LADDER CREEK TANK – TCRA PHASE 1 SUMMARY

City Light is removing burned debris and impacted soil from the area immediately surrounding the Ladder Creek Settling Tank outside Newhalem, WA under a CERCLA Time Critical Removal Action (TCRA). This memorandum summarizes Phase 1 of the TCRA activities.

BACKGROUND

The Ladder Creek Tank Site is approximately 1/4 mile from the Gorge Powerhouse and across the Skagit River from Newhalem. The site is approximately 300 feet in elevation above the Powerhouse. The project is within the Ross Lake National Recreation Area, which is part of the North Cascades National Park Complex.

During the 2015 Goodell Wildfire, the tank's protective building burned, and a debris field of charred remains was left surrounding the tank. Due to contamination risks to nearby Ladder Creek posed by the debris and residual metals and PAH contamination in soil, the debris and impacted surface soil surrounding the tank is being removed. The tank interior is also being cleaned to remove impacts from airborne fallout during the fire, including residual metals measured in precipitation-derived discharge from the tank. In 2016 a filtration system using granular activated carbon (GAC) was installed as a temporary measure to treat water discharge from the tank.

The TCRA is planned to be completed in phases, as follows:

1) Clean and remove debris from settling tank interior.
2) Remove debris and impacted surface soil surrounding the tank, and stage materials in bulk bags.
3) Fly bulk bags of debris and soil to Newhalem via helicopter and haul to disposal site.
4) Restore site to pre-Removal Action conditions.

TCRA ACTIVITY DESCRIPTION

On September 1, 2017, Phase 1 of the TCRA activities was completed. The following summarizes those activities. Key photos of the Phase 1 TCRA activities are also inserted below.

City Light and its contractor mobilized to the tank site on Monday 8/28. Due to the remote location, all materials were hand-carried to the site via the rugged foot trail. Over the course of the week the contents of the tank were removed and the tank interior was pressure washed clean. Figures 1, 2 and 3 show cleaning activities in progress. Contents included primarily sediment left in the tank from when it was operated to settle out sediments in water diverted from Ladder Creek, organic material including leaves and pine needles, and branches. These materials were placed in plastic bags and lowered to the ground where they were stockpiled in a staging area under the tank (Figure 4).

After the tank's physical contents were removed, a pressure washer was used to spray down the steel walls inside the tank. Water was withdrawn from the creek via a small stilling well created with a plastic bucket at the historical diversion crib dam upstream of the tank location. Water was then gravity fed via garden hoses down to the tank location where a pressure washer was used to supply the water to the spray nozzle inside the tank. Electricity for the pressure washer was supplied via a gasoline-powered generator, which was fully contained and located at ground surface under the tank. During pressure washing and rinsing inside the tank, water was routed through the existing discharge port and through the temporary GAC filtration system.

At the conclusion of tank cleaning, a sample of rinse water from inside the tank was collected from the discharge port and transported to On-Site Analytical Laboratories in Redmond, WA for chemical analysis.

No metals were detected in the sample, indicating residues were successfully removed from the tank interior. Figure 5 (2015) and 6 show the tank interior before and after cleaning.

All equipment used for cleaning the tank was de-mobilized from the site on September 1, and materials removed from the tank were staged in a stockpile for the winter. Materials remaining at the tank location include the covered stockpile of debris removed from the tank and the GAC drums. These materials will be flown out during Phase 3 of the TCRA.

CURRENT SITE STATUS

TCRA - There are no activities associated with the TCRA currently underway at the settling tank site.

Settling Tank - After completion of the tank cleaning, the GAC drum filtration system was disconnected and new piping was put in place conveying water from inside the tank to the distribution/manifold piping at the ground surface approximately 30 feet south of the tank. Water accumulating in the tank discharges to the ground via this system. Figures 9 and 10 show the new line in place at the tank discharge port. All piping that had been in contact with the tank discharge up-line from the filtration system was removed and staged for disposal. City Light does not currently plan to modify the current condition of the settling tank.

Erosion and Sedimentation Control - Coir logs were installed around the tank in fall 2015 to control erosion and sedimentation after the fire. The coir logs were checked and monitored during the Phase 1 activities. At completion of the Phase 1, three new coir logs were installed to supplement the existing ones. Figures 7, 8 and 9 show the current condition of the coir logs around the site.

FUTURE ACTIONS

A schedule for Phase 2 of the TCRA has not yet been established, however City Light and its contractors are making plans to complete Phases 2-4 starting in spring 2018. Phase 2 is expected to require up to three weeks depending on timing of and seasonal access to the site, etc., and Phase 3 and 4 are expected to require 2-3 weeks. Overall, TCRA field activities are expected to be completed by the end of 2018.

Key Photos of TCRA Activities

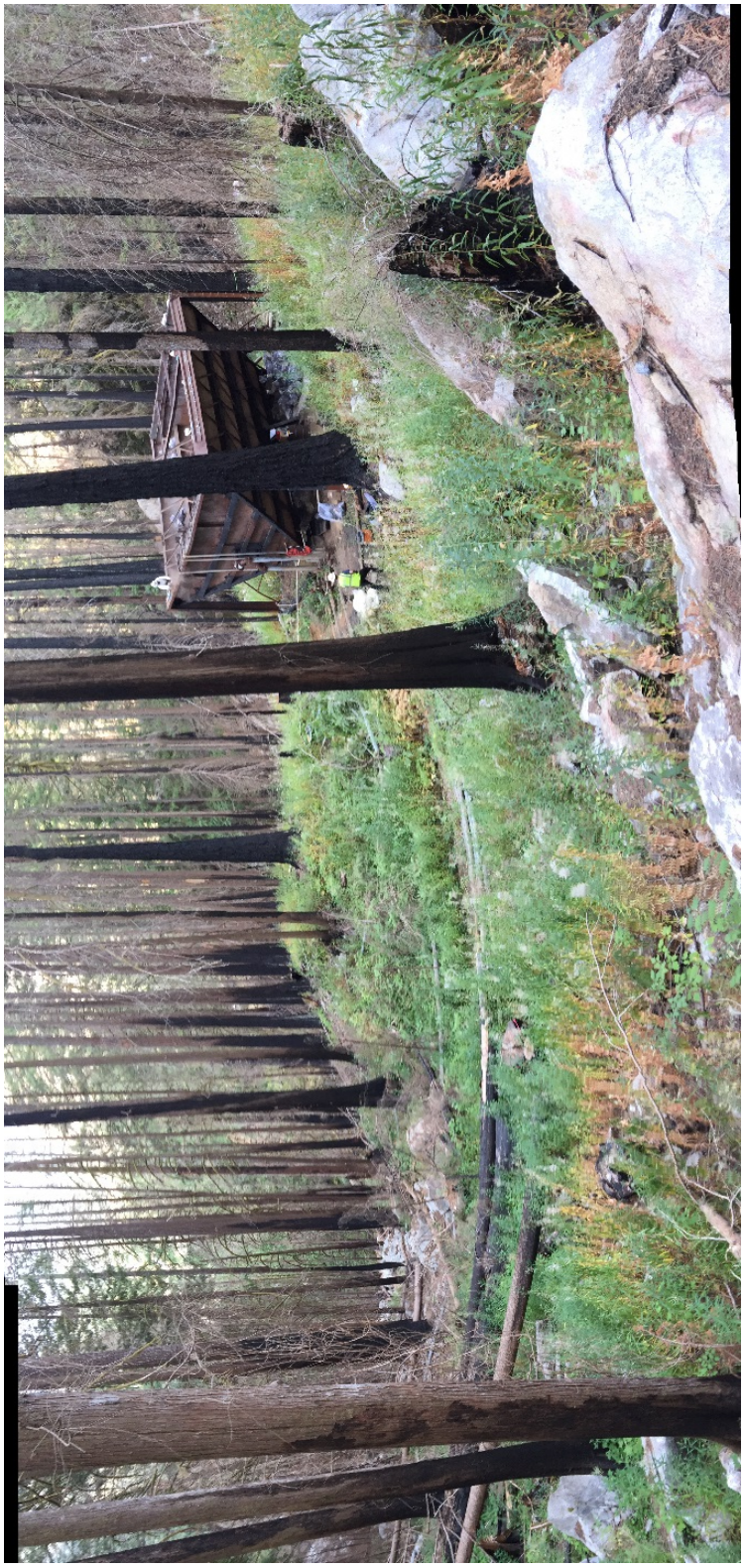

Figure 1 - Ladder Creek Settling Tank Panorama

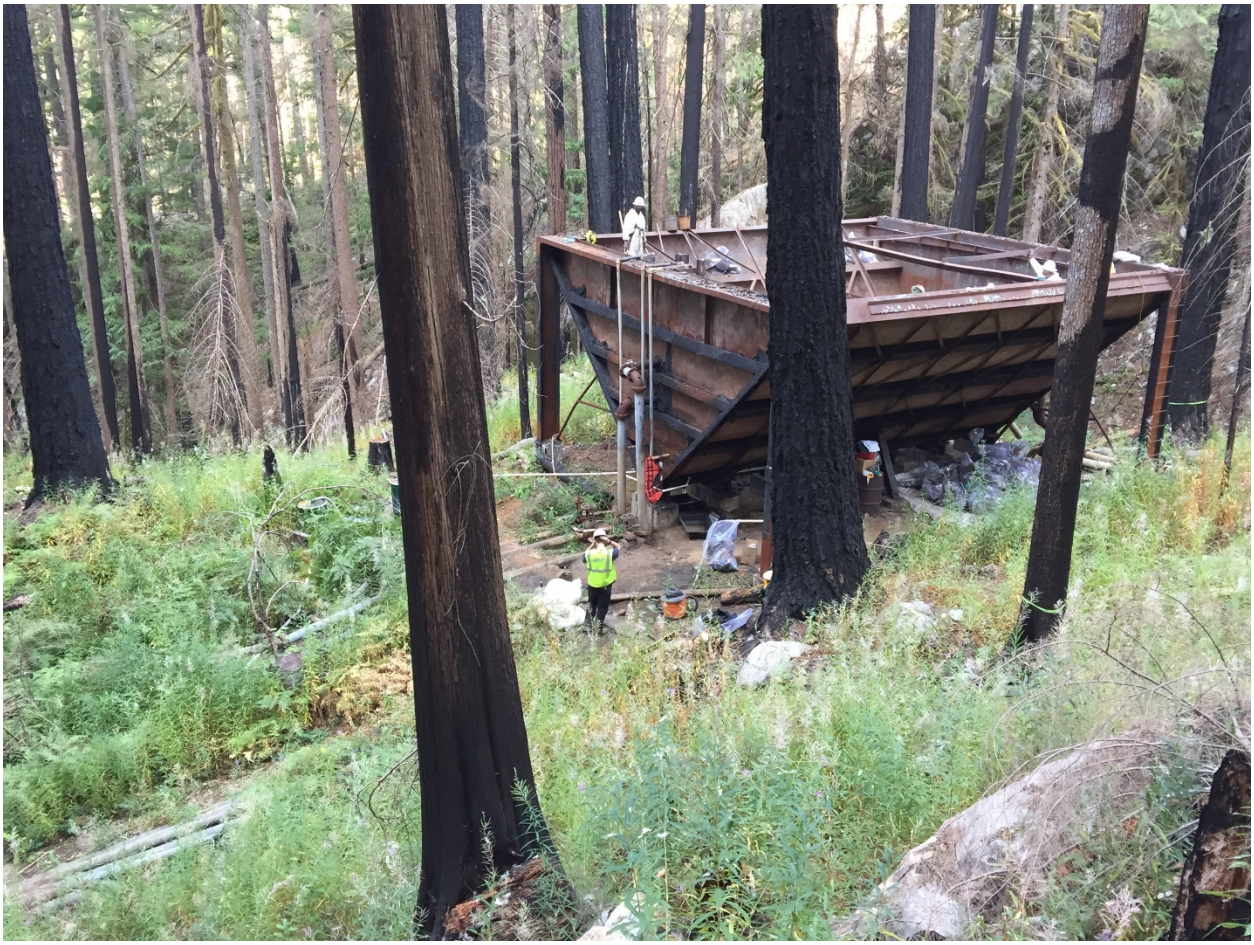

Figure 2 - Ladder Creek Settling Tank; Tank Cleaning Activities #1

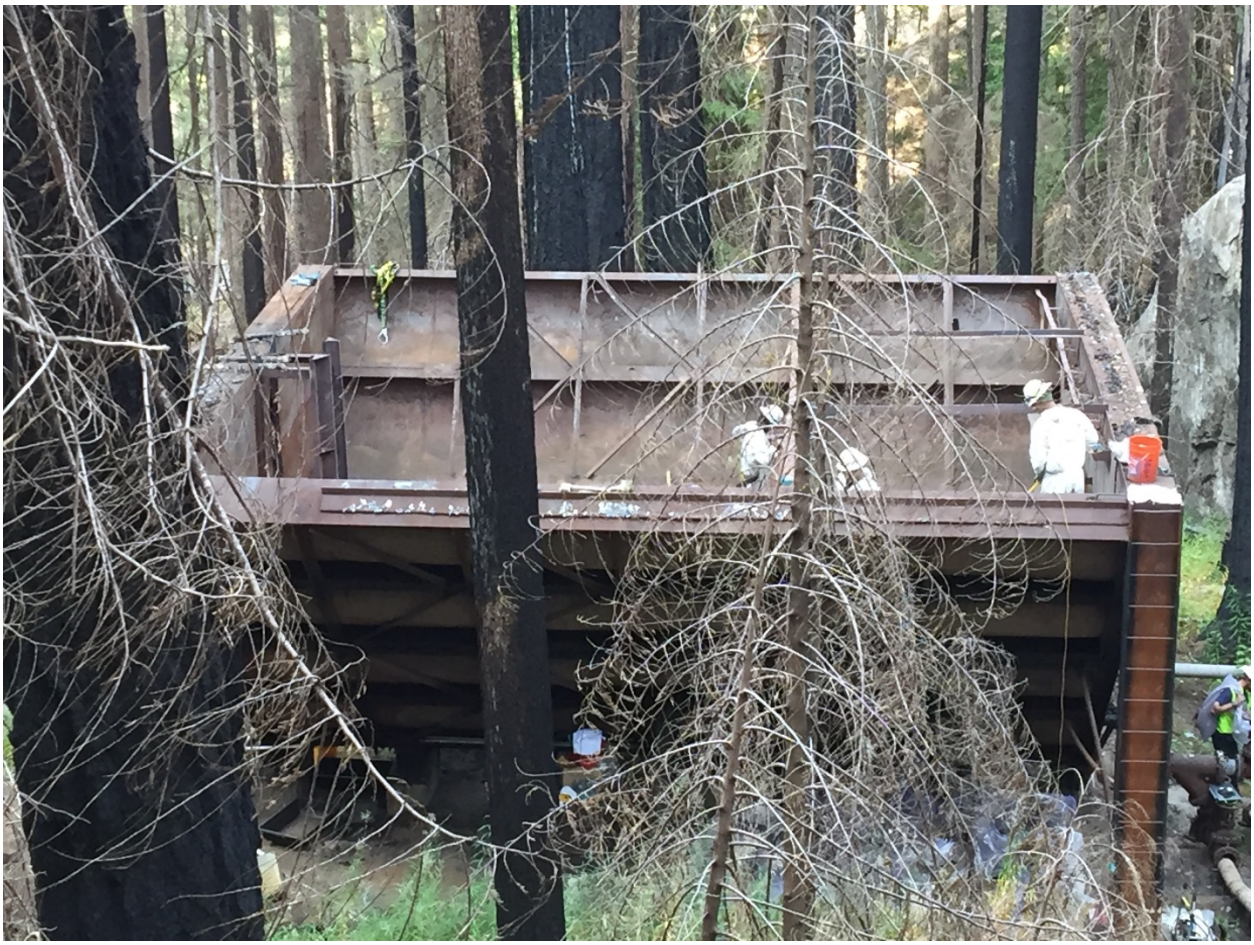

Figure 3 - Ladder Creek Settling Tank; Tank Cleaning Activities #2

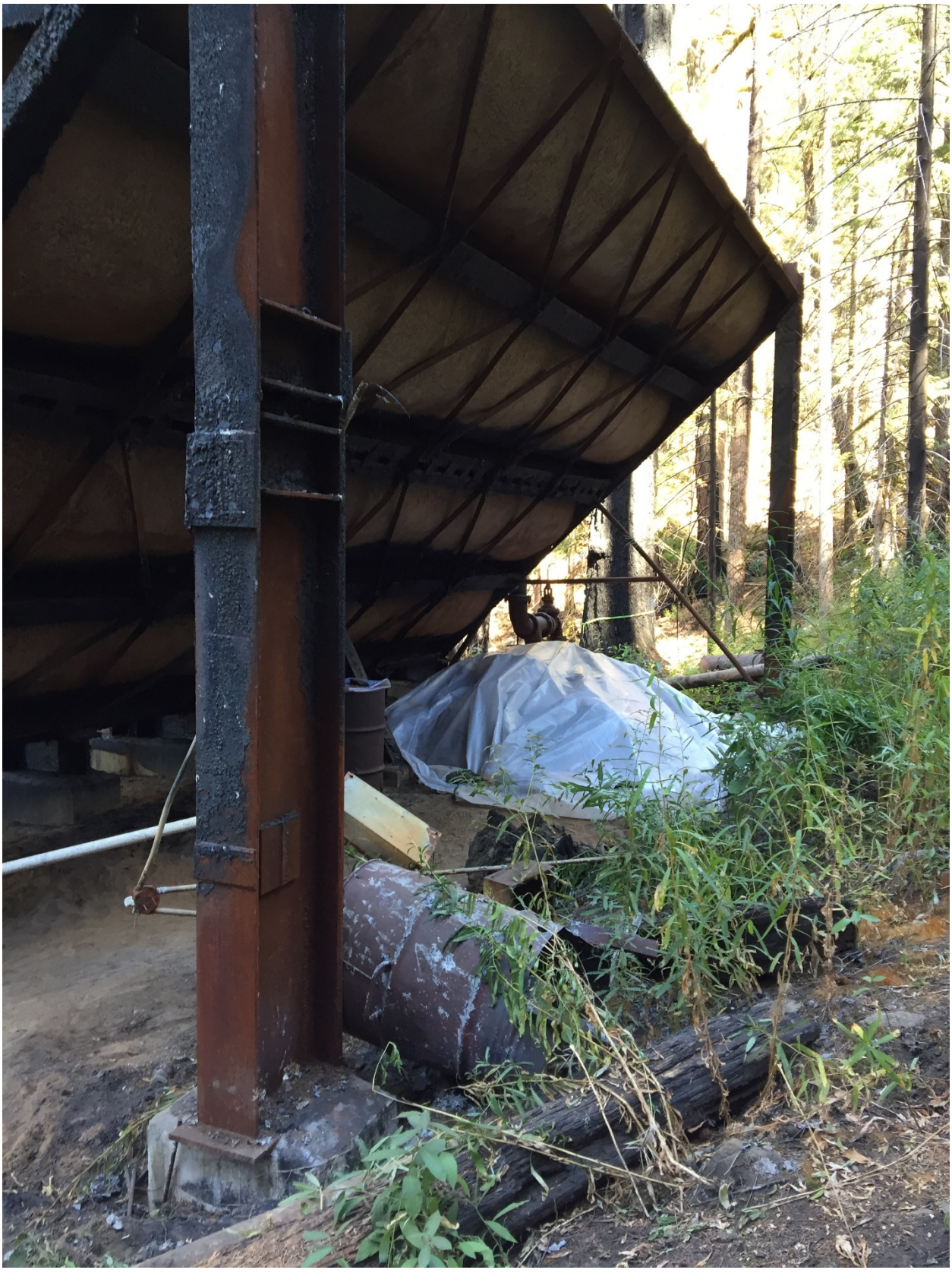

Figure 4 - Ladder Creek Settling Tank; Materials From Inside Tank Staged for Winter

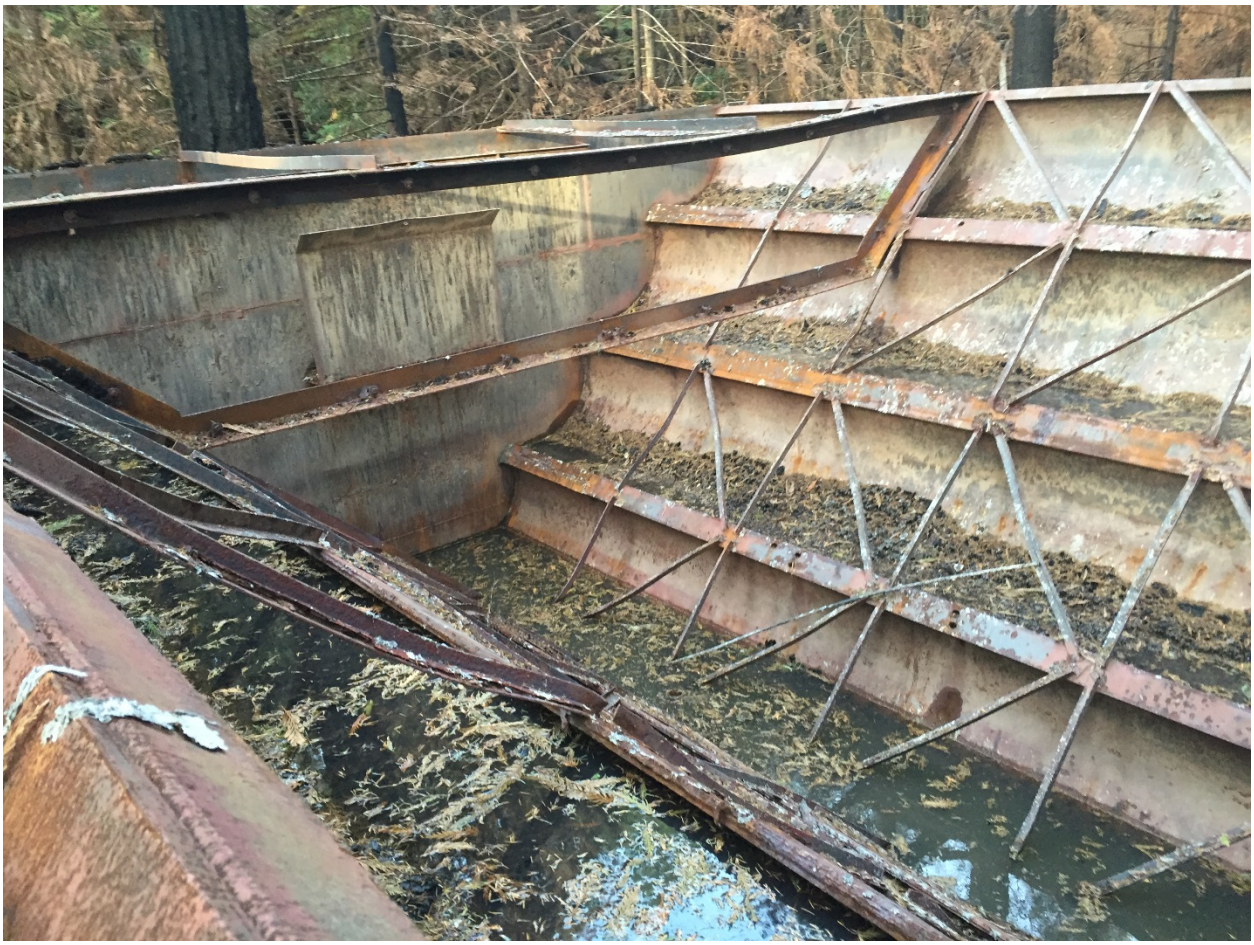

Figure 5 - Ladder Creek Settling Tank; Tank Interior in 2015, Before Cleaning

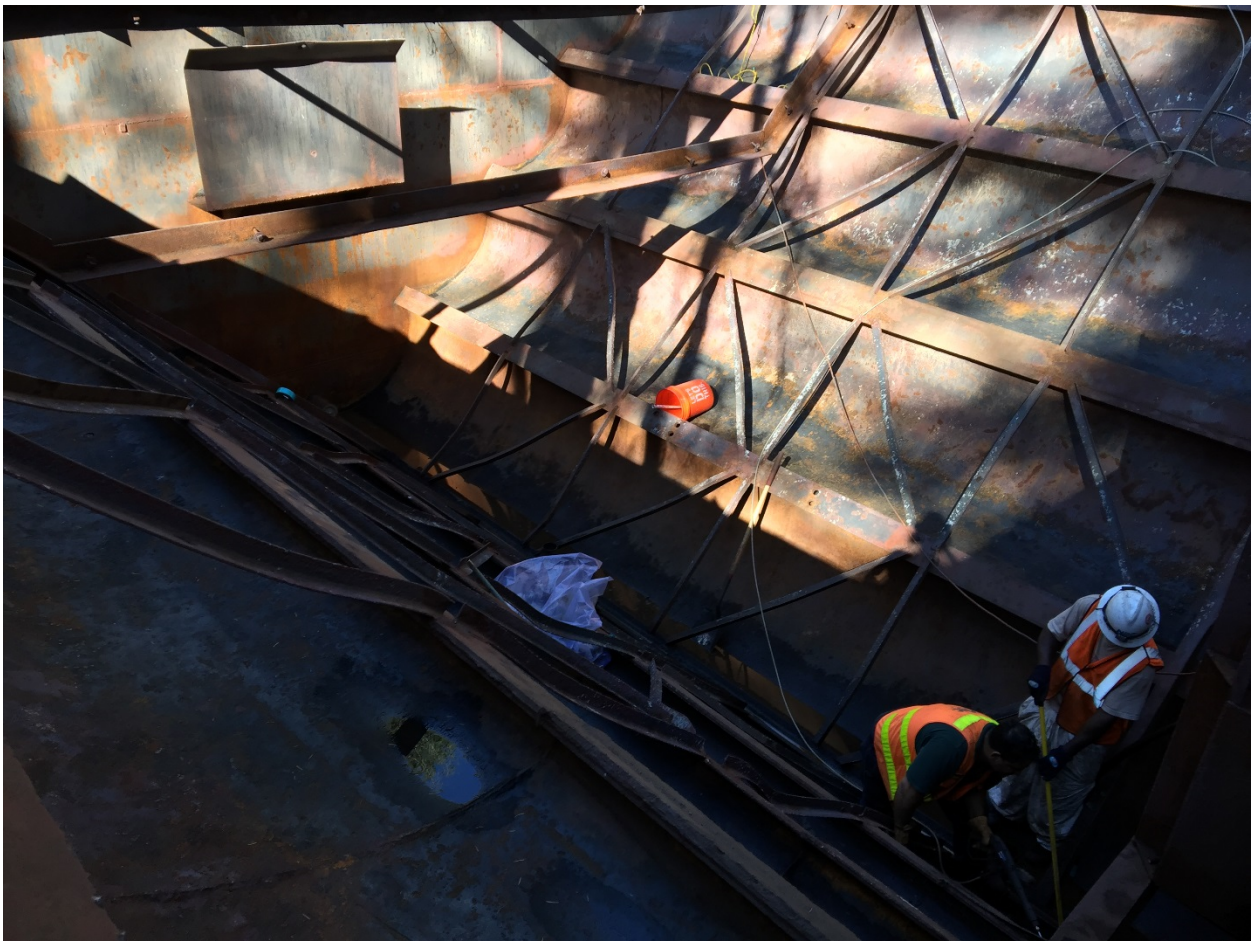

Figure 6 - Ladder Creek Settling Tank; Tank Interior After Cleaning

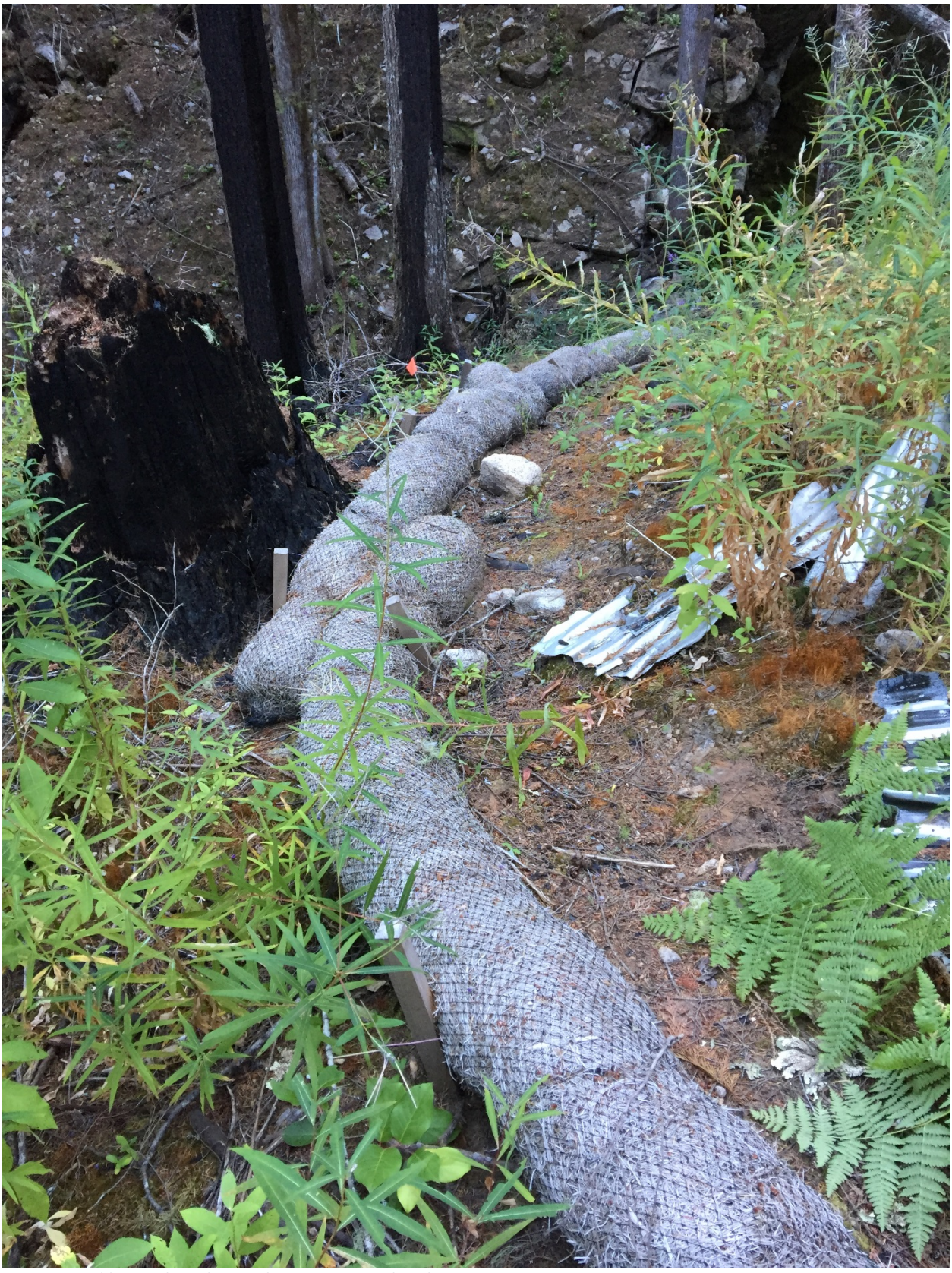

Figure 7 - Ladder Creek Settling Tank; Erosion Control in Place #1

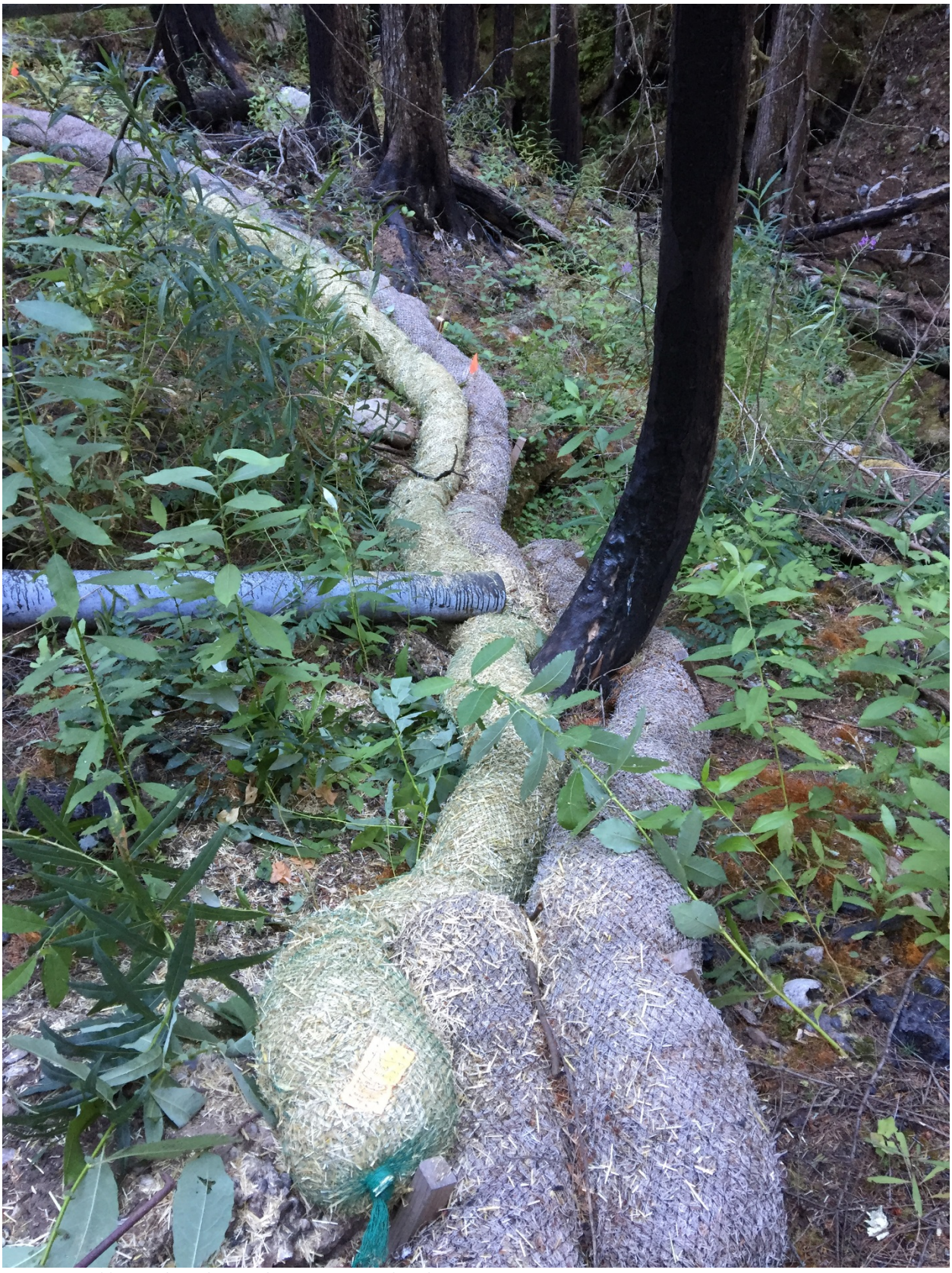

Figure 8 - Ladder Creek Settling Tank; Erosion Control in Place #2

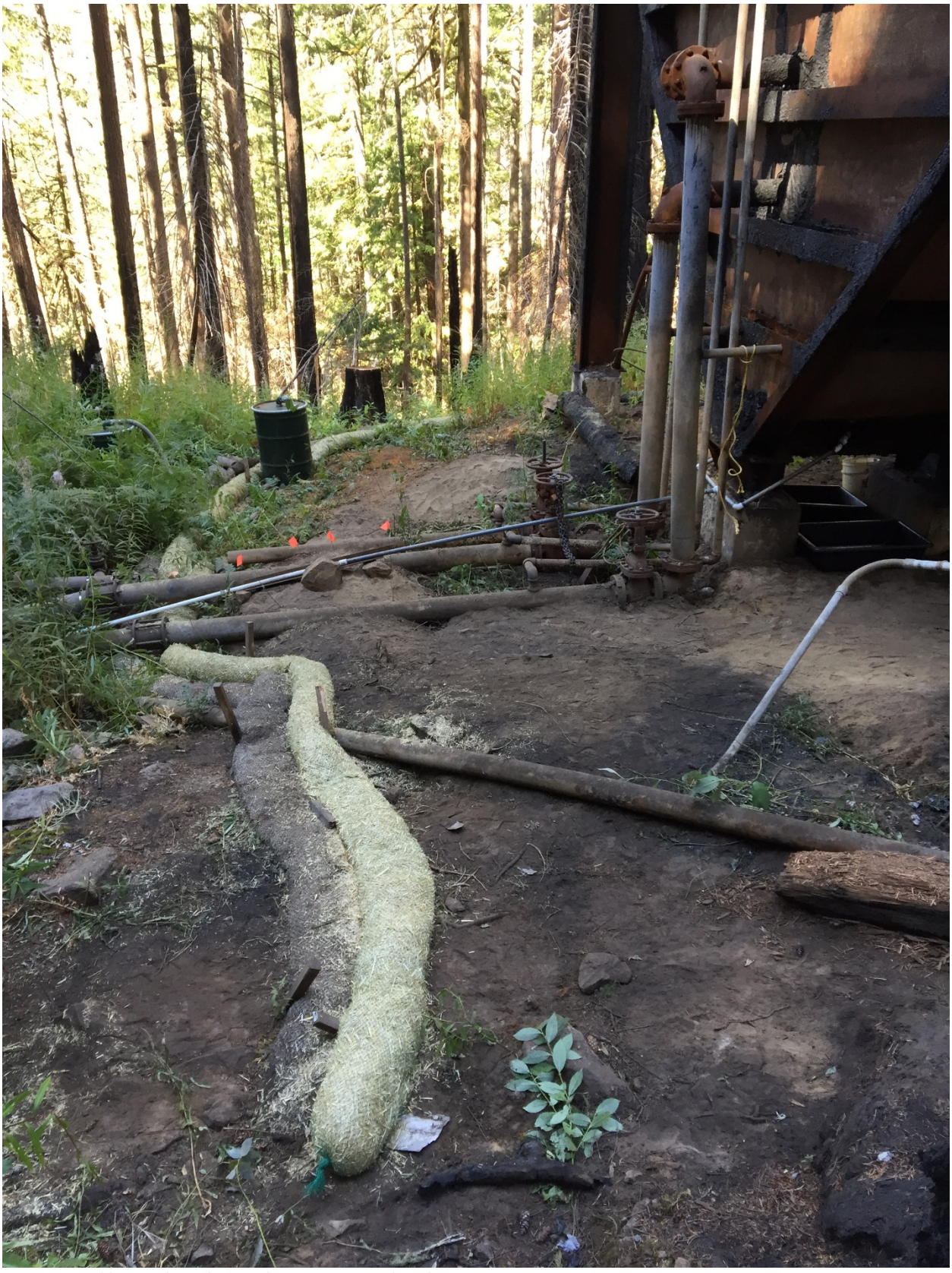

Figure 9 - Ladder Creek Settling Tank; Erosion Control in Place #3

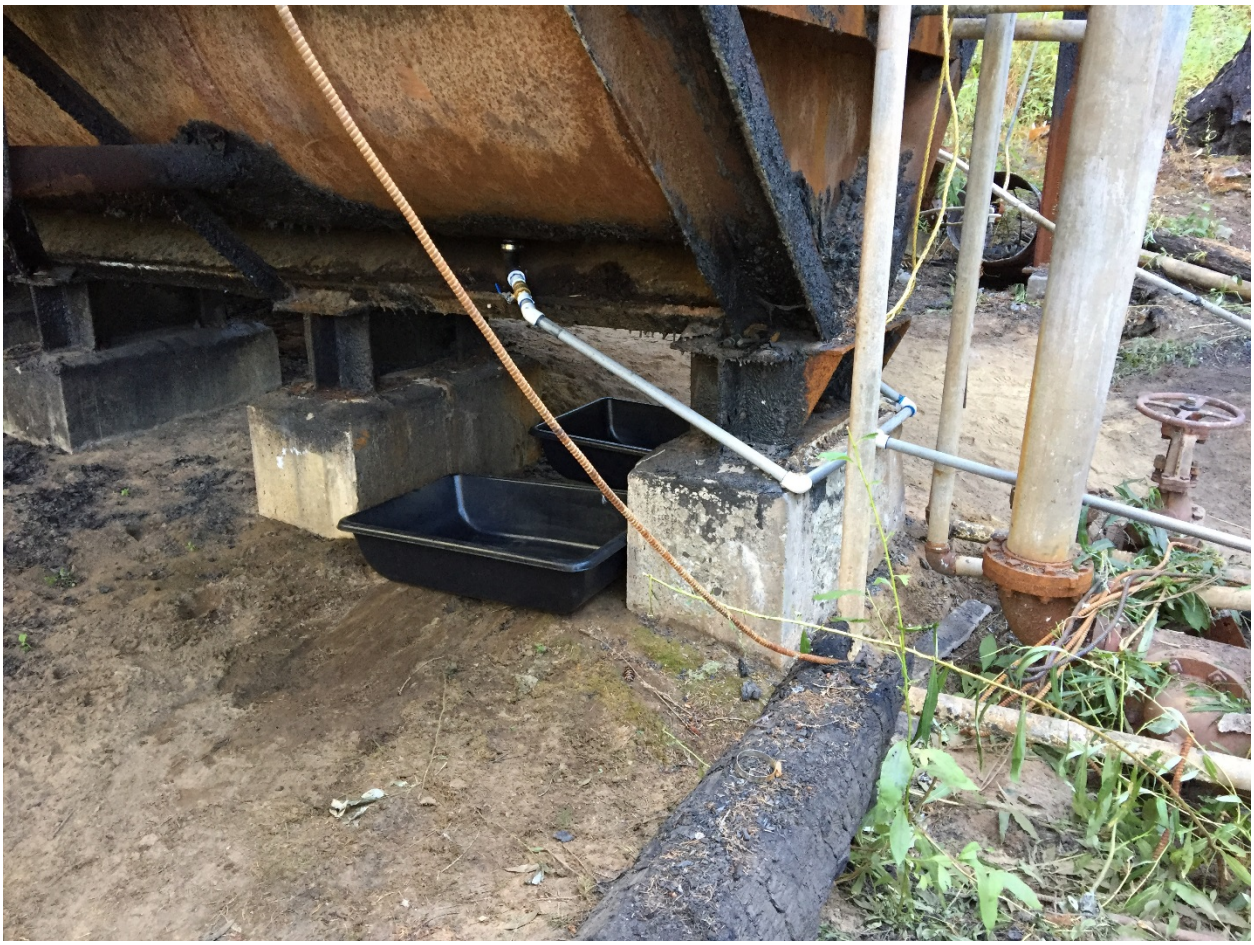

Figure 10 - Ladder Creek Settling Tank; Discharge Apparatus After Tank Cleaning