

United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Tuesday, October 23, 2007
From: Jose Negron & Alyssa Hughes

To: Matt Taylor, USEPA R4 ERRB Richard Ball, MS DEQ
Shelby Johnston, EPA

Subject: Initial POLREP - Removal Site Evaluation
Southeastern Wood Preserving
Covington Drive and Hargon Street, Canton, MS
Latitude: 32.6181000
Longitude: -90.0161000

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|--------------------------|----------------------------|--------------------|
| POLREP No.: | 1 Site #: | 041L |
| Reporting Period: | D.O. #: | |
| Start Date: | Response Authority: | CERCLA |
| Mob Date: | Response Type: | Time-Critical |
| Demob Date: | NPL Status: | Non NPL |
| Completion Date: | Incident Category: | Removal Assessment |
| CERCLIS ID #: | Contract # | |
| RCRIS ID #: | | |

Site Description

BACKGROUND

The Southeastern Wood Preserving Site is an abandoned wood preservation plant facility which operated from 1928 until it filed for bankruptcy in early 1979. The Site covers approximately 20 acres and is located in a predominantly commercial/residential area just east of downtown Canton, Madison County, Mississippi. Batchelor Creek and Illinois Central Gulf Railroad border the Site to the north. The railroad is no longer operational. The City of Canton's drinking water well field lies just south of the Site. An abandoned industrial area lies to the east and a residential area borders the Site to the west.

The production process involved debarking of the Southern Yellow Pine timbers and placing them in retort cylinders for drying and pressure treatment using creosote and pentachlorophenol as preservatives. Prior to 1977 and the Clean Water Act, the facility reportedly discharged approximately 50,000 gallons of wastewater directly into Batchelor Creek. In May of 1977, the company was hooked into the City of Canton sewage system. The wastewaters were to be pre-treated prior to discharge into the City lagoons. On several occasions the City ordered the facility to cease discharge due to failure to adequately treat the wastewaters.

Batchelor Creek flows through a City park approximately 1 mile downstream from the Site, passes through a residential area and then continues through downtown Canton before leading into the Big Black River approximately 10-12 miles downstream. There is evidence of fishing and recreational usage in the Big Black River.

PREVIOUS ACTIONS

The Site has a long history of EPA involvement. The Emergency Response and Removal Branch (ERRB) of the EPA initiated an emergency response in early 1986 in order to stabilize three unlined surface impoundments that were overflowing on-site. Each impoundment contained creosote sludge and waters. The response action consisted of pumping 30,000 gallons of water from flooded areas of the Site, treating it, and discharging it into Bachelor Creek. Subsequent to this response, it was evident that the Site would be referred to ERRB for a removal action.

The initial Action Memo was signed in May 1986. It requested that site activities be addressed and funded in two phases. The scope of the first phase consisted of excavating and stockpiling hazardous waste on-site. The contaminated soils and sludges in the vicinity of the former lagoons were stabilized with lime kiln dust, placed in a stockpile and fenced. The second phase of the action was to consist of on-site treatment or off-site disposal of the material, but this action was delayed for several years.

In 1988 the Soil Conservation Service (SCS) contacted EPA after observing oily waste leaching into the Creek from the Southeastern Wood Preserving Site. SCS had designed a soil erosion prevention plan that called for excavating and widening Bachelor Creek. Through an Interagency Agreement, SCS contributed \$190,000 towards the excavation work. The Creek was widened according to Plan and a geofabric liner was placed in the bed of the Creek. The bed and the banks were then covered with rip rap in order to prevent erosion.

An exemption from the twelve-month statutory limit and ceiling increase as approved in August of 1989 in order to address the second phase of the removal action. A composite sample from the waste pile indicated a PAH concentration of 5016 ppm and a phenol concentration of 62 ppm. The 8000 cubic yard on-site stockpile was to be treated through bioremediation landfarming techniques. A ceiling increase and \$2 million exemption was approved in 1990 once proposals were received. The RCRA Land Ban treatment standards and air emission standards required a slurry phase treatment due to the health based risk associated with the Site's surrounding residential/commercial areas. The removal action required the treatment of the contaminated soil to the K001 waste code Land Disposal Requirements (LDR) standards. The contractor proposed to utilize a batch bioremediation process consisting of screening, mixing with water, slurrying in two parallel biological slurry reactors (BSRs), and final treatment and drying in a double lined land treatment unit (LTU).

In 1992 An Amendment to Removal Action Memoranda Requesting a Treatability Variance was approved. After several failed attempts to reach the K001 LDR Standards with the bioremediation technique, it became apparent that a treatability variance would be necessary. The clean-up levels for phenanthrene and pyrene were adjusted without compromising the goals of the Removal Action by maintaining concentration of total PAHs below 100 ppm.

On February 26, 2003, representatives from the EPA and the Mississippi Department of Environmental Quality (MDEQ) met at the Site for a reconnaissance. During the reconnaissance the non effective treated soil was observed. It was noted that the pile had sunken over the years and could possibly be leaking into Bachelor Creek.

Current Activities

REMOVAL SITE EVALUATION

On June 6, 2007 On-Scene Coordinator Hughes visited the Site to perform a Removal Site Evaluation after the Site was referred to the Branch from the MDEQ. The OSC met the State representative on-site in order to characterize the layout of the Site and address the needs to fully perform the Removal Site Evaluation. It was a hot and humid day. The temperature mobilized the creosote present in the bed of Bachelor Creek enabling observation of releases downstream. Please see the photos in the Images Section.

On September 18, 2007 OSCs Hughes and Negron met with representatives from EPA's Science and Ecosystem Support Division in order to perform several borings in the area between the stockpile, the former lagoon and the Creek. The stream invert adjacent to location A0 was surveyed and found to lay approximately 14 feet below ground surface at the borehole location. The stream has a mild gradient as it flows west and is estimated to drop less than 5 feet.

Continuous soils cores were collected using Direct Push Technology (DPT). A total of 15 borings were conducted with a GeoProbe D60. The goal of the borings was to characterize the subsurface geology, note the presence of any odor and/or free phase product, and determine the continuity of any confining layer. Please see the Documents Section for reference to the soil boring Logs.

The GeoProbing indicated the presence of two sand and/or gravel lenses at 12 and 16 feet which may, over time, have contributed to the deposition of creosote in the Creek. The lenses were not evident throughout all of the holes, but where present they were accompanied by a strong odor and/or creosote staining. The creosote did not appear to be mobile, perhaps due to the temperature at the time of sampling. Eight of the boreholes demonstrated detectable odors from approximately 4 to 20 feet. Five of the boreholes indicated the presence of product, either embedded in woody fibrous material, or traveling through a sandy lens. All of the borings were taken on a line in order to facilitate interpolation of subsurface materials, with the exception of one, which was drilled just north of the fence encompassing the stockpile. This borehole displayed evidence of creosote at several intervals (3, 4-8 and 20 feet).

In one area, through the borehole at G0 to G0-A towards the stockpile apparent free-phase creosote product exists at a level in permeable material that indicates that it could potentially flow from the stockpile area into the banks of the Creek. Although the results of the boring and observation of the cores indicated

the presence of creosote in the subsurface, they did not adequately define the means by which the creosote migrates from the subsurface into the Creek. Given the heterogeneity of the soil materials at the Site, the situation between borings G0 and G0-A could exist elsewhere.

The year to date rainfall for the state of Mississippi up to September 2007 is 32 inches, 12 inches below the average. If this general data applies to the Canton area, there may be less active mobilization of contamination than in past years.

Planned Removal Actions

RECOMMENDATION

Creosote is a complex mixture of hydrocarbons consisting of 85-96 percent polynuclear aromatic hydrocarbons (PAHs) and 5-15 percent phenolics. PAHs are hazardous substances as defined by section 101(14) of the CERCLA and RCRA characteristic definitions. CERCLA contaminants, if released from the Site, have the capability of presenting a potential hazard to the general public. The threats come primarily from human exposure to these hazardous substances in the soil and/or sediments, and migration of these contaminants downstream. Direct contact, ingestion, and inhalation of creosote and/or creosote contaminated media are the primary pathways of exposure.

Site conditions meet the requirements for initiating a time-critical removal action according to criteria listed in Section 300.415 (b)(2) of the NCP:

300.415(b)(2)(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

The creosote contaminated stockpile remains on-Site. Access to this material is prevented by a fence, but there is the potential for trespassers to become exposed to this material.

The presence of creosote in the Creek causes an actual exposure potential to nearby human populations, animals and the food chain. The residential area bordering the Site places people in the vicinity of the Creek, which is fully accessible at all points. The possibility for contaminants to migrate downstream increases the potential for exposure due to the presence of the City Park less than 1 mile downstream. Animals, and subsequently the food chain, are being exposed to the contaminants in the Creek.

300.415(b)(2)(ii) Action or potential contamination of drinking water supplies or sensitive ecosystems;

The City well fields are approximately 100 feet South of the facility. As evidenced in the borings, there is a potential for the contaminants to migrate through the fractures in the Yazoo clay and eventually deposit into the groundwater aquifer. There are also 12 private drinking wells within 3 miles of the Site at a much shallower well depth than the municipal wells. The DNAPL has the potential to travel along the confining layer and into the screening level of these private wells.

300.415(b)(2)(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

The creosote contaminated material in the on-Site stockpile has a potential to migrate. The stockpile was placed without lining or cover, and there is evidence that the contaminants are migrating into the creek.

300.415(b)(2)(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Release into the Creek is evidenced by observations, and rains may enhance the potential for release further downstream by increasing flowrate. The elements (rain and/or wind) enable the deposition into the Creek via sheetflow. Warmer temperatures also increase the mobility of the DNAPL through the subsurface.

Due to the threat and/or future threat to human health from the hazardous substances, the Site achieves removal eligibility based on some or all of the removal criteria in 40 CFR 300.415(b)(2).

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