Introduction

A Proposed Plan has been released that presents alternative remedial actions considered to address contamination in Operable Unit 1 (OU1, residential properties) and Operable Unit 2 (OU2, non-residential properties) at the Anniston PCB Superfund Site (the Site). Operable Unit 3 (OU3, the former Monsanto facility and adjacent landfills) was addressed in a separate Proposed Plan and Record of Decision in 2010 and 2011. Operable Unit 4 (OU4, Choccolocco Creek and its floodplain) will be addressed in a future Proposed Plan.

The public is invited to review and comment on the Proposed Plan. At the request of the Site’s Community Advisory Group, the normal 30-day comment period has been extended to 60-days. The comment period begins March 13, 2017 and ends on May 12, 2017. At the end of the comment period, the EPA will consider and respond to all relevant comments received. The EPA may then select the Preferred Alternative, modify it, select another alternative, or develop new alternatives if public comments warrant or if new information is presented. That selection will be presented in a written Record of Decision.

The Proposed Plan for OU1/OU2 of the Anniston PCB Site includes alternatives for eight (8) different types of properties or contamination found in the Snow Creek floodplain or around the former Monsanto facility. The eight (8) categories of properties or contamination are: residential soil; soil on special use properties (i.e., schools, churches, day-care centers, community centers, playgrounds, and parks), soil on properties where interim measures have already been implemented; Dredge Spoil Piles along Snow Creek that contain sediment from the creek; unapproved waste disposal areas where auto fluff and other materials have been disposed in residential and non-residential areas; non-residential soil in commercial industrial and other non-residential areas; soil and groundwater at T-11 (a groundwater investigation well installed in a non-residential area); and Snow Creek sediment and creek banks.

THIS FACT SHEET was prepared to discuss the results of the investigation and alternatives evaluated for DREDGE SPOIL PILES along Snow Creek that contain sediment from the creek. The complete Proposed Plan, the Proposed Plan Fact Sheet, and fact sheets for the other seven (7) categories of alternatives are available for review at the information repositories for the Site:

Calhoun County Public Library

Main Branch
East 10th Street, Anniston, AL
Hours: Mon-Thu 8:30am to 6:00 pm; Fri 8:30am to 5:00pm; Saturday 10:00am to 5:00pm; Sunday 1:00pm to 5:00pm.

Carver Branch
West 14th Street, Anniston, AL
Hours: call (256)237-7271.

Information can also be requested from:

Pam Scully
U.S.EPA Region 4
61 Forsyth Street, SW
Atlanta. Georgia 30303
scully.pam@epa.gov
(404) 562-8935

Site Background

Eastman Chemical Company is the current owner of a chemical plant in Anniston, Alabama, formerly owned and operated by the
Monsanto Chemical Company. PCBs and other chemicals were manufactured at the facility from 1929 through 1971. Solutia Inc., a wholly owned subsidiary of Eastman Chemical, currently produces polyphenyl compounds and phosphate ester-based non-flammable hydraulic fluids at the facility.

Surface water containing PCBs from the facility and adjacent landfills discharged to a ditch which flowed into local and downstream waterways. Sediments in waterways leading away from the area, as well as, soil in the floodplains of these waterways, were investigated to assess the levels of PCBs and other contaminants present. Areas outside of the floodplains were also investigated because the distribution of PCBs may have also occurred through the air pathway and through the use of contaminated soil as fill.

Operations at the facility are regulated by environmental laws implemented by the EPA and the Alabama Department of Environmental Management (ADEM). In 2000, the EPA began taking response actions under the Superfund Program to address residential exposure to PCBs released from the facility. In 2003, a Partial Consent Decree was entered by the Northern District Court of Alabama that allowed for continued removal actions and remedial investigations and feasibility studies to determine what long-term actions are necessary to protect human health and the environment from PCBs and other contaminants found during the investigations.

A long-term remedy has been implemented at the former Monsanto facility and adjacent landfills (OU3). A Proposed Plan has been released that describes the proposed long-term remedy for residential and non-residential areas (OU1/OU2) around the facility and downstream along the Snow Creek drainage way.

**Site Characteristics**

The OU1/OU2 covers approximately 813 acres in Anniston, Hobson City, Oxford, and Calhoun County, Alabama. Surface and subsurface soil, sediment, groundwater, surface water, and air were all investigated for PCB contamination. Other contaminants were investigated to a lesser extent to help assess risk.

Although residences and businesses in the study area are on municipal water supplies for their potable water needs, groundwater resources are potential drinking water sources in the State of Alabama that must be restored for possible future use. Groundwater was primarily evaluated in the investigation of OU3 and qualitatively evaluated for again in OU1/OU2.

Ecological receptors of contaminants in sediment and surface water were evaluated, but terrestrial receptors were not. Terrestrial areas were determined to be extremely disturbed and offered limited suitable habitat. A more complete and complex baseline assessment of ecological risk is being conducted for the down-gradient waterway, Choccolocco Creek (OU4), which is located in a more rural, less developed setting.

**Sources of PCBs**

In the United States, Monsanto Chemical Company was the only manufacturer of PCBs. Other companies purchased the PCBs and used them in dielectric and coolant fluids in electrical equipment, fluids for machining operations, heat transfer fluids, and in a number of consumer products. Monsanto manufactured PCBs at two locations: Sauget, Illinois, and Anniston, Alabama.

The EPA determined that the majority of the PCBs released into the environment at the Anniston PCB Site are from the former Monsanto PCB manufacturing operation.

The EPA further determined that other industrial operations in the area may have contributed a less significant amount of PCB contamination to the same environmental receptors. The EPA signed a "de minimus" settlement agreement with eleven industrial parties for the cleanup of PCBs that were co-located with high concentrations of lead contamination in residential soil that the eleven industrial parties were cleaning up. Any residual PCBs on properties cleaned up by the eleven industrial parties remain as part of the Anniston PCB Site and are part of OU1/OU2.
What are the Dredge Spoil Piles, and Where are they Located?

Dredging activities previously performed in Snow Creek by the City of Anniston resulted in a series of Dredge Spoil Piles being placed along the nearby banks of the creek. Four (4) of eight (8) piles have been removed. Sampling results and the status of the remaining four (4) piles were evaluated in the remedial investigation and feasibility study, and they are discussed in more detail in the Proposed Plan.

Figure 1. Location of Dredge Spoil Piles SC-1 and SC-2, and former piles SC-3, SC-4, SC-5, and SC-6.
Figure 2. Location of Dredge Spoil Piles SC-7 and SC-8.
How People Can Be Exposed

Commercial/industrial workers, visitors and trespassers may be exposed to contaminants in Dredge Spoil Piles by:

- unprotected skin contact with contaminated soil in the piles;
- inadvertently eating contaminated soil that has not been removed from hands; and
- breathing in contaminated dust when contaminated soil is disturbed.

Construction and utility workers may be exposed to PCBs in subsurface soil through similar mechanisms.

Assessing Risks to Human Health

Cancer risks and hazards quotients are used to identify risk to human health. They are determined by the estimated concentration of the contaminants, standard exposure parameters, and chemical-specific toxicity values.

For cancer, the EPA has defined the acceptable risk within a range from 1 additional cancer in 1,000,000 exposed individuals ($1 \times 10^{-6}$) to 1 in 10,000 exposed individuals ($1 \times 10^{-4}$). Calculated risks that are above the upper limit of this cancer risk range ($1 \times 10^{-4}$) are evaluated further to determine the need for remediation.

For non-cancer effects, the EPA calculates a value known as a hazard quotient. The sum of the quotients from multiple pathways is known as the hazard index (HI). If the cumulative HI is $< 1$, remedial action is generally not needed to protect human health.

The soil in the Dredge Spoil Piles is considered non-residential soil. Since PCB concentrations in non-residential soil exceeded either the upper limit of the cancer risk range ($1 \times 10^{-4}$) or the non-cancer effects cumulative HI of 1, further evaluation is required to determine the need for remediation.

Non-PCB contaminants in surface soil exceeded the EPA target cancer and noncancer risk thresholds, largely driven by the concentration for benzo(a)pyrene equivalents (BaPE), chromium, and dioxins (PCDD/DFs). Arsenic concentrations also contribute to the OU-wide risks.

Remedial Action Objectives

Remedial action objectives provide a general description of what a cleanup will accomplish. Three (3) remedial action objectives were established for Dredge Spoil Piles:

- Reduce risks to industrial and commercial workers, commercial visitors, and trespassers associated with direct contact with, inhalation of, or incidental ingestion of contaminants of concern from surface soil to levels that are protective.
- Reduce risks to construction and utility workers from direct contact with, inhalation of, or incidental ingestion of contaminants of concern from surface and subsurface soil to levels that are protective.
- Prevent migration of contaminants of concern from surface soil to surface water and sediment to levels that are protective.

Preliminary Remedial Goals

To achieve the remedial action objectives identified above, preliminary remedial goals (PRGs) were established based on the human health risk assessments. Again, the Dredge Spoil Piles are considered non-residential soil. Two non-residential goals for PCBs in surface soil were evaluated in the feasibility study: 21 milligram per kilogram (mg/kg) or parts per million (ppm) and 9 mg/kg. The PCB subsurface goal of 97 mg/kg is protective of construction and utility workers.

For Non-PCB contaminant concentrations, arsenic less than 382 mg/kg, chromium less than 568 mg/kg, PAHs (as BaPE) less than 21 mg/kg and dioxins toxic equivalency quotient (TEQ) less than 0.73 micrograms per kilogram (µg/kg) are protective in surface soil. For subsurface soil, arsenic concentrations less than 596 mg/kg are protective, chromium concentrations less than 6,936 mg/kg are protective, PAHs (as BaPE) concentrations less than 534 mg/kg are protective and dioxins (TEQ) less than 0.73 µg/kg are protective.
Dredge Spoil Piles Alternatives

Five alternatives, including the required no action alternative, were developed to address the PCB contamination in the Dredge Spoil Piles. Table 1 summarizes the similarities and differences between the alternatives.

Table 1. Comparison of Remedial Alternatives for Dredge Spoil Piles

<table>
<thead>
<tr>
<th>Considerations:</th>
<th>DSP-1 No Action</th>
<th>DSP-2 Excavate to Non-Residential Goal and Offsite Disposal</th>
<th>DSP-3 Excavate to Non-Residential Goal and Onsite Disposal</th>
<th>DSP-4 Excavate All Dredge Spoil Piles and Offsite Disposal</th>
<th>DSP-5 Excavate All Dredge Spoil Piles and Onsite Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covers</td>
<td>None.</td>
<td>None.</td>
<td>None.</td>
<td>None.</td>
<td>None.</td>
</tr>
<tr>
<td>Exceptions</td>
<td>None.</td>
<td>Allowance for modifications in or near railroad easement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relocation</td>
<td>None.</td>
<td>No temporary or permanent relocation required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposal</td>
<td>None.</td>
<td>Offsite disposal.</td>
<td>Offsite disposal (Offsite disposal only if PCBs ≥ 50 mg/kg detected).</td>
<td>Offsite disposal.</td>
<td>Offsite disposal (Offsite disposal only if PCBs ≥ 50 mg/kg detected).</td>
</tr>
<tr>
<td>Treatment</td>
<td>None.</td>
<td>None; concentrations too low to justify.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-vegetation</td>
<td>None.</td>
<td>Re-vegetate as needed to prevent erosion and match existing land use.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Controls</td>
<td>None.</td>
<td>Remaining spoil piles will be treated as part of the non-residential property where they are located.</td>
<td></td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>Monitoring and Maintenance</td>
<td>None.</td>
<td>Remaining spoil piles will be treated as part of the non-residential property where they are located.</td>
<td></td>
<td></td>
<td>None.</td>
</tr>
<tr>
<td>Cost Estimate</td>
<td>$ 0</td>
<td>$ 900,000</td>
<td>$ 500,000</td>
<td>$ 1,400,000</td>
<td>$ 700,000</td>
</tr>
<tr>
<td>Timeframe</td>
<td>None.</td>
<td>One month to implement.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Evaluation of Dredge Spoil Piles Alternatives

The remedial alternatives for Dredge Spoil Piles were evaluated in detail against seven of nine evaluation criteria mandated by the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The nine criteria fall into three groups: threshold, primary balancing, and modifying (Table 2). Each alternative must meet the threshold criteria to move forward. The primary balancing criteria are then used to weigh major differences in alternatives. Modifying criteria (state and public acceptance) are generally considered after comments are received on the Proposed Plan. The EPA has involved the State of Alabama in the selection of the Preferred Alternative as part of the development of the Proposed Plan by seeking and incorporating any comments provided in the Proposed Plan.

Table 2. NCP Evaluation Criteria

<table>
<thead>
<tr>
<th>Threshold Criteria</th>
<th>Overall protection of human health and the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)</td>
</tr>
<tr>
<td>Primary Balancing Criteria</td>
<td>Long-term effectiveness and permanence</td>
</tr>
<tr>
<td></td>
<td>Reduction of toxicity, mobility, or volume (TMV) by treatment</td>
</tr>
<tr>
<td></td>
<td>Short-term effectiveness</td>
</tr>
<tr>
<td></td>
<td>Implementability</td>
</tr>
<tr>
<td></td>
<td>Cost</td>
</tr>
<tr>
<td>Modifying Criteria</td>
<td>State acceptance</td>
</tr>
<tr>
<td></td>
<td>Community acceptance</td>
</tr>
</tbody>
</table>

Table 3 presents the comparative analysis of the Dredge Spoil Piles alternatives against the threshold and primary balancing criteria. In general, alternatives that rely primarily on excavation or removal are more expensive and disruptive, but they offer relatively higher long-term effectiveness and permanence. The complete Proposed Plan and feasibility study provide a detailed summary of the results of the comparison of alternatives.
Table 3. Comparative Analysis of Remedial Alternatives for Soil in Dredge Spoil Piles

<table>
<thead>
<tr>
<th>Alternative ID</th>
<th>Description</th>
<th>Protectiveness</th>
<th>Compliance with ARARs</th>
<th>Long-Term Effectiveness and Permanence</th>
<th>Reduction of Toxicity, Mobility, and/or Volume by Treatment</th>
<th>Short-Term Effectiveness</th>
<th>Implementability</th>
<th>Cost in millions ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSP-1</td>
<td>No Action</td>
<td>Does not protect human health or Snow Creek Sediment.</td>
<td>Not Evaluated Further</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>DSP-2</td>
<td>Excavate to Non-Residential Goal and Offsite Disposal</td>
<td>Provides protection of human health and the environment.</td>
<td>Complies with ARARs.</td>
<td>Effective and permanent over the long term.</td>
<td>Does not include treatment to reduce toxicity, mobility, or volume.</td>
<td>Manageable. Truck traffic more disruptive than DSP-3.</td>
<td>Implementable</td>
<td>0.9</td>
</tr>
<tr>
<td>DSP-3</td>
<td>Excavate to Non-Residential Goal and Onsite Disposal</td>
<td>Provides protection of human health and the environment.</td>
<td>Complies with ARARs.</td>
<td>Effective and permanent over the long term.</td>
<td>Does not include treatment to reduce toxicity, mobility, or volume.</td>
<td>Manageable. Least long distance truck traffic.</td>
<td>Implementable</td>
<td>0.5</td>
</tr>
<tr>
<td>DSP-4</td>
<td>Excavate All Dredge Spoil Piles and Offsite Disposal</td>
<td>Provides protection of human health and the environment.</td>
<td>Complies with ARARs.</td>
<td>Effective and permanent over the long term.</td>
<td>Does not include treatment to reduce toxicity, mobility, or volume.</td>
<td>Manageable. More area disrupted than DSP-2 and DSP-3. Higher level of truck traffic for long distance.</td>
<td>Implementable</td>
<td>1.4</td>
</tr>
<tr>
<td>DSP-5</td>
<td>Excavate All Dredge Spoil Piles and Onsite Disposal</td>
<td>Provides protection of human health and the environment.</td>
<td>Complies with ARARs.</td>
<td>Effective and permanent over the long term.</td>
<td>Does not include treatment, to reduce toxicity, mobility, or volume.</td>
<td>Manageable. More area disrupted than DSP-2 and DSP-3. Highest level of truck traffic for long distance.</td>
<td>Implementable</td>
<td>0.7</td>
</tr>
</tbody>
</table>

ARAR: Applicable or Relevant and Appropriate Requirement
DSP: Dredge Spoil Piles
EPA’s Preferred Alternative

The EPA’s Preferred Alternative is DSP-4, Excavate All Dredge Spoil Piles and Offsite Disposal. The present worth value of this alternative is $1.4 Million. This alternative is being proposed because:

1. Removal of soil to non-residential preliminary remedial goals ensures the commercial/industrial worker, commercial visitor and trespasser human health pathways are protected.

2. Removal of all piles ensures that contaminated soil, which is located adjacent to Snow Creek, does no erode back into the creek.

Institutional controls and five-year reviews would not be needed to ensure the protectiveness of this portion of the remedy for OU1/OU2 because no waste would remain in place.

What is your opinion?

You may provide comments on this fact sheet or the alternatives proposed for any of the other seven (7) categories of remedies described in the Proposed Plan and Proposed Plan Fact Sheet, or any of the documents that the Proposed Plan is based on by May 12, 2017.

We want your input!
Public comment period:
March 13 to May 12, 2017
During the comment period, the EPA is accepting comments on the Proposed Plan, as well as the supporting documents, including the remedial investigation, the feasibility study and draft human health risk assessment. Mail or email comments to:

Pam Scully
U.S.EPA Region 4
61 Forsyth Street, SW
Atlanta. Georgia 30303
scully.pam@epa.gov

Mark your calendars!
The EPA is hosting two public meetings to present the Proposed Plan and accept public comment:

6 p.m.- 8 p.m. Thursday, March 23,
Anniston Meeting Center
1615 Noble St.
Anniston, AL

6 p.m.- 8 p.m. Friday, March 24,
Oxford Civic Center
401 McCullars Lane
Oxford, AL

The EPA will also host a public availability session in conjunction with the Anniston Technical Advisor and Community Advisory Group to help the community understand the Proposed Plan:

10 a.m.- 2 p.m. Saturday, March 25,
Carver Community Center,
720 W 14th St.
Anniston, AL