

United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Tuesday, November 17, 2009

From: Stephen Ball

Subject: Excavation Activities Proceed
Forshaw Chemical Site
605 State St., Charlotte, NC
Latitude: 35.2405000
Longitude: -80.8702000

POLREP No.:	3	Site #:	A4PA
Reporting Period:		D.O. #:	
Start Date:	10/19/2009	Response Authority:	CERCLA
Mob Date:		Response Type:	Time-Critical
Demob Date:		NPL Status:	Non NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:	NCN000409865	Contract #	
RCRIS ID #:			

Site Description

The Forshaw Chemical site is approximately 5.25 acres in size and includes two former pentachlorophenol (PCP) formulating buildings, an office building, and a warehouse. The site is located in a mixed industrial/residential area. A municipal park and elementary school are located on the opposite bank of Stewart Creek, just downstream of the site.

Forshaw Chemical began formulating PCP in 1971 up until December 2003, when Forshaw Chemical ceased all PCP production operations. Currently, the property serves as a distribution center only. The original PCP manufacturing building is currently used for storage of Buckshot, a herbicide. This building is rundown and accessible to the public.

During the March 2005 SI for Clorox Chemical, two surface soil samples were collected along the west side of the original PCP formulating building, adjacent to the loading dock area. Analytical results for indicated the presence of PCP at a concentration of 250,000 micrograms per kilogram ($\mu\text{g/kg}$).

In addition to the soil samples, a duplicate set of surface water and sediment samples were collected at the probable point of entry (PPE). PCP was detected in the surface water at an average concentration of 160 micrograms per liter ($\mu\text{g/L}$) and in the sediment at a concentration as high as 900 $\mu\text{g/kg}$.

On October 4, 2005, the North Carolina Superfund Section personnel conducted an on-site/off-site reconnaissance for the Clorox Chemical site. According to an employee of Forshaw Chemical, the City of Charlotte's stormwater system captures runoff upgradient of the Forshaw Chemical property. Forshaw Chemical's stormwater system ties into the City of Charlotte's system on the site, immediately downgradient of the former PCP manufacturing buildings. All stormwater that runs through the Forshaw Chemical property is piped directly into Stewart Creek, Stewart Creek, as well as the entire 15-mile surface water pathway for the site, is considered a fishery.

Based on the potential surface water pathway receptors, the North Carolina Superfund Section proceeded with an ESI for the Clorox Chemical site. On December 5–6, 2005 and January 25, 2006, the North Carolina Superfund Section personnel conducted an ESI sampling event at Clorox Chemical. A total of five soil samples from the overland flow pathway from Forshaw Chemical and immediately upgradient of their stormwater system were collected during the December 2005 ESI sampling event. In addition, a total of six surface water and six sediment samples from the January 2006 ESI sampling event pertain to Forshaw Chemical and its impact upon Stewart Creek.

Since there has been an observed release of PCP to the on-site soils and Stewart Creek, and the potential for soil exposure to the neighboring community, the North Carolina Superfund Section recommended that Forshaw Chemical be added to the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). The site was added to CERCLIS on April 3, 2006. A Preliminary

Assessment (PA) was completed for the site and approved by EPA on April 3, 2006.

On June 6 2007, US EPA arrived on site to collect analytical samples from around the Forshaw Facility. Sample locations focused on the potential pathways of contaminant release offsite. A site reconnaissance was performed to locate the storm water pipe system to help determine sample locations. Samples were collected from sediment/soil located within the storm water pipes, sediment from the lagoon, and sediment/water from the adjacent creek. Samples were brought to the laboratory and analyzed for Dioxins, PCP, Pesticides and Arsenic. Analytical results from the sampling event were reviewed and validated by a TN&A senior chemist. Results showed contaminants above the Region 9 industrial and residential standards for Pentachlorophenol, arsenic, and several dioxin compounds. These results indicated contamination potentially leaving the site. US EPA held a conference call on August 6th to discuss the results with NCDENR, and the EPA. EPA's toxicologist Scott Sudweeks participated in the conference call to discuss future actions. It was decided that further action was necessary to determine the risk to public health outside of the chemical facilities boundaries. Subsequently, EPA entered into discussions with the PRP as to the path forward.

On August 17, 2009 Forshaw Chemicals and EPA came to agreement on a clean-up strategy and Forshaw Chemicals entered into an Administrative Order on Consent (AOC) with EPA. Forshaw hired Hart and Hickman as their environmental contractor and produced a work plan for the clean-up scope. The plan includes installing a seamless pipe at the impacted portion of the stormwater conveyance system to prevent contamination from migrating into the pipe and ultimately into Stewart Creek. In addition, on site source areas of PCP and Dioxins will be excavated and placed into a biological treatment cell on site. Forshaw will then bioremediate those soils within the treatment cell. If bioremediation efforts fail Forshaw has agreed to dispose of contaminated soils off site at an appropriate disposal facility.

Current Activities

During the week of October 26, 2009 excavation activities began. First, the remaining overburden was removed. Then excavation of contaminated soils in Area 1 commenced. Discolored, black soils with an odor were encountered soon after excavation activities began. A PID was used to monitor air concentrations and no levels of concern were encountered. All excavated soils were placed into the treatment cell on site. A decon pad was built and a 20,000 gallon frac tank was brought on site to handle any rain water accumulations during the excavation. All water will be pumped into the frac tank and sampled prior to disposal or discharge.

On Thursday ,October 29, 2009 a sewage pipe was encountered. The subcontractor, Belfor, attempted to dig around it, but the brittle, clay pipe crumbled. The pipe was not under pressure but some sewage flow was observed. A makeshift ditch was constructed out of visqueen and dirt to allow the sewage to flow through the excavation (over visqueen) and out the other end of the pipe without contacting contaminated soils while preparations were made to repair it. Later a pipe was placed in the area to allow sewage to flow through it while awaiting a final repair. On November 5, 2009 a 61 foot section of clay sewer pipe was permanently replaced with a 12 inch steel pipe.

Area 1 was initially excavated to approximately a 60 foot long by 30 foot wide hole that was 10 feet deep. Confirmation samples were taken from each of the sides and the bottom to determine if clean-up goals had been met. Results indicated that the south, east, west, and bottom had met clean-up goals for PCP. Dioxin results are pending, however the north wall will have additional soils removed to meet clean-up goals.

During the week of November 9, 2009, Excavation activities began in area 2. Area 2 is a small area approximately 20 feet by 20 feet around a catch basin. All soils excavated in area 2 were placed in the treatment cell. During soil excavation activities at area 2, a buried oil water separator (OWS) was discovered. Soils in the OWS were excavated and included in the treatment cell. The OWS was filled with concrete and abandoned in place. Five confirmation samples were collected from the area 2 excavation side walls and bottom. Results for PCP and Dioxins indicated clean-up goals, which are specified in the removal action work plan, were achieved and area 2 was backfilled with clean soil.

Per the work plan, the storm sewer from the excavation areas to the junction box near Stewart Creek was flushed during the week as well. The junction box was bermed with sand bags and visqueen to prevent any water from discharging to the creek. All water was collected and pumped into the frac tank for sampling prior to disposal. During the flushing a noticeable odor was present, but PID readings did not indicate any levels of concern. The odor persisted days after the flushing, so the pipe will be flushed again prior to completion of the removal action.

Planned Removal Actions

- Receive confirmation samples.
- Backfill area 1 excavation.
- Conduct restoration activities at excavation areas.
- Conduct treatability study for soil bioremediation.
- Add nutrients to contaminated soil and begin bioremediation process or identify other remediation alternatives.

Key Issues

NC DENR cleanup requirements are more stringent than EPA requirements for the site.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
RST/START	\$29,681.00	\$13,000.00	\$16,681.00	56.20%
Intramural Costs				
Total Site Costs	\$29,681.00	\$13,000.00	\$16,681.00	56.20%

* 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/Forshaw_Chemical

POLREP #3 Last Updated 11/25/2009