

**United States Environmental Protection Agency
Region IV
POLLUTION REPORT**

Date: Wednesday, March 14, 2007

From: Alyssa Hughes

Subject: Begin Sheet Piling Installation

American Creosote

S. Church and Railroad Ave intersection, Louisville, MS

Latitude: 33.1073960

Longitude: -89.0568070

POLREP No.:	6	Site #:	04F2
Reporting Period:	3/5/07 - 3/14/07	D.O. #:	0207-F4-0029
Start Date:	12/4/2006	Response Authority:	CERCLA
Mob Date:	8/13/2005	Response Type:	Time-Critical
Demob Date:		NPL Status:	NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:	MSD004006995	Contract #	68-S4-02-06
RCRIS ID #:			

Site Description

The American Creosote site is an NPL site currently in the feasibility study phase of RI/FS stage. Following the emergency response in August of 2005, the On-Scene Coordinator noted that the removal program has the authority to respond to the presence of creosote waste on the Site. The remedial program enlisted the support of the ERRB in order to address the ongoing threat to which they are unable to respond.

Please see Initial Pollution Report for additional information.

Current Activities

The sheet piling operations were anticipated to begin on March 1, but several setbacks delayed the onset of activities. The first practice run was executed to the east of the landfills and to the south of the process area in order to minimize the impact to the source area. During the practice drive, the mandrel/sheet pile configuration met refusal at approximately 15 feet. The operation was then relocated to the beginning of the wall. Several setbacks were encountered during the first several days of this reporting period, please see the Key Issues section for more details.

Several mixes of bentonite slurry were visually tested for viscosity in order to determine the appropriate ratio to pump through the system as the mandrel is lifted and the sheet pile left in place. The final solution consists of a 12:1 ratio of water to bentonite. As previously stated, this mix is being pumped behind the sheet pile in the void created by the mandrel as it lifts in order to prevent any possible verticle migration of free phase product.

The process currently utilizes two 600-gallon water tanks. Approximately half of a tank is required for driving one sheet pile section. This hindrance has significantly slowed the operation as a whole. In order to abate the issue, two additional water tanks and approximately 1000 feet of hose were acquired and incorporated into the system. Please see the Key Issues section for more details.

As of close of day on March 13, a total of 60 sheets have been installed, for a total length of 120 feet. The depth of the sheet piles ranges from approximately 15 to 17 feet. This is significantly less than anticipated due to the resistance of the clay layer being encountered in that range. Please see the Key Issues Section for more information.

Planned Removal Actions

The containment of the source at the former lagoon area will consist of installation of a barrier system, PVC sheet piling, between the creek and the source area in order to mitigate the ongoing release into the creek. The total length of the sheet pile wall is approximately 1000 linear feet. It begins approximately 200 feet east of Hughes Creek, parallel to Baremore Street, and then will extend 800 feet along the banks of Hughes Creek and the unnamed tributary to the north and northeast.

Once the seepage from the source is controlled; removal, treatment and disposal of creosote contaminated soils and sediments in the wood chip pile area and Hughes Creek may be addressed.

Next Steps

Attempts will be made to continue to reduce the cycle time for installation of the piles. The goal is to achieve a cycle time of 15 minutes per pile, which would yield 4 piles per hour, and approximately 32 per day, for a length of 64 feet per day.

Key Issues

Equipment Failure

During the first several days of intended operation, numerous pieces of equipment failed due to various problems. The vibratory hammer malfunctioned after performing during the test run. A technician had to report to the Site and replace a part in order for the hammer to become operable again. Once repaired, the hammer was put to use, but it was determined that the size was not adequate enough to drive the pile/mandrel configuration to the desired depth. Therefore, the power unit behind the vibratory hammer was replaced with a stronger unit. Once the procedure began, a hydraulic line on the crane was severed and had to be replaced. On another occasion, the forklift being used to move the sheet piles and water tanks would not start. A mechanic was required to repair the equipment and resume operations. These hardships significantly impeded the progress during the first several days of sheet piling driving.

Water System

Two 600 gallon water tanks were initially being used to supply the water for the lubrication between the PVC sheet pile and the mandrel during installation. A substantial amount of time was required to fill the tanks in the process area and transport them to the source area. Therefore, the process was refined to include two additional tanks and 1000 feet of hose. The hose carries the water from the process area to the eastern most point of the constructed road for easy accessibility once one of the tanks empties. The tanks are now configured in sequence and refilled from the hose when required.

Water to Bentonite Transition

The next key issue which hindered the maximum effectiveness of the process was the transition from water to bentonite mix once the sheet pile is in place. Initially, the method consisted of swapping the hose carrying the water with the hose into the bentonite mix at the location of the pump. This was a cumbersome activity that consumed valuable minutes. In order to resolve this constraint, the ERRS contractor developed a pump and valve system in which no hoses would have to be switched. This strategy is now being utilized and has effectively reduced the cycle time.

Drive Depth

As previously stated, the confining layer is actually being encountered at depths much less than the anticipated 28 to 30 foot range. Originally, it was decided that the sheet piles would be driven through this confining layer discovered at 12 to 20 feet and tied into subsequent clay layer at 30 feet. This arrangement resulted in the development of the bentonite slurry reinforcing the system from behind and prohibiting the vertical movement through any potential voids. The confining layer discovered is leading to refusal of the mandrel/sheet pile configuration, so the piles are being left in place at approximately 15 to 17 feet. The piles are then being cut off from the top. As the operation continues to progress towards the areas of greatest concern, the drive depth should continue to increase. The most critical factor is tying each pile into the confining layer, which is guaranteed by the refusal of the vibratory hammer.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$850,000.00	\$539,225.00	\$310,775.00	36.56%
START	\$100,000.00	\$33,000.00	\$67,000.00	67.00%
Intramural Costs				
Total Site Costs	\$950,000.00	\$572,225.00	\$377,775.00	39.77%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

response.epa.gov/AmericanCreosote

POLREP #6 Last Updated 3/15/2007