

Landscaping Laborer Dies when Struck by Bouncing Log

Incident Number: 04KY023



View of gas line right-of-way looking up the mountain.

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Kentucky Fatality Assessment and Control Evaluation (FACE) Program
Incident Number: 04KY023
Incident Date: March 5, 2004
Release Date: April 18, 2005
Subject: Landscaping Laborer Dies when Struck by Bouncing Log

Summary

On March 5, 2004, a 57-year-old male laborer died when a 19 inch wide x 31 inch long log rolled down a mountain hitting him in his head and chest. The laborer had been employed for three days by a landscaping company contracted to clear the tree canopy over a gas line right-of-way. At approximately 2:20 pm, the company owner and five laborers were felling trees and bucking downed trees with chain saws and pole saws to remove the trees and limbs hanging over and growing in the gas line right-of-way. Two of the laborers were working topside at the left edge of the hilltop right-of-way; the decedent and another laborer were working the right edge in the middle of the hill, while the owner and another laborer were on the left edge of the right-of-way at the bottom. The topside crew felled a walnut tree into the right-of-way. After felling the walnut tree, one of the topside workers sawed the felled tree into approximately 30 inch lengths. One of these 30-inch logs bounced and rolled down the hillside for 200 to 300 feet, and hit the decedent in the chest and head. The company owner called emergency services who arrived at the scene and contacted the coroner. When the coroner arrived, he declared the victim dead at the scene due to multiple trauma to his head and chest.

To prevent future occurrences of similar incidents, the following recommendations have been made:

Recommendation No. 1: Business owners/managers need to follow all Occupational Safety and Health regulations pertaining to the work they are actually performing, not only those restricted to the type of work the business is licensed for.

Recommendation No. 2: Before new job tasks are performed, safety practices should be reviewed and workers should be instructed to follow all applicable safety practices.

Recommendation No. 3: Links to "Voluntary Compliance Services" and the "Division of Compliance Kentucky Occupational Safety and Health (OSH) Programs" on the Kentucky business license website (<http://www.sos.ky.gov/ONESTOP/PROGRAM/onestop.asp>) should include an introduction to the Kentucky OSH program that explains the need for developing a safety program using applicable standards for the specific type of work to be performed by the new company.

Background

On May 7, 2004, via the Kentucky Department of Vital Statistics, the Kentucky Fatality Assessment Control & Evaluation Program became aware of an occupational fatality which

occurred on March 5, 2004, involving a 57 year-old laborer. A site visit was made on May 18, 2004, the coroner was interviewed and photographs of the site were taken. An interview with the decedent's employer was conducted on October 12, 2004.

The company owner was previously employed by other landscaping companies before starting his own landscaping business in 2000. Including the owner, the business employed 6 persons. The company performed landscaping and yard maintenance jobs for residential and commercial businesses. The landscaping company was contracted to clear 9 miles of tree and brush canopy over a 50-foot-wide natural gas line right-of-way. The job was expected to take about four weeks to complete. The crew had been working for three days on this particular job. The daily average temperature for those three days was 71°F and the total precipitation for those three days was 0.01 inches. After the canopy work was performed, the landscaping company was hoping to obtain another contract with the natural gas company to clear the vegetation in the right-of-way. Work hours were from 8:00 AM – 5:00 PM.

Employees received on-the-job training for lawn care services such as mowing, trimming, edging, and seeding of grass. The job of clearing the canopy over the gas line right-of-way was different from the typical lawn care jobs the workers usually performed. To clear the canopy, the employees performed work duties more similar to logging activities. Chain saws were used to cut down the trees then to cut the trees into logs. Pole trimmers were used to remove branches from the trees.

At the time of the incident, all but one employee had logging experience. Prior to working for the landscaping company, the decedent had worked as a logger. The decedent's logging experience was the reason he was hired by the landscaping company. He had been working for the landscaping company for three days when the incident occurred. The experienced loggers (including the decedent) cut down the trees and limbed the logs. The non-experienced employee was responsible for clearing brush from the right-of-way and wrapping chains around the logs and limbs. He also pulled the logs, limbs and brush with an ATV to the outside edge of the right-of-way.

On the day of the accident, each employee wore safety glasses, hearing protection, work boots or steel-toed boots and hard hats. Chaps had been ordered, but they did not arrive until the day after the accident. Seven chain saws and four pole trimmers had been ordered specifically for this job and were equipped with safety features.

Investigation

On March 5, 2004, a landscaping contractor and five laborers were on a mountainside clearing a 9-mile canopy over a gas pipe line right-of-way. Working in teams of two, there were three work stations clearing the canopy on the side of the mountain. Facing the mountain top, one team, both experienced loggers, worked at the top of the slope on the left edge of the gas line right-of-way. They were sawing downed trees into approximately 30-inch lengths, cutting off tree limbs hanging over the right-of-way, then transporting them to the side out of the right-of-way. The second team consisted of the decedent and the inexperienced logger. They were clearing downed trees and overhanging branches on the right side of the right-of-way about half-

way between the first team and the third team located at the bottom of the mountain. The decedent used the chain saw and pole trimmer and the non-experienced logger removed brush from the right-of-way. The company owner and another worker made up the third team and they were located on the left side of the right-of-way at the foot of the mountain. At the time of the incident, the third team was working on another job unrelated to clearing the canopy. The distance between the teams is unknown. The distance between the first team at the top and second team in the middle was estimated to be approximately 200 feet - 300 feet. Due to the steep terrain and lack of an ATV, it was not possible to gain access to the right-of-way to measure the distance between the teams.

Along with chainsaws and pole trimmers, each two-man team had an ATV as part of their equipment. After cutting trees into approximately 30 inch lengths, the logs would be moved to the outside edge of the right-of-way and left there to decay. Tree limbs and branches hanging over the right-of-way were removed from the tree trunk, and if necessary, cut into sections and moved to the outside edge of the right-of-way. Longer logs were wrapped with chains and hauled to the outside edge of the right-of-way by hooking the chains to a wench on the axle of the four-wheeler. These logs were also laid to the side of the right-of-way to decay.

At approximately 1:20 pm, the first team working topside used chainsaws to cut up a downed walnut tree into 31 inch lengths. They started at the top of the downed tree and cut toward the base of the tree. Each log was chocked with pieces of wood as the trunk was cut. The two laborers made the cuts. The first log was not chocked and began to roll down the gas line right-of-way. The two laborers yelled to the workers below and tried to warn them of the uncontrolled log rolling down the mountain. The second team working in the middle of the right-of-way gave no indication they heard the topside team yelling that a log was loose and was rolling in their direction. As the log rolled and bounced down the mountain, it began to veer to the right side of the right-of-way toward the second team, striking the decedent in the head and chest, throwing him approximately 35 feet down the hill. Members of the second team were working approximately 10 feet from each other when the decedent was struck by the rolling log. After seeing his teammate struck by the log, the inexperienced logger began yelling for help and running toward the decedent. The third team heard the yelling and drove the ATV to where the decedent was lying on the ground. At 2:28 pm, the owner used his cell phone to call emergency services and administered CPR to the decedent. The third team laborer drove the ATV back down the mountain to the main road and waited for emergency services who arrived at the scene at 2:36 pm. In the meantime, the first team arrived where the owner was administering CPR to the decedent. According to the coroner, emergency services arrived and found the decedent without a pulse, not breathing, and using an EKG machine, discovered no heartbeat. Emergency service personnel contacted the coroner who arrived and declared the victim dead at the scene at 3:04 pm.

Cause of Death

The decedent died due to multiple trauma to his head and chest.

Recommendations and Discussions

Recommendation No. 1: Business owners/managers need to follow all Occupational Safety and Health regulations pertaining to the work they are actually performing, not only those restricted to the type of work the business is licensed for.

The owner of the landscaping company involved with this fatality followed the Kentucky Occupational Safety and Health standards applicable to landscaping duties. Landscaping duties fall under Agriculture Standards 29 CFR 1928. 29 CFR 1928.21 (a)(1) states selected 29 CFR 1910 Standards have also been adopted and apply to Agriculture Operations which include 29 CFR 1910.266 "Logging Operations." The specific work activity dictates which KY OSH standards apply. For the logging work activities being performed, the workers should have complied with KY OSH logging standards 1910.265 – 1910.268. When interviewed by KY OSH at the time of the incident, the owner of the landscaping company had not understood that his employees should have been following logging standards. Employees had most of the personal protective equipment required to meet KY OSH logging standards. At the time of the incident, employees were wearing hard hats, work boots or steel-toes boots, and hearing protection, but did not have the required chaps. Each work station was within visual distance of each other (also required by KY OSH standards). However, to be in compliance with the logging standards, each work station was required to have a first aid kit and a signaling device. None of the work stations had first aid kits or signaling devices. If the work stations had a communication system to be heard over the noise of active chainsaws, it is possible that the worker in the second station could have been warned in time to avoid being hit by the log rolling out-of-control down the mountain.

Recommendation No. 2: Before new job tasks are performed, safety practices should be reviewed and workers should be instructed to follow all applicable safety practices.

According to the company owner and the KY OSH report on this incident, all but one employee had logging experience. A safety program should have been implemented including solutions to possible problems. The importance of chocking logs immediately after cutting should have been addressed. According to the KY OSH report, the loose log had not been chocked. Another safety strategy could have been to have the teams working on opposite sides of the right-of-way parallel to each other. In this scenario, no team would have been working above/below the other. There is currently no standard that states work crews should be parallel to another. The KY OSH standards state that the minimum distance between work crews is two tree lengths, not the physical location of the work crews on site. An effective communication system could have been implemented so that in an emergency, workers would be in immediate contact with each other.

Recommendation No. 3: Links to “Voluntary Compliance Services” and the “Division of Compliance Kentucky Occupational Safety and Health (OSH) Programs” on the Kentucky business license website (<http://www.sos.ky.gov/ONESTOP/PROGRAM/onestop.asp>) should include an introduction to the Kentucky OSH program that explains the need for developing a safety program using applicable standards for the specific type of work to be performed by the new company.

Currently, the Kentucky OSH links state that “Safety and health posters are required to be posted where it may be read by employees” and link to the Kentucky Department of Labor (DOL) website. It would be useful to state that all new business owners need to follow applicable OSH standards for all job tasks to be performed by the company and to contact the DOL or legal consul to determine the relevant Kentucky OSH standards for the job tasks.

Keywords

Chainsaw
Landscaping
Logging
Pole trimmer

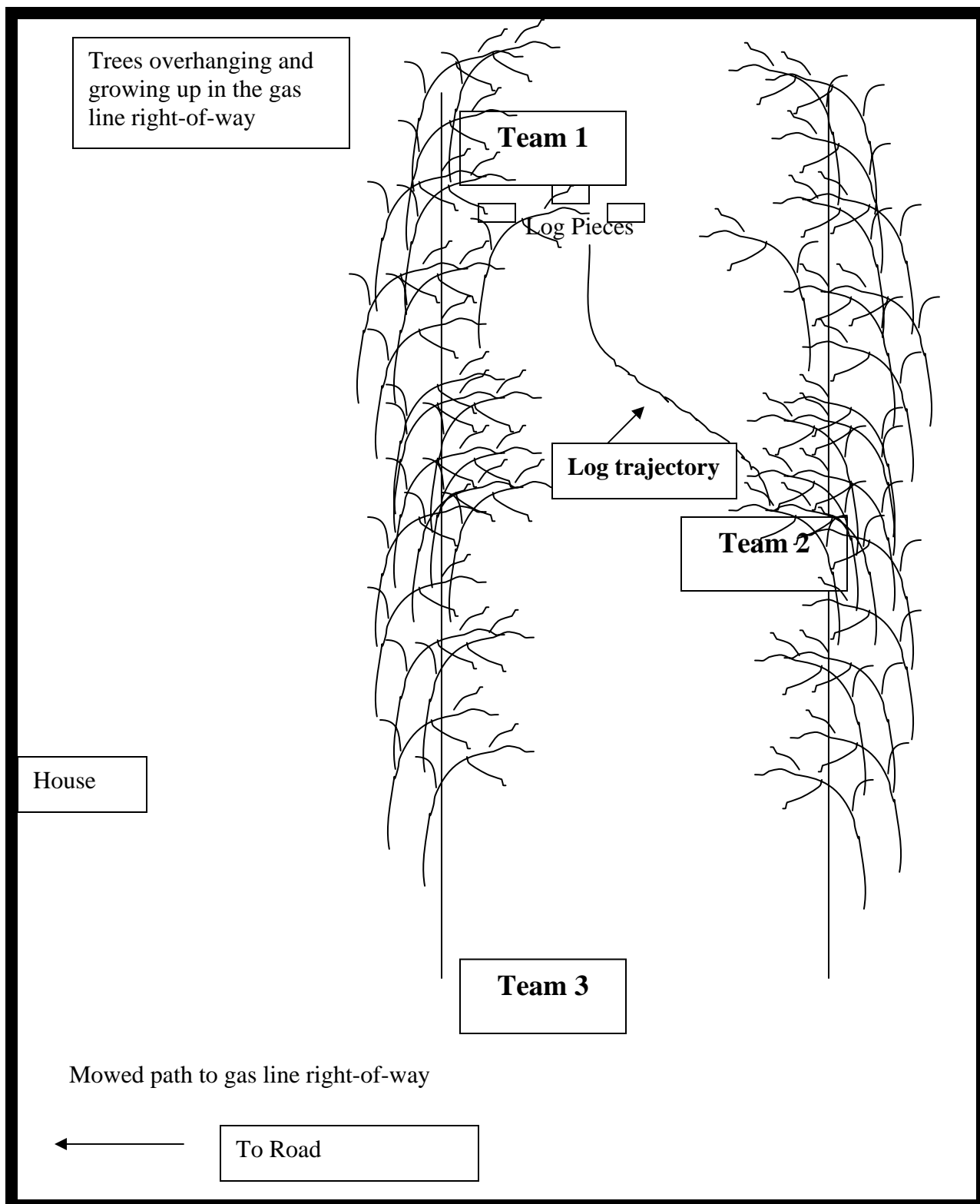
References

29 CFR 1910.266(d)(2)
29 CFR 1910.266(d)(6)(ii)
29 CFR 1910.266(d)(7)
29 CFR 1910.266(h)(3)(ii)

Acknowledgements

Business Owner
Coroner
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Logging Professor

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Not to scale