

A **42 year old male** employee was fatally injured when he was **struck by a limb** being pulled with a backhoe while trying to remove lodged debris in a deadfall area of the river.

Riverbend Campground is located near the Little Pigeon River in Pigeon Forge, TN. During periods of heavy rain the river can swell and come close to flooding the campground; a clear river channel is important to allow the water to flow and to prevent the water from backing up. Over the months prior to the incident dead trees and other debris had become lodged onto a gravel bar downstream from the campground and had created a deadfall. The Employer had become concerned that the deadfall would impede the flow of the river during a heavy rain and flood the campground.

The decision was made to use a 300-foot,  $\frac{3}{4}$ " cotton-fiber rope and backhoe to remove the deadfall. To accomplish that task, the Employer, the victim and two volunteers took part in the removal.

On the day of the incident, the victim was tying the rope to dead trees and limbs in the deadfall near the west bank of the river. One of the volunteers was driving the backhoe on the east bank of the river, which was being used to pull the trees from the deadfall. The victim and the other volunteer were stationed 250 feet from each other and the Employer was standing in the middle of the river at a point where he could see them both. The employer's job was to signal the backhoe driver when the victim was ready for him to use the backhoe to pull. The volunteer's role was to take the end of the rope back down the river to hand off to the victim, who would then tie the rope onto another tree or limb. The process would then be repeated.

Apparently, the victim tied the rope to a limb that was attached to a live tree. The tree had uprooted from the bank and fallen into the river; however, the tree was still alive and the wood was "springy," not brittle. The limb that the victim tied onto had been damaged during the fall, and it is believed that he figured that the limb would detach easily from the main stem. The backhoe pull was similar to others. The backhoe operator stated that he felt resistance at first but then felt the limb give way. When he stopped and looked back to the Employer, he saw the Employer running down the river shouting.

From all indications, it appears that the limb the victim had tied to broke away suddenly. The load created by the pulling backhoe and the stationary limb had stretched the rope; when the limb broke away, the rope recoiled, pulling the tree limb with it. The tree limb struck the victim, knocking him temporarily unconscious and causing him to fall face down in the river. His injuries included a broken collar bone, a shattered shoulder, multiple broken ribs, and internal injuries. According to the Employer, the victim died approximately 24 hours later.

**Citation(s) as Originally Issued**

A complete inspection was conducted at the accident scene. Some of the items cited may not directly relate to the fatality.

**Citation 1 Item 1      Type of Violation: Serious      \$4,000**

**TCA 50-3-105(1):** The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees:

In that one employee working to remove a deadfall from the West Fork Little Pigeon River was exposed to struck-by hazards from a tree limb due to standing in the path of a recoiling rope.

**Citation 1 Item 2a      Type of Violation: Serious      \$1050**

**29 CFR 1910.132(a):** Protective equipment was not used when necessary whenever hazards capable of causing injury and impairment were encountered:

In that one employee working to remove a deadfall from the West Fork Little Pigeon River was exposed to drowning hazards and had not been issued a personal flotation device (life jacket).

**Citation 1 Item 2b**     **Type of Violation: Serious**     **\$0**

**29 CFR 1910.132(d)(1):** The employer did not assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE):

In that the employer did not complete a PPE assessment for struck-by hazards prior to instructing an employee to remove a deadfall from the West Fork Little Pigeon River.

**Citation 1 Item 2c**     **Type of Violation: Serious**     **\$0**

**29 CFR 1910.135(a)(1):** The employer did not ensure that each affected employee wear a protective helmet when working in areas where there is a potential for injury to the head from falling objects:

In that one employee working to remove a deadfall from the West Fork Little Pigeon River was exposed to struck-by hazards from a tree limb and had not been issued head protection.

**Citation 2 Item 1**     **Type of Violation: Other-than-Serious**     **\$300**

**TDLWD Rule 0800-01-03-.05(1)(a)1:** Within eight (8) hours after the death of any employee as a result of a work related incident, the employer did not report the fatality to the TOSHA Division of the Tennessee Department of Labor and Workforce Development:

In that the employer did not report a work-related fatality to TOSHA.

**Citation 2 Item 2 a**     **Type of Violation: Other-than-Serious**     **\$150**

**29 CFR 1910.1200(e)(1):** The employer did not develop, implement, and/or maintain at the workplace a written hazard communication program which describes how the criteria specified in 29 CFR 1910.1200(f), (g), and (h) will be met:

In that one employee was exposed to chemical exposure hazards such as fuel, oil, and grease and the employer had not developed a written hazard communication program.

**Citation 2 Item 2b**      **Type of Violation: Other-than-Serious**      **\$0**

**29 CFR 1910.1200(g)(1):** The employer did not have a safety data sheet in the workplace for each hazardous chemical which they use:

In that one employee was exposed to chemical exposure hazards such as fuel, oil, and grease and the employer did not maintain safety data sheets for those chemicals.

**Citation 2 Item 2c**      **Type of Violation: Other-than-Serious**      **\$0**

**29 CFR 1910.1200(h)(1):** Employees were not provided effective information and training on hazardous chemicals in their work area at the time of their initial assignment and whenever a new hazard that the employees had not been previously trained about was introduced into their work area:

In that one employee was exposed to chemical exposure hazards such as fuel, oil, and grease and the employer had not provided hazardous chemical training to the employee.

17 struck by tree branch--Inspection #1435222 Riverbend Campground



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