



# **FATALITY INVESTIGATION**

of

**MARK EDWARD GORMAN**  
**April 6, 2009**

**Gem Dirt Sales**  
**Section 27/Township 18N/Range 12E/Tulsa County**  
**Permit No. L.E.-1554**

**Investigation By**  
**OKLAHOMA DEPARTMENT OF MINES**

## **FATAL ACCIDENT REPORT DATA**

### **COMPANY PERMITTED:**

Gem Dirt Sales  
PO Box 9751  
Tulsa, OK 74157  
918/298-0299

### **NAME OF FATALITY:**

Mr. Mark Edward Gorman  
6491 S. 103<sup>rd</sup> West Ave.  
Sapulpa, OK 74066  
D.O.B. 05-27-1972  
D.O.D. 04-06-2009

**LOCATION OF INCIDENT:** On Trommell Screen

**PERMIT NUMBER:** L.E.-1554-A

**PLANT SUPERINTENDENT:** Mark Gorman

**SUPERVISOR CERTIFICATION NO.:** #3532    **EXPIRATION DATE:** 01-29-10

**EMPLOYMENT WITH COMPANY:** Since 2002

**DATE OF INCIDENT:** April 6, 2009

**TIME OF INCIDENT:** 3:30 p.m.

**WEATHER:** Partly Cloudy, Temperatures in the 70's



# **FATAL REPORT ON MARK EDWARD GORMAN**

**DATE: APRIL 6, 2009**

## **SUMMARY:**

This fatal accident occurred on April 6, 2009. The call to emergency services occurred at approximately 3:44 p.m. The victim, Mark Edward Gorman, was loading the hopper of a Trommel Screen, working concurrently with another employee who was loading out waste material from the screen. The accident occurred when Mr. Gorman climbed the access ladder to the machine in an attempt to clean clogged material out of the mesh while it was still in operation. Apparently, Mr. Gorman lost his footing and was pulled into the screen lodged between the cylinder and the machine frame, causing Mr. Gorman to be fatally injured by asphyxiation due to chest compression as indicated by the Report of Investigation by the Office of the Chief Medical Examiner.

## **INVESTIGATORS' NARRATIVE**

At approximately 11:30 a.m. on Tuesday, 04-07-09, Nathan Woodmansee of Gem Dirt Sales contacted the Oklahoma City office of the Oklahoma Department of Mines (ODM) notifying ODM of the fatality at Gem Dirt Sales in Section 27-Township 18N-Range 12E-Tulsa County, State Permit #L.E.-1554 that had occurred on Monday, 04-06-09. Deputy Director Douglas Schooley contacted Mr. Matt Moss, the assigned inspector for the lower portion of Tulsa County stationed out of Wagoner, Oklahoma. Mr. Richard Shore, another ODM Mine Inspector, was at the Oklahoma City office at the time of the call, and Mr. Shore and Mr. Moss coordinated to meet on site as soon as possible to investigate the incident.

Mr. Moss and Mr. Shore met at 2:10 p.m., proceeded to the mine site, and began photographing the mine and surrounding areas. Ms. Betty Misner, who works in the mine office, was the first person ODM personnel met with on site. Ms. Misner said she was working at her desk when she heard communication on the two way radio located in the office that Mr. Gorman was hurt and pleas for someone to come help. She said others in the office ran to help, but she stayed at her desk to answer phone calls and provide assistance to emergency personnel if they called the office. She also indicated she informed the owner/operator Mr. Ed Gorman later that day that his son, Mark Gorman, "did not make it". She said that Mr. Ed Gorman had been in jury duty that day and it is believed he first learned about the accident from a message sent into the jury room that there had been an accident at the mine.

ODM next spoke with Nathan Woodmansee. Mr. Woodmansee described himself as a part-time sales person for Gem Dirt Sales and a friend and co-worker of Mr. Gorman. Mr. Woodmansee was not present at the time of the accident, but he gave a description of what he had learned from others about how the accident happened.

From the mine office, Inspectors Moss and Shore went out to the pad area where the dirt processing equipment is located a few hundred feet west of the mine office. The inspectors had a long discussion with Aaron (Daniel) Woodmansee, the brother of Nathan Woodmansee. Mr. Daniel Woodmansee told ODM he and Mr. Gorman were the only personnel who used the piece of equipment involved in the accident. He indicated this equipment, which is described as a 516 Cougar Wildcat Trommel Screen, was bought by Gem Dirt Sales in May of 2008. According to Mr. Woodmansee, it was a new 2007 model with 6-7 hours on it when purchased. A brief description of how this machine is used is as follows: The unit is started with an electronic ignition switch by turning a key located in a control panel on the left (west) side of the machine. A diesel engine powers the machine. The machine is allowed to warm up for a few minutes before any moving parts are engaged. A large cylindrical drum is located on one end of the machine and a loading hopper is located on the other end. When the drum is engaged, an audible warning signal is heard and about 14 seconds later the drum begins to rotate. Material to be processed is loaded into the hopper and is sent into the drum. The drum is made with a heavy mesh with  $\frac{3}{4}$  and  $\frac{1}{2}$  inch mesh over the entire area of the cylinder. As the material rotates in the cylinder, the finer product material falls through the mesh onto a conveyor that sends it to a high conveyor and stacks it in a pile on the far end of the assembly. This stacker is on wheels and can travel to stack material at a given radius around the assembly. The waste material is “bounced” onto another shorter conveyor and to a shorter lower stacker on the other end of the machine. The cylinder slopes toward this shorter conveyor/ stacker to allow the waste material to be “bounced” towards it. As the waste material amasses, it is periodically removed with a loader into a large waste pile. Mr. Woodmansee said that when the machine was acquired, the company, Vermeer Manufacturing Company, who owns Wildcat, provided instruction to him on how to use it. He said he spent 1½ days learning from Vermeer how to operate it. Mr. Woodmansee said he in turn instructed Mr. Gorman on how the machine was used. It is believed Mr. Gorman had experience with similar types of machinery, but Mr. Woodmansee was the only one who received the training directly from the manufacturer.

Daniel Woodmansee said he and Mr. Gorman started processing this particular material which is used to make the product “screened pad dirt” at about 2:00 p.m. on 04-06-09. He indicated other kinds of material were processed with this machine, but this particular material contained a lot of clay and had a tendency to clog up the mesh on the drum. The machine is equipped with some brushes that are fastened to the right (east) side of the machine that help keep the mesh clean, but the drum would have to be periodically cleaned manually to allow the product material to continue to fall through the mesh so it could be stacked. There is also a ladder that allows access to the top of the drum and a travelway with rails along the length of the cylinder. Mr. Woodmansee indicated both he and Mr. Gorman had adopted the practice of climbing the ladder with a heavy lug wrench to reach the travelway along the cylinder. They would use the wrench to pound on the rotating cylinder to dislodge the material clogging the mesh. The machine is equipped with removable panels on both sides that allow access to the middle and lower portions of the drum. Mr. Woodmansee said they would also pound on these panels to dislodge clogged material from the screen. Mr. Woodmansee said both he and Mr. Gorman were operating loaders to facilitate the operation of the trommel screen. Mr. Gorman had been loading the hopper and Mr. Woodmansee was removing waste, as the practice was for the two of them to alternate tasks depending on where each one was at a given moment. Mr. Woodmansee said the

last moment he saw Mr. Gorman before the accident was when Mr. Gorman had parked his loader in front of the stacked product pile on the left (west) side of the machine. This side of the machine contains the control panel, control levers and access ladder of the machine. Mr. Woodmansee said Mr. Gorman got off the loader and he saw him begin to climb the ladder on the machine, presumably to clean it. Mr. Woodmansee indicated he himself scooped up a pile of waste material and took it to the dump pile. At this point, Mr. Woodmansee was traveling directly away from the machine with his back turned to it. After dumping the waste, he turned and headed back towards the machine. He said Mr. Gorman was not on the loader and he could not see Mr. Gorman on top of the machine. He also noticed the drum was no longer rotating and the engine had shut off. Mr. Woodmansee said he then parked his loader and got off to walk around the machine to see if he could locate Mr. Gorman. It was at this point that he found Mr. Gorman on the other side of the machine, lodged between the cylinder and the frame of the machine and underneath the cleaning brushes. He said a maximum of 2 minutes could have passed between the time he saw Mr. Gorman start to climb the ladder and when he found him stuck on the machine. Mr. Woodmansee then climbed onto the machine where Mr. Gorman was and attempted to communicate with him but quickly realized that Mr. Gorman was unresponsive. Mr. Woodmansee said he immediately used the two-way radio to summon help from others at the site and emphatically indicated that, "Mark was hurt". He then used a cell phone to call 911.

Mr. Woodmansee indicated at least two other individuals responded to his summons on the radio. Mr. Joe Parks III, also known as Trey, had been working on a track hoe a few hundred feet to the west of the machine. He rushed to the site, as did Mr. Tim Kapke, who was in the mine office at the time of the radio call. An interview with Mr. Kapke indicated that he remained on the phone with 911 until the fire truck arrived. Mr. Woodmansee said that the decision was made to go ahead and free Mr. Gorman from the machine immediately. This required the machine to be re-started. He said the direction of rotation of the drum was reversed and the brushes were raised. Later measurements calculated by the ODM investigative team indicated the drum was rotated 4 feet 4 inches in the opposite direction to free Mr. Gorman from the machine. Mr. Woodmansee said a loader was pulled up to the side of the machine where Mr. Gorman was and the bucket raised into position so Mr. Gorman's body could be eased into the bucket when he was freed. Mr. Gorman's body was then lowered to the ground.

Mr. Joe Parks (Trey) was interviewed and he confirmed where he was and how he learned of the accident from Mr. Daniel Woodmansee. He indicated he started CPR on Mr. Gorman, but discovered that sounds of rushing fluid and the overall condition of the subject suggested that he should not continue CPR. He indicated, as did others, that it was at this time the Jenks Fire Department arrived on scene.

Mr. Kapke was interviewed, and he indicated that he could see the machine from the desk he was using at the mine office. He heard Mr. Woodmansee's summons on the radio and ran to the machine. Mr. Kapke said he found Mr. Gorman in the condition that Mr. Woodmansee indicated, adding that there was one arm and one leg on the outside of the machine and the other arm and leg were not visible and were stuck below the edge of the frame of the machine and lodged between the cylinder and the frame. He indicated he helped remove Mr. Gorman from the machine and that he saw Mr. Parks attempt CPR. Mr. Kapke said that he was on the phone

with 911 but hung up after the fire truck arrived. He estimated it took about 5 minutes for the fire truck to arrive.

The testimony of Daniel Woodmansee indicates Mr. Gorman was wearing smooth leather gloves with a pull tight string on them. The police photos show a glove on the left hand but no specific photos of the right hand were taken. No gloves were found lying on or in the machine. It is believed the victim was wearing both gloves at the time of the accident.

Other information, measurements and observations from the area are as follows:

The machine is a 2007 Vermeer/Wildcat Trommel Screen; Model 516 Cougar. The rotating drum is about 15 feet long with a diameter of 5 feet. When in use, the drum rotates in a clockwise direction as viewed from the back end of the machine. The drum can be reversed. The machine is powered by a Caterpillar diesel engine. Conveyors and shaker are hydraulic driven and the rotating drum is chain-driven. All conveyors appear to be 30 inches wide. The product stacker is on the front end of the machine near the engine. It is equipped with wheels and can be rotated. At the time of the accident, the product stacker was positioned at a right angle to the machine on the north end and on the west side of the machine. The discharge waste stacker is located on the south end of the machine. The ladder on the left side of the machine is approximately 7.5 feet high. As mentioned earlier, this ladder provided access to a travelway with rails on the outside. There are no rails on the travelway next to the drum, but a metal foot guard is located along this side. It is about one foot high. The frame that houses the drum measured 5 feet 10 inches from inside edge to inside edge. This would leave five inches between the drum and frame on each side. Joe Parks (Trey) said that he found the heavy lug wrench (the tool used to clean the machine) on the ground on the east side of the machine, the same side as where the victim was found. While inspecting the mesh on the drum, it appeared to be clogged with the clay material to some extent. Inspector Moss asked Mr. Woodmansee if this is what it normally looks like just before it is cleaned, or did it appear that some cleaning had taken place. Mr. Woodmansee indicated that it appeared dirty to him and in need of cleaning. This suggests that the victim had very little, if any, time to do any pounding (cleaning) with the tool before he became trapped on the machine.

The mesh-covered cylinder has a fastening/tightening bar along the length of it. This bar extends about 2.5 inches above the mesh surface and contains numerous bolts and nuts. The bolts protrude from both sides of the bar 2 inches or more. No definite conclusion is made here, but the image of clothing (gloves, sleeves, etc.) becoming caught on these bolts as the cylinder rotates is formulated.

The control panel on the left side of the machine contains numerous gauges, control levers, specifications and warning labels. A weather-proof box houses the operator's guide on this side of the machine. The guide is held in place with a cord so that it cannot be easily taken from the machine. There is also a remote control box that can be used to move the location of the stacker and to stop the engine. The remote was not being used by the victim and was in the loader cab at the time of the accident. The removable panels were taken off the machine on 04-08-09. This was a somewhat laborious effort as it involved the removal of several bolts and the panels, being rather heavy, have to be raised above the guiding slots that facilitate removal and installation.

On 04-09-09 the decision was made to restart the machine and operate it as it had been on the day of the accident. The drum screen was cleaned before startup. After the machine was allowed to warm up, the drum was engaged and the warning signal was heard. The drum began rotating 12.38 seconds later as timed with a stopwatch. The hopper was loaded and all processing activity was observed for some time to obtain an understanding of exactly what occurred the day of the accident. Normal operating speed is 2680 rpm. The machine was running at 1500 rpm at the time of the accident and the drum was rotating at approximately 16 rpm.

The waste pile where Mr. Woodmansee had dumped before discovering the victim was located 256 feet south of the ladder of the machine. Mr. Woodmansee's estimate of 2 minutes maximum appears reasonable for the time it would take to travel this distance and back while driving a loader before discovering the victim. As mentioned earlier, it is believed that the drum was rotated 4 feet 4 inches in reverse to free the victim. A small spot of what appeared to be blood was found on the machine and the measurement was taken from this spot to the brushes that apparently held the victim in place. Also, Mr. Woodmansee said Mr. Gorman wore eyeglasses that were equipped with a pair of clip-on sunglasses. The clip-on sunglasses were found inside the frame of the machine underneath the drum. This would be consistent with the sunglasses falling off the victim when he was caught between the drum and the frame. Mr. Woodmansee said Mr. Gorman's eyeglasses were on him when he was found but fell off when he was removed from the machine.

There are at least 12 warning labels located on the control panel side of the machine. Most relevant are two specific warnings in English and International symbols that state "Stop engine and remove key before climbing", which indicates the ladder and, "Rotating drum can dismember or kill."

ODM's on-site investigation began on 04-07-09 around 2:30 p.m and ended on 04-09-09 around 2:00 p.m. Individuals who were present during all or part of the investigation are as follows:

### **Representing Gem Dirt Sales**

Betty Misner, Bookkeeper  
Tim Kapke, Dispatcher  
Joe Parks III (Trey)  
Nathan Woodmansee, Office Manager and Sales  
Aaron (Daniel) Woodmansee  
Jason Goodnite, Legal Counsel  
Paula Quillin, Legal Counsel

### **Representing Oklahoma Department of Mines**

Matt Moss, Mine Inspector  
Richard Shore, Mine Inspector  
Douglas Schooley, Deputy Director

## **Representing Occupation Safety & Health Administration**

Yvette McCready, Compliance Officer

## **Representing Vermeer Great Plains**

Ivan Brand, Product Safety

Dale Messenger, Product Safety Engineer

Gary Perkins, General Manager

Mark Sonnenberg, Operations Manager

## **Representing Mine Safety & Health Administration**

Larry Kinsey, Compliance Officer

Andy Thompson, Compliance Officer

## **Others in Attendance**

Ed Beard, Senior Consultant for Rimkus Consulting

Jay Castoe, Safety Consultant for Circle C Consulting

## **CONCLUSION:**

All evidence from the investigation and from witness accounts supports the conclusion that the victim placed himself in a dangerous situation by choosing to clean the machine in the manner in which he did. It appears that the manufacturer's recommendations regarding safety and the safe operation of this machine were disregarded. Short cuts regarding safety and the disregard of state statutes, rules, and procedures referencing safety were directly responsible for this tragic accident. Since the victim was the mine supervisor, it is believed that he was not ordered or encouraged to use the unsafe practices by anyone else.

## **VIOLATION ISSUED:**

### **O.S. Title 45, Chapter 11, § 916 – Equipment – Rules and Procedures.**

**§ 916.15** *“Repairs or maintenance shall not be performed on machinery until the power is off and the machinery is blocked against motion, except when machinery motion is necessary to make adjustments or when non-energized components of large machinery can be safely repaired while the machine is operating;”*

## **RECOMMENDATIONS:**

Mine site task training to all mine employees should emphasize:

- All ODM statutes, rules, and regulations pertaining to mine safety standards. This training should include prohibitive practices that are outlined in statute where hazardous tasks are performed by mine personnel.
- Review of all manufacturers' recommendations regarding the safe operation of all machinery utilized on the mine site. These recommendations should be understood and followed as part of safe operating procedures.

# **Investigation Photographs**

**Discharge end of machine showing waste stacker.  
Taken 4/7/09**



**Product stacker on left side of  
machine. Taken 4/7/09**



Manufacturer's Logo Taken 4/7/09



Bottom of product stacker conveyor right side of machine. Taken 4/7/09

**Right side of machine  
showing cleaning brushes.  
Taken 4/7/09**



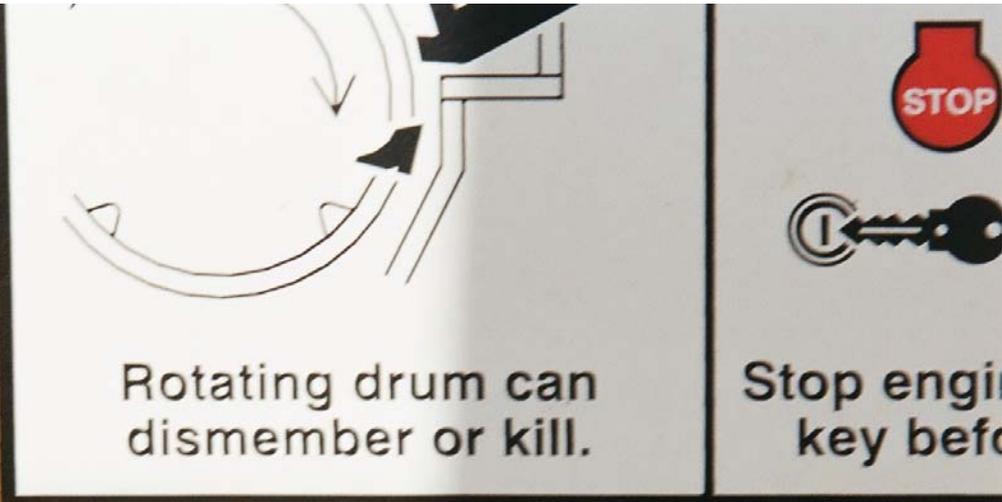
**Front part of drum near loading hopper (background)  
Brush that victim was found under. Blood evidence on  
screen. Taken 4/7/09**



Close up view of screen and brush where victim was found. Taken 4/7/09



Warning label on left side of machine near control panel. Taken 4/7/09





Warning labels and kill switch  
left side of machine. Taken  
4/7/09



Warning labels, kill switch,  
and ladder. Taken 4/7/09  
text here.



Left side of machine looking east,  
product stacker (left), waste stacker  
(right). Taken 4/7/09



Rear end of machine showing waste stacker  
(background) cleaning brushes (left), travelway  
and guardrails on outside. Taken 4/7/09





Approximate location of tool used for (pounding) screen at time of accident.  
Taken 4/7/09



Right side of machine showing engine compartment, loading hopper, cleaning brushes and waste stacker.  
Taken 4/7/09



**Right side of machine showing open access panels, cleaning brushes (top), kill switch (middle). Taken 4/8/09**

04.08.2009



**Removed access panels showing middle and lower part of screen, inside frame, kill switch. Taken 4/8/09.**

04.08.2009

**Fastening, tightening bar  
on surface of screen  
showing protruding bolts.  
Cleaning brushes (left)  
Taken 4/9/09**



**Close up view of tightening,  
fastening bar, inkpen for  
scale. Taken 4/9/09.**

