

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

REPORT OF INVESTIGATION

Surface Nonmetal Mine  
(Construction Sand and Gravel)

Fatal Powered Haulage Accident  
July 31, 2018

C-2

Susag Sand & Gravel Inc  
Orrin, Pierce County, ND  
Mine ID No. 32-00250

Investigators

Lee A. Hughes  
Mine Safety and Health Inspector

Peter A. Del Duca  
District Staff Assistant

Originating office  
Mine Safety and Health Administration  
Rocky Mountain District  
P.O Box 25367, DFC  
Denver, CO 80225-0367

David Weaver, District Manager

**Table of Contents**

**OVERVIEW ..... 1**

**GENERAL INFORMATION ..... 2**

**DESCRIPTION OF THE ACCIDENT ..... 2**

**INVESTIGATION OF THE ACCIDENT ..... 3**

**DISCUSSION ..... 3**

    Location of the Accident ..... 3

**TRAINING AND EXPERIENCE ..... 3**

**ROOT CAUSE ANALYSIS ..... 3**

**CONCLUSION ..... 4**

**ENFORCEMENT ACTIONS ..... 4**

**Appendix A ..... 5**

**Appendix B ..... 7**

**Appendix C ..... 8**



## **OVERVIEW**

Troy E. Schimke, a 62 year old supervisor, was fatally injured on July 31, 2018, while positioning a 20-foot long steel tube on a screen feed conveyor. A front end loader bucket struck the victim while lowering the tube into place for transportation.

The accident occurred because management did not have policies, procedures, and controls in place to ensure the use of tag lines while moving suspended loads and to ensure persons did not work under the raised buckets of loaders.

## **GENERAL INFORMATION**

Susag Sand & Gravel Inc. owns and operates the C-2 mine, a surface sand and gravel mine for construction materials utilizing a portable plant. At the time of the accident, the mine was located at the Mack Pit in Orrin, Pierce County, North Dakota. Kerry Susag, President, is the principal official and Troy Schimke, Supervisor, was in charge of health and safety at the mine. The mine operates five days per week with one, ten-hour shift per day. Total employment was three miners.

The mine uses bulldozers to extricate the sand and gravel material and wheeled loaders to transport the mined material to feed the crushing operation. The operator crushes, screens, and separates the material into separate stockpiles. The mine sells the final product to the construction industry.

The Mine Safety and Health Administration (MSHA) completed its last regular inspection of the operation on June 28, 2018.

## **DESCRIPTION OF THE ACCIDENT**

On July 31, 2018, C-2 was in the middle of moving mining equipment from the Mack Pit to the Johnson Pit. Robert Teets, Loader Operator, began work at 6:45 am. Teets began rigging a 20-foot long steel tube to a picking eye on the bucket of the Caterpillar 972H Front-End Loader. At 6:50 a.m., Troy Schimke (victim) arrived at work and began assisting Teets in the process.

Teets raised the bucket of the loader to place the steel tube onto the JCI screen feed conveyor. Schimke positioned himself beneath the bucket and attempted to guide the steel tube into place along the inclined belt. Teets lowered the bucket of the loader to place the tube on the conveyor. In the process of positioning the tubing, Teets raised the bucket again. When Teets raised the bucket, he saw Schimke fall.

Teets shut off and exited the loader, and climbed up to the platform to check on Schimke. Teets realized he had struck Schimke with the bucket of the loader and called 911 at 6:54 a.m. At 7:05 a.m., Richard Roerick, Dozer Operator, was driving when he noticed the accident. Roerick checked Schimke for vital signs, but could find none.

Teets drove to the highway to direct Emergency Medical Services (EMS) personnel to the accident scene. EMS arrived at 7:18 a.m. and began attending to Schimke. At 7:24 a.m., EMS performed an electrocardiogram and found no vital signs. Schimke was pronounced dead at the scene.

## **INVESTIGATION OF THE ACCIDENT**

Mack Susag, Vice President, called the Department of Labor National Contact Center (DOLNCC) at 8:25 a.m. on July 31, 2018, and notified MSHA of the accident. DOLNCC notified Peter Del Duca, Staff Assistant in MSHA's Rocky Mountain District. MSHA issued an order under the provisions of 103(k) of the Mine Act to ensure the safety of the miners and began the investigation. MSHA issued a non-contributory citation for failure to comply with 30 CFR § 50.10, which requires the operator to immediately contact MSHA at once without delay and within 15 minutes once the operator knows or should know an accident has occurred.

MSHA's accident investigation team traveled to the mine, conducted a physical examination of the accident, interviewed miners, and reviewed conditions and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management, miners, and the Pierce County Sheriff's Office.

## **DISCUSSION**

### **Location of the Accident**

The accident occurred on the JCI screen feed conveyor at the Mack Pit.

## **TRAINING AND EXPERIENCE**

Troy E. Schimke worked at this mine for 40 years. A representative of MSHA's Educational Field and Small Mine Services (EFSMS) staff conducted a review of the operator's training plan and records. EFSMS determined Mr. Schimke received all required training, including annual refresher training according to 30 CFR Part 46.

Investigators reviewed company policies and procedures in relation to the work being performed. The operator had no policies in place at the time of the accident to address working under raised loader buckets or the use of taglines to control suspended loads.

## **ROOT CAUSE ANALYSIS**

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

Root Cause: Management did not have policies, procedures and controls to prevent miners from working under suspended loads.

Corrective Action: The company developed policies, procedures and new training materials to prevent miners from working under raised equipment buckets. The workforce at the mine was retrained using the new policies, procedures and training materials, with additional emphasis on not working under suspended loads.

Root Cause: Management did not have policies, procedures and controls to require miners use taglines to control suspended loads.

Corrective Action: The company developed policies, procedures and new training materials to use taglines to control suspended loads. The workforce at the mine was retrained using the new policies, procedures and training materials, with additional emphasis on not working under suspended loads.

Best Practice: Proximity detection technology exist today which can prevent this type of injury. Consideration should be given to the use of this technology whereby an incident between the operator and other employees does not result in a fatality.

## CONCLUSION

Troy E. Schimke died when he was struck by a front end loader bucket while helping to position a steel tube on a screen feed conveyor. The accident occurred because management did not have policies, procedures, and controls to: prevent miners from working under raised loader buckets and to require miners to use taglines to control suspended loads.

## ENFORCEMENT ACTIONS

**Order No. 9305278** – Issued July 31, 2018, under the provisions of Section 103(k) of the Mine Act:

*A fatal accident occurred at this operation on July 31, 2018 when one miner was struck by the bucket of a Caterpillar 972H FEL, Unit #4-26, PIN #CAT0972HAA7D00835 during plant movement operations. A verbal 103K order was issued at 0857 and is being reduced to writing at this time and reflects that MSHA is proceeding under the authority of Section 103(k) of the Federal Mine Safety and Health Act of 1977. This Section 103(k) Order is intended to protect the safety of all persons on-site, including those involved in rescue and recovery operations or investigation of the accident. The mine operator shall obtain prior approval from an Authorized Representative of the Secretary for all actions to recover and/or restore operations in the affected area. Additionally, the mine operator is reminded of its existing obligations to prevent the destruction of evidence that would aid in investigating the cause or causes of the accident.*

**Citation No. 9346855** – Issued September 20, 2018, under the provisions of Section 104(a) of the Mine Act for a violation of 56.9317:

*A fatal accident occurred at this operation on July 31, 2018 when the supervisor was crushed by the bucket of a Caterpillar 972H loader. The victim was positioned under the loader bucket while holding on to a 20 foot long steel tube. He was steadying the tube as it was lowered onto the conveyor.*

**Citation No. 9346856** – Issued September 20, 2018, under the provisions of Section 104(a) of the Mine Act for a violation of 56.16007:

*A fatal accident occurred at this operation on July 31, 2018 when the supervisor was crushed by the bucket of a Caterpillar 972H loader. The victim was using his hand to steady a 20 foot long steel tube which was suspended from the loader bucket instead of utilizing a tag line. As a result, he was positioned under the loader bucket.*

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

David Weaver,  
District Manager

**APPENDIX A – Persons Participating in the Investigation  
(Persons interviewed are indicated by a \* next to their name)**

**Susag Sand & Gravel Inc**

Kerry Susag*	President
Mack Susag*	Vice President

**Mine Safety and Health Administration**

Lee A. Hughes	Mine Safety and Health Inspector
Brett Stenson	Mine Safety and Health Inspector
Peter A. Del Duca	District Staff Assistant
Alan Roberts	Mine Safety and Health Specialist (Training)



## Appendix B Victim Information

### Accident Investigation Data - Victim Information

**U.S. Department of Labor**  
**Mine Safety and Health Administration**



Event Number: 

6	7	8	3	2	5	3
---	---	---	---	---	---	---

<b>Victim Information:</b> 1																			
1. Name of Injured/Ill Employee: <i>Troy E. Schimke</i>				2. Sex <i>M</i>		3. Victim's Age <i>62</i>			4. Degree of Injury: <i>01 Fatal</i>										
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 07/31/2018 b. Time: 7:24</i>								6. Date and Time Started: <i>a. Date: 07/31/2018 b. Time: 6:50</i>											
7. Regular Job Title: <i>149 Supervisor</i>						8. Work Activity when Injured: <i>041 Tearing down Plant</i>						9. Was this work activity part of regular job? <table style="width: 100%;"><tr><td style="text-align: center;">Yes</td><td style="text-align: center;"><input checked="" type="checkbox"/></td><td style="text-align: center;">No</td><td style="text-align: center;"><input type="checkbox"/></td></tr></table>				Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>																
10. Experience		Years	Weeks	Days	b. Regular			Years	Weeks	Days	c. This			Years	Weeks	Days	d. Total		
a. This					Job Title:						Mine:						Mining:		
Work Activity:		<i>40</i>	<i>16</i>	<i>3</i>				<i>35</i>	<i>7</i>	<i>3</i>				<i>40</i>	<i>16</i>	<i>3</i>			
11. What Directly Inflicted Injury or Illness? <i>076 Bucket of Cat 976H Loader</i>								12. Nature of Injury or Illness: <i>170 Head, Shoulder Blade, and Right Arm</i>											
13. Training Deficiencies:																			
Hazard:		New/Newly-Employed Experienced Miner:						Annual:		Task:									
14. Company of Employment: (If different from production operator) <i>Operator</i>																			
Independent Contractor ID: (if applicable)																			
15. On-site Emergency Medical Treatment:																			
Not Applicable:		First-Aid:		CPR:		EMT:		<input checked="" type="checkbox"/>		Medical Professional:		None:							
16. Part 50 Document Control Number: (form 7000-1)								17. Union Affiliation of Victim: <i>9999</i>				<i>None (No Union Affiliation)</i>							

**Appendix C**  
**Photographs**



Figure 1: Accident Scene Taken from the South



Figure 2: Accident Scene



Figure 3: Location of Victim at the Time of the Accident



Figure 4: Close up of the Location of Victim at the Time of the Accident



Figure 5: Photo from Operator's Cab of Caterpillar 972H Front End Loader



Figure 6: Additional Angle of Accident Scene