

Proposed Plan Fact Sheet



Update on Long-Term Response Activities - No. 2 **ANNISTON PCB SITE**

Anniston, Calhoun County, Alabama

September 2003

Introduction

The United States Environmental Protection Agency (EPA) is issuing this **Proposed Plan** fact sheet about the Non-Time Critical Removal of residential soils contaminated by **polychlorinated biphenyls (PCBs)** from the Anniston PCB Site (the Site) in Anniston, Calhoun County, Alabama. This fact sheet briefly summarizes the results of the **Engineering Evaluation and Cost Analysis (EE/CA)** conducted under the Non-Time Critical Removal portion (Appendix G) of the Consent Decree entered by the Federal Court. This fact sheet presents the alternatives considered in the EE/CA and explains EPA's recommended **NTC Removal Action**. The complete EE/CA is available for review at local information repositories identified below. EPA will prepare a **NTC Removal Action Memorandum** to select the removal action to be implemented at this Site after considering public comments on the EE/CA.

EPA issues this fact sheet under the **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**, commonly referred to as **Superfund**. Pursuant to 40 CFR Part 300 § 415(n) and 820(a), a public comment period will be held from October 6, 2003, through November 4, 2003, during which EPA will accept written comments on the EE/CA. If requested, EPA may extend the comment period another 15 days. In addition, EPA will discuss the EE/CA, answer questions about the EE/CA, and provide an opportunity for community members to have their comments recorded at a community meeting on October 27, 2003, at the Anniston Meeting Center, or on October 28, 2003, at the CE Hanna Elementary School. Terms in **bold print** in the text are defined in a glossary on page 7.

Submit Comments

Public Comment Period for EE/CA:

October 6 - November 4, 2003

EPA will accept written comments on the EE/CA during the public comment period. You may submit your comments to [Pamela Scully](#) at

U.S. EPA (Mail Code STSMB)
61 Forsyth Street, SW
Atlanta, GA 30303
or
1514 W. 10th Street
Anniston, Alabama 36201

Information Repositories

Public Library of Anniston-Calhoun County,

Carver Branch, 722 West 14th Street,
Anniston, Alabama 36201.
(256) 237-7271

Monday - Friday from 9 am - 5 pm, and
Saturday from 9 am -12 pm.

Main Branch, 108 East 10th Street,
Anniston, Alabama 36201
(256) 237-8501

Monday - Friday from 9am-6:30pm,
Saturday from 9am-4pm, and
Sunday from 1pm-5pm.

Attend a Public Meeting



When: **6:00pm, October 27, 2003**
Anniston Meeting Center
1615 Noble Street
Anniston, AL

or

6:00pm, October 28, 2003
CE Hanna Elementary School
715 MLK Drive
Hobson City, AL

Why: Quarterly meeting to answer questions, discuss current issues, and record comments.

Site Background

PCBs were produced at the former Monsanto plant (Facility) in Anniston, Alabama from 1929 through 1971. Production was initially started by Southern Manganese Corporation, which was later renamed Swann Chemical Company and subsequently purchased by Monsanto Company. Solutia Inc., the present Facility owner, was created in 1997 as a spin-off of Monsanto.

The migration of PCBs away from the Facility occurred as a result of surface water transport. During precipitation events, surface water flowed through areas containing PCBs and into various drainage ditches leading to Snow Creek. Subsequently, PCBs adsorbed to suspended solids settled out in some areas of the floodways of these drainage ditches and Snow Creek. Solutia has made significant improvements to the Facility by covering areas with PCB-containing soil and controlling surface water run-on and runoff from the Facility. These controls were implemented to prevent PCBs from migrating away from the Facility and adjoining areas.

PCBs have also been found as a result of direct disposal of PCB-containing materials or the relocation of PCB-containing sediment, foundry sand and/or floodplain soils.

EPA began sampling residential properties at the Anniston PCB Site in 1999. EPA collected samples from approximately 570 residences. Samples from churches, common areas, vacant lands, parks, commercial/industrial sites, schools, and other public lands were also collected.

Solutia began sampling residential properties as specified in an agreement with EPA (the Time-Critical Removal Order) in May of 2001. The removal action level was set at **10 parts per million (ppm)**. Since that date, Solutia has requested access for sampling from owners and/or tenants at 722 properties and received access at 302 of these properties. At the time this fact sheet was prepared, Solutia has completed sampling activities at all the residential properties where access has

been granted.

Solutia has requested access for conducting removal actions from 28 properties under provisions of the Time-Critical Removal Order. Access was granted for 15 of the properties and denied for 13 of the properties.

At the time this fact sheet was prepared, Solutia had completed cleanup at all the properties where access was granted and a cleanup was required. Activities performed at these properties included sampling for PCBs, soil removal and disposal, placement of clean fill material and re-vegetation.



Anniston home being prepared for cleanup.



Anniston home after cleanup and yard restoration.

A Partial Consent Decree (CD) for the Site was entered by the United States District Court for the Northern District of Alabama on August 4, 2003. The Partial Consent Decree requires Solutia to continue work under the Time Critical Removal Order and begin a Non-Time Critical Removal (NTC) and a **Remedial Investigation and**

Feasibility Study (RI/FS). The NTC Removal Action is being used at the Anniston PCB Site to achieve immediate risk reduction on residential properties not addressed by the Time Critical Removal Order while the RI/FS is completed and the final remedy is selected.

Final EE/CA Report Available for Review

The NTC Removal begins with preparation of an Engineering Evaluation/Cost Analysis (EE/CA). The purpose of the EE/CA was to identify the nature and extent of contamination of residential areas at the Site and to develop and evaluate options for cleanup. The EE/CA summarizes composite residential sampling results from field activities conducted by EPA and Solutia. A Supplemental Sampling and Analysis Plan has been developed to address future sampling efforts to identify any additional residential properties possibly requiring cleanup under this plan.

Copies of the Final EE/CA Report and the Supplemental Sampling and Analysis Plan have been placed in the Administrative Record file at the Public Library of Anniston-Calhoun County. EPA is seeking public comment on both the EE/CA Report and the proposed Removal Action for the NTC Removal. A brief summary of the EE/CA is provided below. Please see the EE/CA Report for further details.

Streamlined Risk Evaluation

A **streamlined risk evaluation** was conducted by EPA to evaluate the human health risk posed by residential soils contaminated with PCBs. The risks were used to develop a soil cleanup number for the NTC Removal Action. Data collected as part of the Time Critical Removal Action was used in the analysis. Risk estimates were made separately for cancer and non-cancer risks from three pathways of direct exposure, i.e. ingestion, **dermal adsorption**, and inhalation of PCBs in soil.

Both excess cancer and non-cancer toxicity effects were evaluated. For carcinogens, a child through

adult resident, was evaluated because it is the most sensitive receptor; i.e. excess cancer risk for the child is assumed to be additive to that of an adult. For non-carcinogens, a child resident is the most sensitive receptor because of the lower body mass relative to the amount of chemical intake.

EPA has established a target risk range for Superfund cleanups of between 10^{-6} and 10^{-4} excess lifetime cancer risk. A cancer risk of 1×10^{-6} means that an individual has an additional 1 in 1,000,000 chance of developing cancer as a result of site-related exposure during a 70 year lifetime. EPA's target risk for non-cancer related health effects is quantified as a **hazard index (HI)** of 1.

As a result of this assessment, EPA has selected a cleanup goal of **1 ppm** PCBs in surface soil for the NTC Removal Action at the Anniston PCB Site. This selection was based on the streamlined risk evaluation to be biased toward the more protective end of EPA's target range of excess cancer risk and below a HI of 1.

Summary of Removal Action Alternatives

In accordance with the **National Contingency Plan (NCP)** and EPA's EE/CA guidance, the EE/CA considers several Removal Action Alternatives for cleaning up properties identified as having surface soil PCB concentrations equal to or greater than 1 ppm. Five alternatives are reviewed and compared.

Of the five alternatives, EPA is proposing one as the recommended alternative. Overviews of each of the five alternatives are presented below.

Alternative 1: Containment PCB-containing Soil

Alternative 1 involves the placement of 1 foot of clean soil on top of existing soil that contains PCBs above the cleanup level of 1 ppm in order to prevent exposure to potential receptors. Clean soil would be transported to the properties using trucks. A **geotextile fabric** would be placed on the affected areas as a marker layer, and the clean soil would be placed to cover the affected areas using power equipment and hand tools. The affected areas would



be graded to drain and then be revegetated. For the properties currently identified, the present worth cost for this alternative is estimated as \$3,236,000.

Alternative 2a: Soil Removal with Disposal on Solutia Property

Alternative 2a includes removal of soil that has been determined to be at or above the cleanup action level concentration of 1 ppm of total PCBs in surface soils and at or above 10 ppm in soils at 12 inches in depth and below. The soil above the action level would be excavated from the properties and transported by truck for disposal. The majority of the soil containing less than 50 ppm PCBs would be disposed beneath a clean soil cover at an on-site disposal area located near the Facility.

If capacity limitations are encountered, this material could also be disposed at an off-site solid waste landfill(s). Any soil found with PCB concentrations equal to or greater than 50 ppm would be disposed at an off-site Toxic Substances Control Act (TSCA) permitted facility.

Clean soil fill would be transported by truck to the properties to replace the soil removed. The work would be accomplished using power equipment and hand tools. The backfill would be placed to approximately the same grades that existed prior to excavation and would be revegetated. For the properties currently identified, the present worth cost for this alternative is approximately \$3,287,000.

Alternative 2b: Soil Removal with Disposal at Off-Site Landfill

Alternative 2b is identical to Alternative 2a with the exception that all soil with PCB concentrations below 50 ppm would be disposed at an off-site solid waste landfill(s). Soil with PCB concentrations equal to or greater than 50 ppm would still be disposed at an off-site TSCA permitted facility. For the properties currently identified, the present worth cost for this alternative is approximately \$4,651,000.

Alternative 3a: Soil Treatment by Thermal Desorption with Treated Soil as Backfill

Alternative 3a includes removal of soil that has been determined to be at or above the clean-up action level concentration of 1 ppm of total PCBs in surface soils and at or above 10 ppm in soils at 12 inches in depth and below. The excavated soil would be treated by **thermal desorption**, and the properties would be backfilled using the treated soil. The PCB-containing soil would be removed and replaced using power equipment and hand tools and transported to and from the properties using trucks. The treated soil backfill would be placed to approximately the same grades that existed prior to excavation and revegetated.

Thermal desorption is a physical separation process. The soil would be heated to volatilize water and PCBs, and a carrier gas or vacuum system would transport the volatilized material to a gas treatment system. Application at the Site would require completion of treatability studies and evaluation of air emission control requirements and methods.

Thermal desorption is used to reduce the volume of material containing organic compounds. The PCBs would be removed from the soil and recovered in a more concentrated form for disposal or incineration at an appropriate facility. For the properties currently identified, the present worth cost for this alternative is approximately \$14,980,000.

Alternative 3b: Soil Treatment by Thermal Desorption with Clean Soil as Backfill and Landfill Disposal of Treated Soil

Alternative 3b is identical to Alternative 3a with the exception that treated soil would be disposed off-site at a solid waste landfill and the properties would be backfilled with imported clean soil. For the properties identified, the present worth cost for this alternative is approximately \$17,395,000.

Analysis of Removal Action Alternatives

The NTC Removal Action alternatives were evaluated according to the following criteria:

- ★ **Effectiveness**
 - Protectiveness
 - Ability to achieve removal objectives
- ★ **Implementability**
 - Technical feasibility
 - Availability
 - Administrative feasibility
- ★ **Cost**
 - Capital Cost
 - Post removal site control costs
 - Present worth cost

In addition, community acceptance will be evaluated based on comments received during the comment period.

EPA's Recommended Removal Action

Considering the measures of overall effectiveness, Implementability, and cost, Alternative 2a, involving the excavation of PCB-containing soil from the properties and disposal of the majority of that soil at an on-site disposal area (Figure 1), is recommended for selection as the NTC Removal Action. This alternative is equally or more effective in protecting potential receptors, can be implemented quickly, and is the most cost effective relative to its effectiveness. Alternative 2a is recommended over alternative 2b in order to preserve solid waste landfill space and achieve equivalent protection at a lower cost.

Alternative 1, the lowest cost alternative, would require long-term residential land use restrictions to preserve the integrity of the clean cover material. Alternatives 3a and 3b fulfill the CERCLA preference for treatment to reduce volume, toxicity or mobility of constituents; however, these alternatives are estimated to be more than \$12 million more costly than Alternative 2a. In addition, treatment effectiveness for Alternatives 3a and 3b has not been demonstrated by treatability testing and determining effectiveness and system design would significantly delay implementation. The delay would limit the degree of immediate risk reduction anticipated for a NTC Removal Action.

Community Participation

EPA is providing information regarding the NTC Removal Action for residential soil cleanup at the Anniston PCB Site to the public through a public meeting, the Administrative Record file for the Site, this fact sheet, and announcements published in the Anniston Star Newspaper.

EPA encourages the public to provide comments on the preferred action during the 30-day comment period, from October 6 through November 4, 2003. Comments will also be received during the public meetings scheduled for October 27, 2003, at 6:00 pm at the Anniston Meeting Center, 1615 Noble Street, in Anniston, Alabama, and October 28, 2003, at 6:00pm at the CE Hanna Elementary School, in Hobson City, Alabama.

Written comments must be postmarked by November 4, 2003.

Additional Information

The administrative record can be reviewed at the information repository located at:

Public Library of Anniston-Calhoun County,

Carver Branch, 722 West 14th Street,
Anniston, Alabama 36201.
(256) 237-7271

Monday - Friday from 9 am - 5 pm, and
Saturday from 9 am -12 pm.

Main Branch, 108 East 10th Street,
Anniston, Alabama 36201
(256) 237-8501

Monday - Friday from 9am-6:30pm,
Saturday from 9am-4pm, and
Sunday from 1pm-5pm.

Although EPA is recommending a proposed action to address the contamination on residential properties, a final decision will not be made until EPA reviews comments from the public. After the comment period closes, EPA will make a formal decision, which will be published in

an Action Memorandum. The Action Memorandum will also include a summary of EPA's responses to the comments received during the public comment period.

If you have questions or need more information, please contact EPA at the numbers listed below.

Comments on the EE/CA can be mailed or e-mailed to:

Pamela Scully
U.S. EPA (Mail Code SSMB)
61 Forsyth Street, SW
Atlanta, GA 30303
(404)562-8935
scully.pam@epa.gov
or
Pamela Scully
EPA Project Office
1514 W. 10th Street
Anniston, AL 36201
(256)236-2599

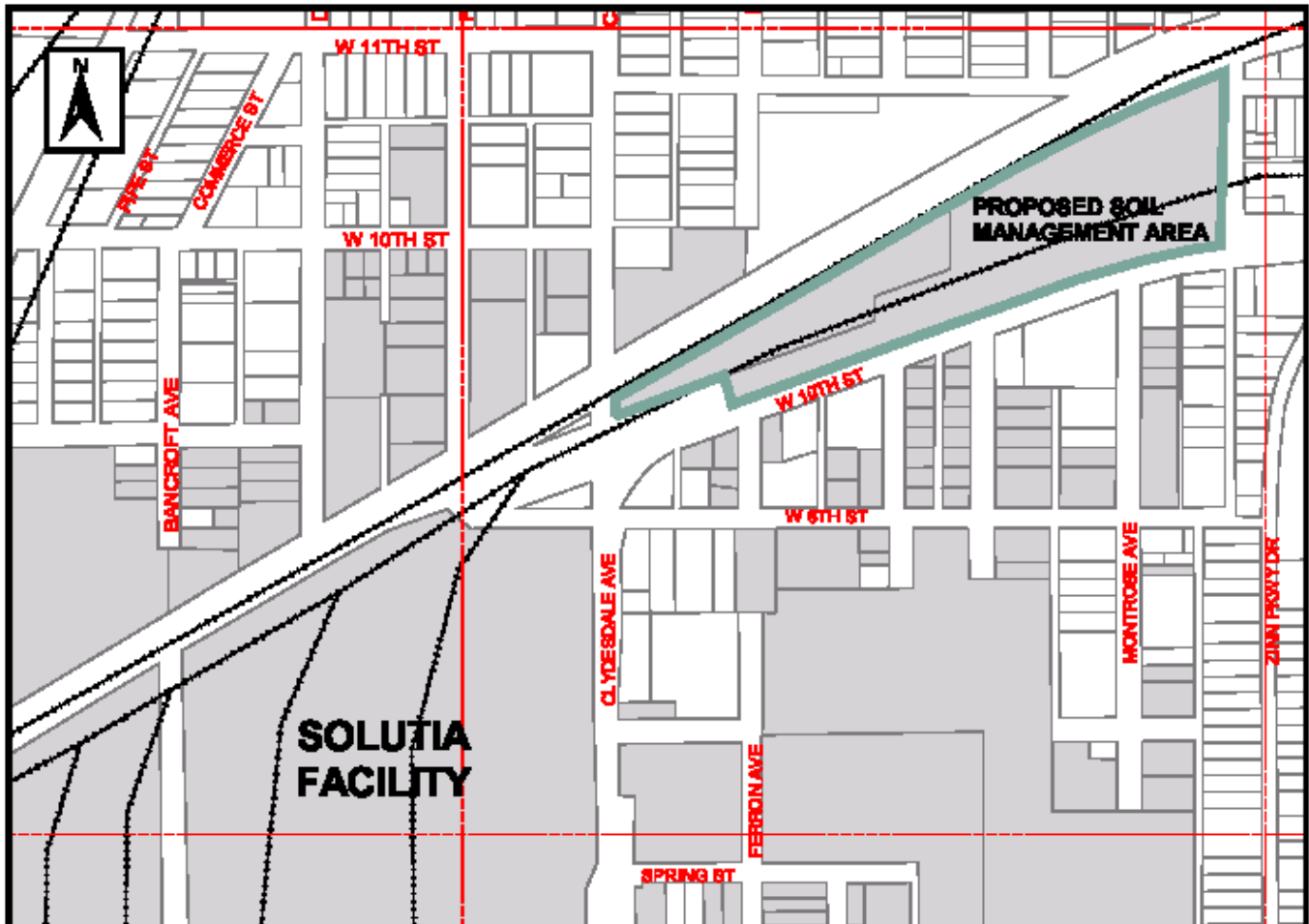
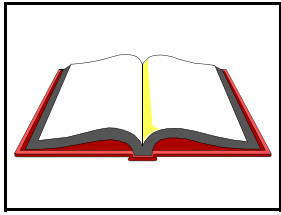


Figure 1. Alternative 2a Proposed Soil Disposal Area.



GLOSSARY

Administrative Record: Material documenting EPA's selection of cleanup actions at Superfund sites, usually placed in the **information repository** near the Site.

Applicable or Relevant and Appropriate Requirements (ARARs): Refers to Federal and State requirements a selected action must attain which vary from site to site.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA): A Federal law passed in 1980 and modified in 1986 by the Superfund Amendment and Reauthorization Act (SARA); the act created a trust fund, known as Superfund, to investigate and cleanup abandoned or uncontrolled hazardous waste sites.

Dermal Adsorption: Process by which a chemical penetrates the skin and enters the body as an internal dose.

Engineering Evaluation and Cost Analysis (EE/CA): Study conducted as part of the Removal process to collect necessary data to determine the type and extent of contamination at the site and evaluate alternatives for addressing this contamination.

Geotextile Fabric: A cloth device that is being used to separate contaminated soil from clean soil.

Hazard Index (HI): A means of quantifying non-cancer risks by dividing the dose estimated from potential exposure to site-related contamination by the dose known not to cause harmful effects. A HI of greater than 1 will require cleanup under Superfund.

Information Repository: File of data and documents located near a Superfund site.

National Contingency Plan (NCP): The regulation that implements the Superfund law and prescribes how cleanup activities will be conducted.

Non-Time Critical (NTC) Removal Action: A removal action that requires a planning period of at least six months before on-site activities need to be initiated.

NTC Removal Action Memorandum: Legal document that formally selects the cleanup plan for the non-time critical removal action.

Parts Per Million (ppm): Units commonly used to express contamination ratios, as in establishing the maximum permissible amount of a contaminant in water, land, or air.

Polychlorinated Biphenyls (PCBs): Polychlorinated biphenyls (PCBs) are 209 distinct chemicals that consist of a biphenyl backbone on which chlorines are added in various numbers (from 1 to 10) and at different positions (ortho, meta and para to the phenyl ring). PCBs were manufactured in Anniston for industrial purposes from 1929 to 1977.

Proposed Plan: Superfund public participation fact sheet which summarizes the preferred cleanup strategy and the rationale and a summary of the RI/FS.

Remedial Investigation/Feasibility Study (RI/FS): An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site; establish site cleanup criteria; identify preliminary alternatives for remedial action; and support technical and cost analyses of alternatives.

Streamlined Risk Evaluation: a limited assessment of risk conducted for the non-time critical removal action that is similar to a baseline risk assessment conducted for a remedial investigation and feasibility study.

Superfund: See CERCLA.

Thermal Desorption: A treatment technology involving volatilization of PCBs at low temperatures and capture of vapors in a gas treatment system, to reduce the volume of material containing PCBs. The residual contamination would be disposed of by at an appropriate facility.



U.S. Environmental Protection Agency - Region 4
61 Forsyth Street, SW
Atlanta, Georgia, 30303

Official Business
Penalty for Private Use
\$300

Pam Scully
Remedial Project Manager
South Site Management Branch

***INSIDE:
ANNISTON PCB SITE
SUPERFUND
FACT SHEET***

PROPOSED PLAN SUMMARY

- ★ A Non-Time Critical (NTC) Removal Action is being used at the Anniston PCB Site to achieve immediate risk reduction on residential properties while the RI/FS is completed and the final remedy is selected.
- ★ The NTC Removal Action began with preparation of an Engineering Evaluation/Cost Analysis (EE/CA). The purpose of the EE/CA was to identify the nature and extent of contamination of residential areas at the Site and to develop and evaluate options for cleanup.
- ★ The final EE/CA is available for review at the Public Library of Anniston-Calhoun County, Carver Branch, 722 West 14th Street, and Main Branch, 108 East 10th Street, Anniston, Alabama.
- ★ The EE/CA includes the results of a streamlined risk assessment conducted by EPA. The risk assessment documents a cleanup goal of 1 ppm in residential surface soils and 10 ppm below 1 foot on residential properties as being protective of unrestricted use.
- ★ Five cleanup alternatives were evaluated in the EE/CA: 1) containment of PCB-containing soil; 2a) soil removal with disposal on Solutia property; 2b) soil removal with disposal at off-site landfill; 3a) soil treatment by thermal desorption with treated soil as backfill; and 3b) soil treatment by thermal desorption with clean soil as backfill and landfill disposal of treated soil.
- ★ The recommended removal action is Alternative 2a: soil removal with disposal on Solutia property.

**NON-TIME CRITICAL REMOVAL ACTION AT ANNISTON PCB SITE
PUBLIC COMMENT SHEET**

Use this space to write your comments.

Your input on the Proposed Plan for the non-time Critical Removal Action at Anniston PCB Site is important in helping EPA select a removal action for the Site. You may use the space below to write your comments, then fold and mail. Additional comments may be included with this form.

Name _____
Address _____
Phone # _____



**NON-TIME CRITICAL REMOVAL ACTION AT ANNISTON PCB SITE
PUBLIC COMMENT SHEET**



Fold on dashed lines, staple, stamp and mail

Name _____
Address _____
City _____ State ____
Zip Code _____

Place
stamp
here

Pam Scully, Remedial Project Manager
South Site Management Branch
61 Forsyth Street, SW
Atlanta, Georgia 30303