

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

REPORT OF INVESTIGATION

Surface Facility  
Diatomaceous Earth

Fatal Electrical Accident  
July 14, 2017

EP Minerals, LLC  
Celatom Plant  
Vale, Malheur County, Oregon  
Mine ID No. 35-03236

Investigators

Ronald J. Jacobsen  
Supervisory Mine Safety and Health Inspector  
Lead Investigator

Christian G. Stoddard  
Mine Safety and Health Inspector

Originating Office  
Mine Safety and Health Administration  
Western District  
991 Nut Tree Road  
Vacaville, CA 95687  
Wyatt S Andrews, District Manager

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## **OVERVIEW**

Dalton James Rodriguez, Grounds Keeper, age 26, was electrocuted on July 14, 2017, when he contacted overhead, high voltage power lines with an aluminum irrigation pipe.

The accident occurred because the operator did not de-energize overhead power lines or take other precautions when individuals were working in the area. The operator did not install barricades or post signs to indicate dangerous overhead conditions existed in the area where the accident occurred, and did not conduct work place examinations in the area.

## **GENERAL INFORMATION**

The Celatom Plant processes Diatomaceous Earth and is owned and operated by EP Minerals, LLC, located in Malheur County, Oregon. The principal official is Ovi Pasca, Operations Manager. The mine operates three, eight-hour shifts per day, seven days per week. Total employment is 85 persons.

Diatomaceous Earth is trucked to the facility from a mine approximately 70 miles away and off-loaded onto a grated truck dump. The material is then crushed, sized, dried and milled. The finished product is sold on the open market for several uses including, filtering, as an absorption aid, and for haze control in brewing.

The Mine Safety and Health Administration (MSHA) completed the last regular inspection on January 5, 2017.

## **DESCRIPTION OF THE ACCIDENT**

On Monday, July 14, 2017, Dalton James Rodriguez (victim) arrived at the Celatom Plant at 5:47 a.m. for his regular shift, which was from 6 a.m. to 2 p.m. Rodriguez was assigned the day's tasks by Jim Donaldson, Health and Safety Supervisor. His first task was to move the irrigation pipelines from the south side to the north side of the entryway road of the plant. He was working alone and moving the last piece of pipe when he contacted the overhead power with the irrigation pipe.

At approximately 8:15 a.m., Rodney Allen, Lead Truck Driver, was leaving the plant and saw Rodriguez laying a pipe down on the north side of the road near the sign at the entrance to the plant and turned to retrieve another pipe. Allen said, at the time, Rodriguez had around 2 pipes left to attach. Allen was the last person to see Rodriguez before the accident happened.

At approximately 8:25 a.m., George (Joe) Zinie, Mine Mechanic, was leaving the plant. He noticed water running from the irrigation main riser but, did not see Rodriguez near the riser. Zinie noticed Rodriguez lying on the ground near the entrance. He stopped and checked Rodriguez for a pulse. He did not find one and went back to the office to get help.

At 8:30 a.m., Zinie reported finding Rodriguez unresponsive on the ground to Jim Donaldson, Calvin Castleberry, Mechanic Supervisor, and Scott Donahoo, Mine Manager, who were in the office. The group immediately traveled to the scene and began cardiopulmonary resuscitation and used an automatic external defibrillator until the Vale Ambulance emergency medical technicians arrived. Terry Jones, Health and Safety Assistant, had called 911. Rodriguez was transported to St. Alphonsus Medical Center in Ontario, Oregon and pronounced dead at 9:39 a.m. The cause of death was electrocution.

## INVESTIGATION OF THE ACCIDENT

Jim Donaldson called MSHA Boise Field Office Supervisor, Ron Jacobsen to report the accident at 8:55 a.m. on July 14, 2017. Donaldson also called the Department of Labor's National Contact Center (DOLNCC) at 8:58 a.m. The DOLNCC notified James Fitch, Staff Assistant, at the Western District Office at 9:13 a.m. and an investigation started the same day. When the MSHA Authorized Representative arrived at the mine, he issued an order under the provisions of 103(k) of the Mine Act to ensure the safety of the miners. MSHA's accident investigation team traveled to the mine, made 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

### **Location of the Accident**

The accident occurred at the entrance road to the plant. Power lines were located directly overhead where Rodriguez was found. The distance from the mine entrance to the main office was approximately 0.2 miles. (See Appendix C, Figure 1 on Page 8).

### **Equipment involved in the accident**

#### *Agricultural Irrigation System*

The irrigation system was operated from a pump house located approximately 400 feet from the main office. The pump was a TEEL model B073A, 5 H.P. pump. The pump was attached to a 4" irrigation pipe that extended underground to the main riser valves.

The aluminum irrigation line had 23 sections, ranging from 15' 7" to approximately 40' 5" in length. Rodriguez had successfully moved the first 22 sections of pipe and was moving the last section of pipe when the accident occurred. The last section of irrigation pipe measured 30' 8" from end to end. The latch and the bolt on the male end of the pipe had evidence of electrical contact burn marks. The burn marks were approximately 1/8 inch in diameter.

#### *Overhead Power Lines*

There were four overhead power lines at the accident scene. The neutral measured 22' 9" from ground to wire. The north or "A" phase measured 29' 3" from ground to wire. The center or "C" phase measured 31' 3" from ground to wire. The south or "B" phase measured 29' 5" from ground to wire. The phase lines were 12,470 volts each. The lines were inspected by Idaho Power Company, but they could not find the area where the arc occurred. The powerlines supplied multi-ground, wye configured power to the mine. All system electrical grounds were in place at the time of the accident.

### **Weather**

The weather at the time of the accident was approximately 73 degrees and sunny, with a humidity of about 40 percent. Weather was not considered to be a contributing factor in the accident.

### **Training and Experience**

Dalton James Rodriguez had 1 year 8 months experience moving pipe and 11 weeks and 4 days at this mine. A representative from MSHA's Educational Field and Small Mines Services (EFSMS) conducted a review of the mine operator's training records, including the training records for Rodriguez. EFSMS concluded that the records were in compliance with MSHA training requirements.

## **ROOT CAUSE ANALYSIS**

Investigators conducted a root cause analysis and identified the following root causes:

Root Cause: The overhead powerlines were not de-energized and no other precautions were taken when working near the high voltage lines.

Corrective Action: The Company has removed the hand irrigation pipeline and is in the process of bidding to install an underground sprinkler system. There is no longer a need to manually move irrigation pipe under the powerlines. All miners working around overhead powerlines were given extra training.

Root Cause: The area where the accident occurred was not barricaded nor were there posted signs to indicate dangerous overhead conditions existed.

Corrective Action: Several signs have been placed under the powerlines warning of overhead hazards.

Root Cause: A work place examination was not being conducted in this area.

Corrective Action: The scope of the work place examinations program has been expanded to include the entrance road and grounds.

## **CONCLUSION**

Dalton James Rodriguez was electrocuted when he contacted overhead, high voltage power lines with an aluminum pipe while moving an irrigation pipeline. The accident occurred because the overhead powerlines were not de-energized and there were no other precautions taken, such as barricades or signs to indicate dangerous overhead conditions, to protect miners working in the area.

## ENFORCEMENT ACTIONS

### Issued to the Company

Order No. 8998283 - Issued under the provisions of section 103(k) of the Mine Act upon arrival at the mine site:

*A fatal accident occurred at this operation on 07/14/2017, when a laborer was moving a metal irrigation line in the field east of the mine office. This order is issued to assure the safety of all persons at this operation. It prohibits all activity from the North West corner of the intersection of Graham Blvd and EP Minerals entrance road until MSHA has determined it is safe to resume normal operations in the area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore operations to the affected area.*

*This order was terminated after conditions that contributed to the accident no longer existed.*

Citation No. 8690654 - issued on 07/31/2017, under the provisions of Section 104(a) of the Mine Act for a violation of 56.12066:

*A fatal accident occurred at this mine when a miner contacted bare overhead powerlines with an aluminum irrigation pipe. The overhead power lines were not de-energized, were not guarded nor were other precautions taken when using this equipment near them.*

Citation No. 8690655 - issued on 07/31/2017, under the provisions of Section 104(a) of the Mine Act for a violation of 56.20011:

*A fatal accident occurred at this mine when a miner contacted overhead powerlines with an aluminum irrigation line. There were no warnings signs or barricades to warn of the overhead danger.*

Citation No. 8690656 - issued on 07/31/2017, under the provisions of Section 104(a) of the Mine Act for a violation of 56.18002(a):

*A fatal accident occurred at this mine when a miner contacted overhead powerlines with an aluminum irrigation line. There were no work place examinations being conducted for this work place.*

Approved: \_\_\_\_\_

Date: \_\_\_\_\_

Wyatt Andrews

District Manager



## **APPENDIX A: Persons Participating in the Investigation**

### **EP Minerals, LLC**

Jim Donaldson Health and Safety Supervisor

Lita Humphreys Director of Environmental, Health and Safety

### **Mine Safety and Health Administration**

Ronald J. Jacobsen Supervisory Mine Safety and Health Inspector

Christian G. Stoddard Mine Safety and Health Inspector

Joseph Rhoades EFSMS Training Specialist

### **Idaho Power Company**

Nick Oliver Safety

Clint Dance Field Service Leader

## APPENDIX B:

### Accident Investigation Data - Victim Information

**U.S. Department of Labor**

Mine Safety and Health Administration



Event Number: 

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Victim Information: 1																																																																																																							
1. Name of Injured/Ill Employee: <i>Calton J. Rodriguez</i>				2. Sex: <i>M</i>		3. Victim's Age: <i>26</i>		4. Degree of Injury: <i>01 Fatal</i>																																																																																															
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 07/14/2017 b. Time: 9:39</i>							6. Date and Time Started: <i>a. Date: 07/14/2017 b. Time: 5:47</i>																																																																																																
7. Regular Job Title: <i>199 Grounds Keeper</i>				8. Work Activity when Injured: <i>041 Moving Irrigation Pipe</i>				9. Was this work activity part of regular job? <table style="width: 100%;"><tr><td style="width: 20px;">Yes</td><td style="width: 20px;"><input checked="" type="checkbox"/></td><td style="width: 20px;">No</td><td style="width: 20px;"><input type="checkbox"/></td></tr></table>						Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>																																																																																						
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16. Part 50 Document Control Number: (form 7000-1)							17. Union Affiliation of Victim: <i>9999 None (No Union Affiliation)</i>																																																																																																

## APPENDIX C: Photos



Figure 1 – Overhead view of the EP Minerals, Celatom Plant. The red “X” was used to show the approximate location of the accident.