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 (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 production 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 UNAPPROVED WASTE DISPOSAL AREAS where auto fluff and other materials have been disposed. The complete Proposed Plan, the Proposed Plan Fact Sheet, and Fact Sheet 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-Thur 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 Company, 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 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**

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 downstream 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 Unapproved Waste Disposal Areas?

Two Unapproved Waste Disposal Areas (UWDAs) were found during the course of the investigation. They are substantially auto fluff disposal areas that may also have been impacted by Site-related PCBs from surface water and air pathways. No prior response actions have taken place on these properties. These areas were evaluated separately in the feasibility study.
Figure 2

Legend:

Surface Soil Sample Location
Subsurface Soil Sample Location

Maximum PCP (mg/kg)

PPIN: 18533

Graphical Scale:

0 100 200 Feet

Locations with Minimum PCP Results ≥ 500 mg/kg

Note:
1. Aerial imagery provided by Carton County.
2. The land-use data were estimated based on the existing topography at the site, sample locations, and land use.
3. The locations of sample types are shown in the map.

Anniston PCP Site, OU-1OU-2
Anniston, Alabama
OU-1OU-2 Feasibility Study Report
Candidate Remedial Area For Wilborn I UWDA

4. Candidate Project 2015 and 2016 represent post-inversion sampling areas.

5. Removal of contamination: PCP levels of concern not proposed due to confounding in soil, sample failures, and adjacent areas.

6. mg/kg, ug/l, mg/l, mg/g, ppm, and % for PCP.

7. 505, 535, 115, and 112.

SOX, PHE, and BTEX.

8. Site Remediation.


11. PCM, PHE, and Total VOC.


13. Former PCE and TCE.

How People Can Be Exposed

Commercial/industrial workers, visitors and trespassers may be exposed to contaminants in soil in the Unapproved Waste Disposal Areas 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 ($1 \times 10^{-4}$). 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 Ashley and Legrande UWDA (shown on Figure 1) is located in a mostly residential area and was discovered as part of the residential investigation. No homes are currently located on the properties at Ashley and Legrande. The Wilborn UWDA (shown on Figure 2) was discovered during the non-residential soil investigation and is located adjacent to Snow Creek. PCB concentrations in surface and subsurface soil are of concern to residential and non-residential human health exposure. Therefore, the UWDAs were targeted for cleanup.

Remedial Action Objectives

Remedial action objectives provide a general description of what a cleanup will accomplish. Remedial action objectives were established for soil on UWDAs:

- Reduce risks to residents or commercial/industrial workers and trespassers from activities associated with direct contact with, inhalation of, or incidental ingestion of contaminants of concern from surface 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.
- 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.

Preliminary Remedial Goals

To achieve the remedial action objectives identified above, preliminary remedial goals (PRGs) were established based on the human health risk assessments. The Ashley and Legrande UWDA should be cleaned up so that it is protective of its residential neighbors and the Wilborn UWDA should be cleaned up so that it is protective of the current commercial/industrial exposure occurring adjacent to the site. The residential PCB goal in surface soil is proposed to be 1 milligram per kilogram (mg/kg), and the non-residential PCB goal in surface soil is proposed to be either 21 mg/kg or 9 mg/kg. The PCB subsurface goal of 97 mg/kg is protective of construction workers and utility workers.

For Non-PCB contaminants, 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 µg/kg are protective in surface soil. For subsurface soil, arsenic less than 596 mg/kg, chromium less than 6,936 mg/kg, PAHs (as BaPE) less than 534 mg/kg and dioxins (TEQ) less than 0.73 µg/kg are protective.
Unapproved Waste Disposal Areas Alternatives

Four alternatives, including the required no action alternative, were developed to address the UWDAs. Because these areas have substantial quantities of waste and contamination present, the alternatives evaluated to make them protective are substantially different than the rest of the Site. Table 1 summarizes the similarities and differences between UWDAs alternatives.

Table 1. Comparison of Remedial Alternatives for Unapproved Waste Disposal Areas

<table>
<thead>
<tr>
<th>Considerations</th>
<th>UWDA-1 No Action</th>
<th>UWDA-2 Soil Cap with Marker Layer</th>
<th>UWDA-3 RCRA Subtitle-D Cap</th>
<th>UWDA-4 Excavate Waste and Offsite Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covers</td>
<td>None.</td>
<td>4.5 acres covered with marker layer, 1 foot of soil and vegetation.</td>
<td>4.5 acres covered with geomembrane and geocomposite drainage layers, 18-inches of soil backfill and vegetation.</td>
<td>None.</td>
</tr>
<tr>
<td>Exceptions</td>
<td>None.</td>
<td>Owners are individual landowners who should be onboard with remedy, able to maintain and agree to use restrictions that might be relevant.</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>
</tr>
<tr>
<td>Disposal</td>
<td>None.</td>
<td>None.</td>
<td>None.</td>
<td>Dispose offsite. Assume 50% of PCBs ≥ 50 mg/kg.</td>
</tr>
<tr>
<td>Treatment</td>
<td>None.</td>
<td>None.</td>
<td>None.</td>
<td>Stabilization required if leaching of metals detected.</td>
</tr>
<tr>
<td>Re-vegetation</td>
<td>None.</td>
<td>Re-vegetate as needed to prevent erosion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Controls</td>
<td>None.</td>
<td>Environmental easements/covenants following state requirements should be put in place.</td>
<td></td>
<td>None.</td>
</tr>
<tr>
<td>Monitoring and Maintenance</td>
<td>None.</td>
<td>Maintain caps as necessary to protect remedy.</td>
<td></td>
<td>None.</td>
</tr>
<tr>
<td>Cost Estimate</td>
<td>$0</td>
<td>$1,600,000</td>
<td>$2,800,000</td>
<td>$41,200,000</td>
</tr>
</tbody>
</table>
Long-Term Management of PCB Residuals

Long-term management of residual PCBs is an important part of the remedy and is required with all alternatives, except the ones that require complete removal of PCB concentrations in soil ≥ 1 mg/kg. Institutional controls in the form of an environmental easement or covenant to prevent disturbance of the cap and underlying waste would be required for alternatives UWDA-2 and UWDA-3.

Evaluation of Unapproved Waste Disposal Areas Alternatives

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

Table 3 presents the comparative analysis of the UWDA 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 2. Comparative Analysis of Remedial Alternatives for Unapproved Waste Disposal Areas

<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 million ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UWDA-1</td>
<td>No Action</td>
<td>Not protective of human health or the environment</td>
<td>Not Evaluated Further</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>UWDA-2</td>
<td>Soil Cap and Marker Layer</td>
<td>Provides protection of human health and the environment if cap maintained</td>
<td>Complies with ARARs</td>
<td>Effective but not as permanent over the long term as other alternatives</td>
<td>Does not include treatment to reduce toxicity, mobility or volume</td>
<td>Short-term impacts from construction similar to other construction activities conducted for the Site</td>
<td>Implementable</td>
<td>1.6</td>
</tr>
<tr>
<td>UWDA-3</td>
<td>RCRA Subtitle- D Cap</td>
<td>Provides protection of human health and the environment if cap maintained</td>
<td>Complies with ARARs</td>
<td>Effective and permanent over the long term if cap remains in place</td>
<td>Does not include treatment to reduce toxicity, mobility or volume</td>
<td>Short-term impacts from construction similar to other construction activities conducted for the Site</td>
<td>Implementable</td>
<td>2.8</td>
</tr>
<tr>
<td>UWDA-4</td>
<td>Excavate Waste and Off-Site Disposal</td>
<td>Provides protection of human health and the environment</td>
<td>Complies with ARARs</td>
<td>Effective and most permanent over the long term</td>
<td>Does not include treatment to reduce toxicity, mobility or volume with the possible exception of treatment of metals prior to disposal</td>
<td>Significant short-term impacts; the size and duration would be significantly larger and deeper than other removals conducted elsewhere on the Site</td>
<td>Implementable, but would need significant predesign work, engineering planning, and controls to conduct in a manner that would be safe for the Site, the workers, and the public</td>
<td>41.2</td>
</tr>
</tbody>
</table>

ARAR: applicable or relevant and appropriate requirement  
IC: institutional control  
O&M: operation and maintenance  
RCRA: Resource Conservation and Recovery Act  
UWDA: unapproved waste disposal area
EPA’s Preferred Alternative

The EPA’s Preferred Alternative is UWDA-3, RCRA Subtitle-D Cap. The present worth value of this alternative is $2.8 Million. This remedial action is proposed because:

1. It provides formal closure as a waste disposal site rather than just a protective soil barrier.

2. It is not as disruptive to existing structures and drainage features as total removal.

3. Caps are protective of all human health pathways.

4. There are currently no commercial/industrial or residential structures on the properties, so restrictions should be straightforward.

Institutional controls will be needed to protect the remedy. Covenants or easements to prevent disruption of the cap and waste beneath the cap are needed.

Five-year reviews will be conducted to evaluate the implementation and performance of the Preferred Alternative and to determine if the remedy continues to be protective of human health and the environment.

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 human health and ecological risk assessments. 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:

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

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

The EPA will also host a public availability session to help the community understand the Proposed Plan:

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