL bulldozer, Company #BE6J56, SN 16140, traveled over the highwall. The mine operator did not assure a workplace examination was conducted for Bench #2 prior to the bulldozer operator tramming to Bench #2. The workplace examination would have identified that there was not sufficient room to safely operate the bulldozer.

APPENDIX A – Persons Participating in the Investigation

Brunswick Canyon Materials LLC

Jeremy Page	Owner
Cody Ballard	General Manager
Gregory Heckathorn	Dry Plant Operator
Sean Gress	Equipment Operator
Evan Craig	Groundman

Bejac Rental

Joel Whitehead	Operations Manager
Robert Cycon	Vice President/General Manager
Brian Bolver	Mechanic

Carson City County Sheriff's Office

Craig Lowe	SGT Detective

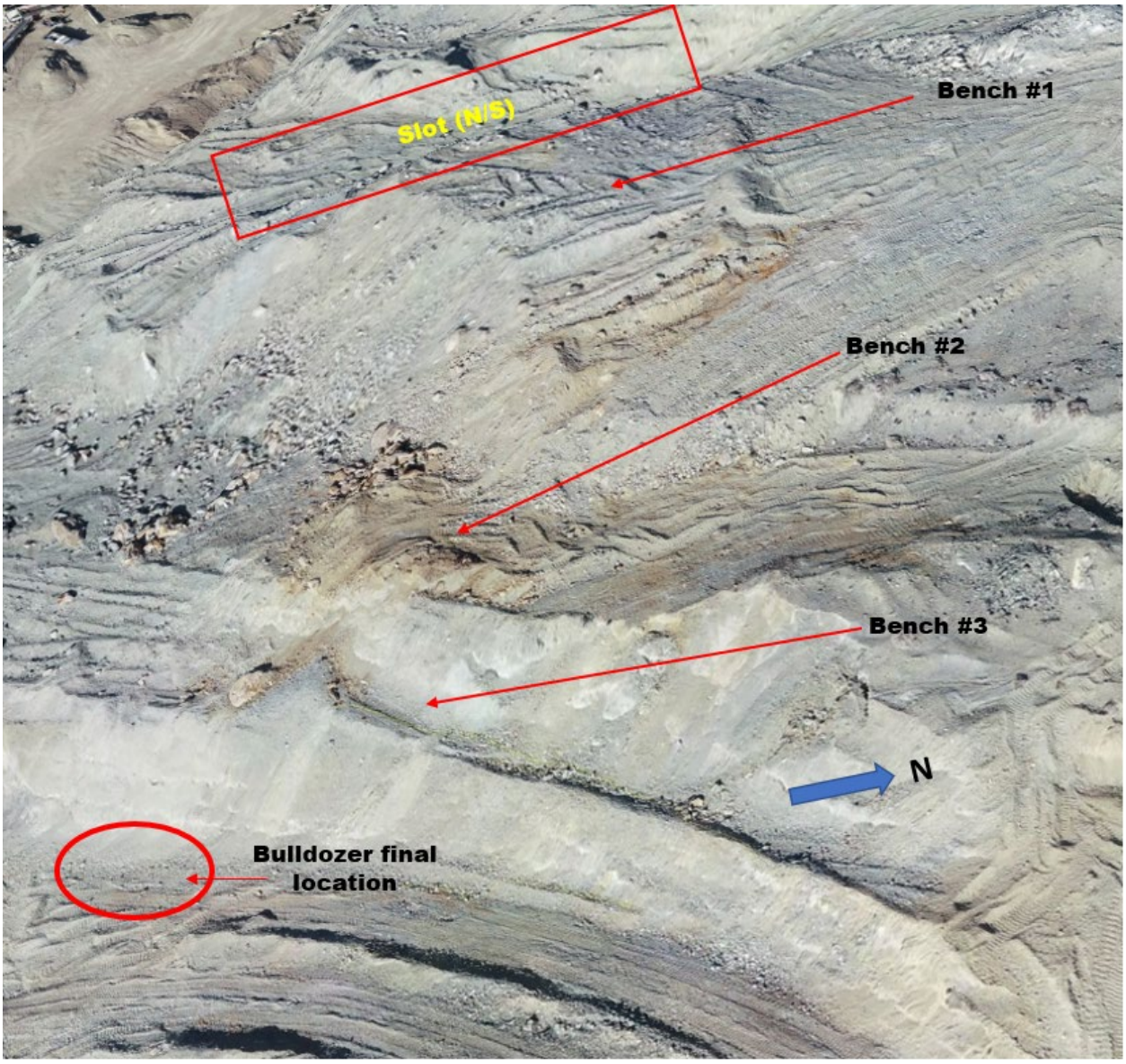
State of Nevada Department of Business & Industry, Mine Safety and Training Section

Rickie Stevens	Mine Inspector
Jessica McKee	Mine Inspector

Mine Safety and Health Administration

Michael Tromble	Supervisory Mine Safety and Health Training Specialist
Chad Hilde	Mine Safety and Health Inspector
Fred T. Marshall	Mechanical Engineer
Brandon Boring	Mechanical Engineer
Davin Sweeney	Mechanical Engineer

APPENDIX B – Aerial View of the Highwall



APPENDIX C – Side View of the Highwall and Bulldozer