



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IV  
61 Forsyth Street SW  
Atlanta, GA 30303

December 5, 2005

**MEMORANDUM**

**SUBJECT:** CSTAG Recommendations on the Anniston PCB Superfund Site

**FROM:** Pamela Scully, Remedial Project Manager  
EPA Region 4

**TO:** Stephen J. Ells  
Leah H. Evison  
Co-Chairs, Contaminated Sediments Technical Advisory Group (CSTAG)

The purpose of the memorandum is to respond to comments dated September 29, 2005, from the Contaminated Sediment Technical Advisory Group (CSTAG) on the Anniston PCB Site (Site). Region 4 understands that the CSTAG comments and this response will be part of the Administrative Record for the Site. If you have any concerns or questions relative to the responses provided below, please contact me at (404)-562-8935.

**Principle #1, Control Sources Early**

- The OU4 RI should include a review of available data and an assessment of all potential contaminant sources to Snow and Choccolocco Creeks. It should also include an evaluation of what source control measures beyond the OU1, 2, and 3 cleanups might be needed to prevent recontamination. This evaluation should include an assessment of potential sources of contaminants to Snow Creek other than the 11<sup>th</sup> Street ditch and an assessment of potential residual PCB loading to storm water that may enter OU4 after the OU1, 2 and 3 cleanups have been completed. Releases from the Anniston and Oxford Wastewater Treatment Plants should also be evaluated to determine whether they might be a source of PCB loading to the creeks.

**Response:** Solutia/Pharmacia provided EPA with a Data Summary Report for OU 4 in March 2005, which summarizes all available data collected for the Alabama Department of Environmental Management (ADEM) in Choccolocco Creek. Region 4 has reviewed that data and is working to identify all sources of contamination in OU4.

Residual PCB loading will be evaluated, as well as loading from Wastewater Treatment Plants along Choccolocco Creek.

- As part of the conceptual site model, estimate the relative distributions of all contaminant sources to the site.

**Response:** EPA is working to identify all sources of contamination in OU4. To date, in addition to Solutia/Pharmacia, EPA has identified several *deminimis* sources of PCB contamination to the Site.

### **Principle #2, Involve the Community Early and Often**

- The CSTAG commends the Region 4 project team for its outreach efforts (*i.e.*, monthly meetings, local office, data/information sharing).

**Response:** Region 4 will continue to attend monthly CAG meetings, hold quarterly update meetings, maintain a NTC Removal Action oversight office, and share data with the community.

- As requested by community representatives at the meeting, distribute information regarding PCB chemistry and nomenclature (*e.g.*, differences between Aroclor and congener analyses) to the community.

**Response:** EPA will provide information regarding PCB chemistry and nomenclature in the next Quarterly Fact Sheet and will present the information at the next quarterly meeting in January 2006.

- Insofar as it is available based on existing data, communicate to the community what activities may pose significant risks to humans (*e.g.*, is swimming or playing on the banks a risk to children?).

**Response:** A representative of the U.S. Fish and Wildlife Service gave a presentation to the CAG in August 2005, about natural resources and damages to those resources that may have been caused by the Site. Similarly, a toxicologist from Region 4 gave a presentation to the CAG in November 2005, to help the community understand the human health risk assessment process. When the human health risk assessment is complete, the community will be advised about which activities pose significant risk to humans. Fish consumption advisories are already in place and are emphasized at every opportunity.

- Enhance outreach efforts to communicate the existing fish consumption advisory information (*e.g.*, coordinate with the fishing license issuing agency, speak at various community meetings, use signs with pictures and symbols to communicate advisories to those who may not be able to read, or speak English).

**Response:** Region 4 will take additional steps to communicate fish consumption advisory information. Region 4 will contact State agencies to determine what additional regulatory actions may be appropriate. Region 4 already meets monthly with community members, but will continue to look for new opportunities to communicate fish advisory information to those who need to know and understand that information.

- Consider undertaking a creel survey (or searching whether such data already exist) to determine site-specific ingestion rates, whether subsistence fishing exists at the site, how fish are typically prepared, types of species collected, *etc.*

**Response:** The need for conducting a creel survey will be evaluated by Region 4 in development of the OU-4 FSP and associated DQO process.

### **Principle #3, Coordinate with States, Local Governments, Tribes, and Natural Resource Trustees**

- Evaluate the possible extent of sediment transport from Choccolocco Creek during planned water draw downs of more than two feet in Lake Logan Martin. This will probably require coordination with the dam owners and the State to better understand lake level management plans with respect to the potential for causing erosion of contaminated sediment in the lower reach of Choccolocco Creek.

**Response:** The effect of water draw downs in Lake Logan Martin will be evaluated in development of the OU-4 FSP DQOs for sediment stability. EPA will coordinate with ADEM, Alabama Power, and the USACE to ensure an understanding of the lake level management plans.

- Determine the status of the Alabama Department of Environmental Management's Total Maximum Daily Load development for the Choccolocco Creek and Coosa River and coordinate as appropriate.

**Response:** In October 2003, ADEM issued a Draft Decision Document for Priority Organics [PCBs] in Choccolocco Creek. In that document they indicated that the TMDL program will coordinate with the CERCLA program in order to eliminate duplicative efforts and concluded that Choccolocco Creek will be included in category 4b of the 2004 303(d) Integrated List. This category includes waterbodies which are impaired or threatened for one or more designated uses but does not require the development of a TMDL because "other pollution control requirements are expected to address all water-pollutant combinations and attain all Water Quality Standards in a reasonable period of time." ADEM has issued a similar draft Decision Document for Lay Lake. ADEM has reported that a PCB source to the Coosa River above the Alabama/Georgia state line is being addressed in the Weiss Lake PCB TMDL Report. EPA approved a TMDL for PCBs of 0.71 kg/year for Weiss Lake in November 2004. The Project Team will continue to coordinate with the TMDL program as needed.

**Principle #4, Develop and Refine a Conceptual Site Model that Considers Sediment Stability**

- Sample upstream of the backwater area on Choccolocco Creek to determine the quality of water and sediment that are entering OU4. Consider the potential for recontamination of the backwater area should remediation be conducted on Choccolocco Creek.

**Response:** The backwater area on Choccolocco Creek will be further evaluated during the OU-4 remedial investigation (RI). This investigation will include both system dynamics and an expanded nature and extent of contamination study. Sediment contamination of the backwater area has been previously assessed by Solutia/Pharmacia—as most recently summarized in the Data Summary Report (DSR) for OU 4, (March 2005)—and they recommended that additional sediment characterization is needed in the backwater area. Further, the DSR states that the “stability of the sediments in the backwater area is demonstrated by the thick sediment deposits and that the highest PCB concentrations are typically found at depth.” EPA identified that this stated observation needs to be evaluated for the long-term time horizon via a sediment stability data quality objective. This could occur during the RI and/or the feasibility study (FS).

- Evaluate the dissolved phase PCB levels in Choccolocco Creek and conduct dissolved phase PCB sampling in order to determine the relative significance of exposure from dissolved versus particulate-sorbed PCBs.

**Response:** Region 4 agrees that the lack of direct measurements of the dissolved phase PCB levels in Choccolocco Creek is a data gap that will increase uncertainty in both the human health and ecological risk exposure assessments. A data quality objective to evaluate dissolved phase PCB levels in surface water will be developed for OU-4.

- If temporal trends in fish tissue contaminant data are included in the RI, such as those presented in the stakeholder presentation, ensure that the presentation includes an analysis of data quality and discusses the statistical significance of the findings. The analysis should include presentations reporting all data, data that are lipid normalized, and data for specific species, gender, and age class or size.

**Response:** Region 4 will implement the recommendations above regarding the analysis and reporting of fish tissue contaminant data and trends within the RI. While the fish data compendium for the Site has been included with numerous documents to date—most recently, the Data Summary Report (DSR) for OU 4, (March 2005)—we recognize that this data has not been thoroughly analyzed and presented. Such analyses and presentations will be useful in the development of future fish sampling plans.

- Evaluate how the Natural Resources Conservation Service of the United States Department of Agriculture dredging event in Choccolocco Creek may have affected the stream, including potential effects on contaminant concentrations in fish and sediment stability and transport.

**Response:** Region 4 will review the available site-specific information regarding how this dredging event may have affected Choccolocco Creek. The comprehensiveness of the evaluation will be partially dictated by the amount of site-specific data we have from around the time of the event, and that which may be obtained from the Department of Agriculture.

- In developing the OU4 field sampling plan, consider how the relationship between fish and sediment data will be developed (*i.e.*, BSAF, food web model), and what data needs to be collected to support this effort.

**Response:** The relationship between fish and sediment data will be developed for the Site. The specific data quality objectives (DQOs) to support this effort will be developed in accordance with the EPA's DQO Guidance and as described in the Clarifications to Data Quality Objectives (DQOs), Anniston PCB Site (August 19, 2005).

- Use regional or site-specific data to determine whether sampling the top 2 inches of sediment appropriately assesses the biologically active zone for this site. It is possible that different depths may be needed in different areas of the site.

**Response:** Region 4 agrees that there is uncertainty in the assumption that the top two inches of sediment will appropriately assess the biologically active zone for this site. This issue will be addressed as the data quality objectives are developed for the OU-4 field sampling plan.

- Owing to the use of mercury in mercury cell chlorine production, evaluate whether sufficient data have been collected to adequately characterize potential site risks from mercury in fish tissue (*i.e.*, more than 10% of samples may need to be analyzed for mercury).

**Response:** An adaptive and dynamic management approach will be used, that is consistent with the Triad Approach, to evaluate whether more than 10% of the fish tissue samples may need to be analyzed for mercury.

- Evaluate the stability of non-armored sediments in depositional areas and identified hot spots (*e.g.*, the backwater area, confluence with Snow Creek).

**Response:** With regards to the backwater area, please see the response to the first bullet under this Principle. Additionally, evaluation of the sediment stability of non-armored sediments in other depositional areas will be considered during the development of data quality objectives for the future Field Sampling Plan for OU-4. The evaluation of sediment stability will also be considered during the development of study plans for the FS.

- The Conceptual Site Model presented as part of the SLERA is not comprehensive and should be expanded to better represent the entire OU.

**Response:** Region 4 agrees that the Conceptual Site Model presented in the draft OU-4 Screening Level Ecological Risk Assessment (SLERA; March 2005) was not comprehensive and needs to be expanded to better represent the entire OU. The revised SLERA (October 2005) has corrected this inadequacy by presenting detailed and transparent Conceptual Exposure Models for the ecological receptors of OU-4.

- When developing the baseline Ecological Risk Assessment, consider effects to threatened and endangered species relevant to the site.

**Response:** Region 4 agrees with the comment. The threatened and endangered species that occur, or may occur, at the Site will be identified as ecological receptors in the baseline ecological risk assessment (BERA). These receptors will be evaluated within the appropriate Assessment Endpoints for the BERA.

#### **Principle #5, Use an Iterative Approach in a Risk-Based Framework**

- In order to develop a more coordinated and comprehensive sampling effort, concomitantly develop Data Quality Objectives for the Human Health Risk Assessment, the Ecological Risk Assessment, and the fate and transport data collection efforts.

**Response:** Region 4 agrees with the recommendation as such coordination will optimize the data collection effort by maximizing the utility of the site-specific data while minimizing costs through the elimination of duplicative sampling events. The DQO development process is currently underway to coordinate the sampling that will support the Human Health Risk Assessment, Ecological Risk Assessment, Nature and Extent, and Fate and Transport studies for OU-4.

- Evaluate the need for potential cleanup of residential properties in the floodplain of Choccolocco Creek (*e.g.*, determine if these floodplain soils exceed risk-based screening levels) and evaluate if floodplain soils contribute to contamination in Choccolocco Creek.

**Response:** Evaluation of the need for potential cleanup of residential properties in the floodplain of Choccolocco Creek; and, whether floodplain soils contribute to contamination in Choccolocco Creek will be completed as part of the RI for OU-4 and associated Human Health Risk Assessment.

#### **Principle #6, Carefully Evaluate the Assumptions and Uncertainties Associated with Site Characterization Data and Site Models**

- Estimate the mass balance of PCBs transported into and out of OU4. Use this information to evaluate exports out of OU4 and determine whether the study area needs to be expanded to incorporate areas farther downstream.

**Response:** The decision as to whether the study area needs to be expanded to incorporate areas farther downstream will be made after the OU-4 RI, and any other studies that become available, are reviewed. While an estimate of the mass balance of PCBs

transported into and out of OU-4 could be used to support such a decision, Region 4 anticipates that other information could be of equal, or greater importance to base such a decision (i.e., risks to human or ecological receptors). An estimate of the mass balance of PCBs may be more important, or necessary, during the FS.

**Principle #7, Select Site-specific, Project-specific, and Sediment-specific Risk Management Approaches that will Achieve Risk-based Goals**

- When establishing risk management goals for OU4, consider other areas of contamination in the surrounding area (e.g., Coosa River) and ensure that selected goals are realistically achievable.

**Response:** Similar to the response above, the establishment of realistic and achievable risk management goals will occur after the RI, and any other studies that become available, are reviewed. Region 4 acknowledges that other areas of contamination in the surrounding area (e.g., Coosa River) may need to be considered at that time. However, at this time the focus is on characterizing the contamination and risks for OU-4, and not in expanding the downstream boundary of the site.

**Principle #8, Ensure that Sediment Cleanup Levels are Clearly Tied to Risk Management Goals** - The CSTAG will evaluate consistency with this principle later in the process.

**Principle #9, Maximize the Effectiveness of Institutional Controls and Recognize their Limitations** - The CSTAG will evaluate consistency with this principle later in the process.

**Principle #10, Design Remedies to Minimize Short-term Risks while Achieving Long-term Protection** - The CSTAG will evaluate consistency with this principle later in the process.

**Principle #11, Monitor During and After Sediment Remediation to Assess and Document Remedy Effectiveness**

- Consider as early as possible what monitoring data may be necessary to assess remedy effectiveness to ensure that adequate baseline data can be developed before any response action. For example, bivalves, aquatic invertebrates, or tree swallows could be considered as monitoring organisms.

**Response:** Region 4 agrees with the recommendation and will consider what monitoring data may be necessary to assess remedy effectiveness during the development of the data quality objectives (DQOs) for the future field sampling plan (FSP) for OU-4. While the FSP will be developed for the purpose of ensuring data adequacy for making clean up decisions for the Site, much of the data collected for that purpose should also be useful in developing an adequate general baseline of contamination before any response action. We anticipate that such data would include contaminant concentrations in the major media for the site (i.e., sediments, surface water, soil, and biota). The historical data described in the Data Summary Report for OU-4 (March 2005) contains some of this general baseline data. For example, the fish data compendium provides a rich source of such baseline pre-remedy data. Ultimately, we will develop the specific monitoring plan

for assessing remedy effectiveness based upon the Remedial Action Objectives that are stated in the future Record of Decision for the Site.