United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Monday, October 26, 2009
From: Stephen Ball

Subject: Initiation of Removal Action
Forshaw Chemical Site
605 State St., Charlotte, NC
Latitude: 35.2405000
Longitude: -80.8702000

POLREP No.:	2	**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 (µg/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 (µg/L) and in the sediment at a concentration as high as 900 µg/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

On October 19, 2009 Hart and Hickman mobilized to the site to begin construction of the treatment cell. The cell will be four feet deep and will have a one foot berm around the top. A 20 mil polyethelyne reinforced liner will be placed in the cell. Two feet of sand will be placed on top of the liner and then another sheet of the liner material will cover the sand. This double walled liner will ensure no breakthrough of the treatment cell occurs during bioremediation activities. Initial cell construction was completed by the end of the week. The cell will be expanded based on soil volume produced during the contaminated soil dig.

Towards the end of the week demolition of the overburden at the contaminated soil area began. The brick wall was taken down and concrete was broken up and removed to prepare for excavation activities the following week. The EPA OSC, START and NCDENR provided oversight of the PRP during this week of operation.

Planned Removal Actions

-Begin excavation activities to remove contaminated soil.
-Install seamless stormwater conveyance pipe.
-Take confirmation samples in excavation area.
-Conduct restoration activities at excavation area.
-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.

response.epa.gov/Forshaw_Chemical