



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4**

**Science and Ecosystem Support Division  
Enforcement and Investigations Branch  
980 College Station Road  
Athens, Georgia 30605-2720**

October 22, 2009

**4SESD-EIB**

**MEMORANDUM**

**SUBJECT:** Tronox Residential Soil Sampling Investigation  
Columbus, Mississippi  
SESD Project Numbers 11-0019

**FROM:** Timothy Simpson, Environmental Scientist  
Superfund and Air Section

A handwritten signature in blue ink, reading "Timothy Simpson", is written over the printed name.

**THRU:** Mike Bowden, Chief  
Air and Superfund Section

A handwritten signature in blue ink, reading "Mike Bowden", is written over the printed name.

**TO:** Steve Spurlin, OSC  
Emergency Response and Removal Branch  
Superfund Division

Attached is the QAPP for the soil sampling investigation to be conducted at the Tronox (Former Kerr-McGee) Site in Columbus, Mississippi. The investigation is scheduled the week of October 25, 2010. If you have any questions, please call me at (706) 355-8736.

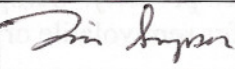
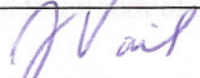
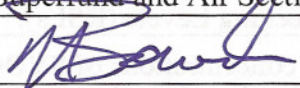
Attachment



**Quality Assurance Project Plan**  
**U.S. Environmental Protection Agency**  
 Science and Ecosystem Support Division  
 980 College Station Road  
 Athens, GA 30605

SESD Project ID # 11-0019  
 SESD Category 3 QAPP

**SECTION A: Project Planning Elements**

|  |   |                                       |
|--|---|---------------------------------------|
| <b>A1. Title (Project Name):</b>                           | Tronox Residential Soil Sampling Investigation  |                                       |
| <b>Project Location:</b>                                   | Columbus, MS  |                                       |
| <b>Project Requestor and Organization:</b>                 | Steve Spurlin, On-Scene Coordinator<br>EPA, Region 4<br>61 Forsyth Street<br>Atlanta, GA 30303  |                                       |
| <b>Project Leader's Name, Position, and Organization:</b>  | Tim Simpson, Environmental Scientist<br>SESD/EIB/SAS  |                                       |
| <b>Project Leader's Signature:</b>                         |    | <b>Date:</b> 10/15/2010               |
| <b>Technical Reviewer's Name and Position:</b>             | Jon Vail<br>Science and Ecosystem Support Division  |                                       |
| <b>Technical Reviewer's Signature:</b>                     |   | <b>Date:</b> 10/15/2010               |
| <b>Section Chief/DAO's Name and Position:</b>              | Mike Bowden, Chief<br>Superfund and Air Section   |                                       |
| <b>Section Chief/DAO's Signature:</b>                      |    | <b>Date:</b> 10/18/2010               |
| <b>A2. Table of Contents</b>                               | N/A   |                                       |
| <b>A3. Distribution List</b>                               | Steve Spurlin   |                                       |
| <b>A4. Project Personnel (list below):</b>                 | <b>Organization (list below):</b>   | <b>Responsibilities (list below):</b> |
| Tim Simpson  | SESD  | Project Leader                        |
| Don Hunter   | SESD  | Safety Officer/Sampling               |
| Beth Oswald  | SESD  | Sampling                              |
| Marty Allen  | SESD  | Sampling                              |
| START Staff  | START Contractor  | Sampling                              |
| ILS Staff  | ILS Contractor  | Sampling/Sample Custody               |
| <b>A5. Problem Definition (Objectives) and Background:</b> | The objective of the SESD sampling investigation will be to provide supporting data that will aid US EPA Region 4 in determining if soil in the surrounding neighborhoods have been impacted by operations at the Tronox (formerly Kerr-McGee) facility that was located at 2300 14 <sup>th</sup> Avenue North. Kerr-McGee operated a wood preserving facility to pressure treat lumber |                                       |





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|   |  |
|---|--|
|   | <p>products using creosote and pentachlorophenol as preservatives.</p> <p>SESD previously collected surface soil and sediment samples for SVOCs and dioxin analyses from residential properties and ditches adjacent to the site in April 2010. Eight samples collected in April exceeded the Regional Screening Levels (RSLs) for at least one Polycyclic Aromatic Hydrocarbon (PAH).</p>   |
| <b>A6. Project Description:</b>   | <p>Approximately 40 composite surface soil samples will be collected from a depth of 0-3 inches. Samples will be collected from residential and public areas (churches, cemetery, schools) adjacent to the site. Due to the variation in size of the properties, the samplers will use an authoritative design to determine sample aliquot numbers and locations. The goal is to yield a sample representative of the potential contamination of each property. Samples will be analyzed by a contract laboratory for semivolatile organic compounds and dioxin.</p> <p>Approximately three subsurface soil samples will be collected from a depth of 12-15 inches to monitor if subsurface soil has been impacted by site activities.</p> <p>All data will be compared to EPA removal action levels and EPA Regional Screening Levels (RSLs).</p> |
| <b>Decision(s) to be made based on data:</b>  | Based on the concentrations of SVOCs in the soil, relative to the Removal Action Levels, a decision will be made to either take No Further Action (NFA) or conduct soil removal activities.  |
| <b>Applicable regulatory information, action levels, etc.</b>   | <p>US EPA Removal Action Levels</p> <p>US EPA Regional Screening Levels (December 2009).</p> <p>The OSWER action level for dioxin is 1000 ng/Kg and the removal action level for the benzo(a)pyrene (BaP) equivalents is 1.5 mg/kg.</p>  |
| <b>Field Study Date:</b>  | October 25-29, 2010  |
| <b>Projected Lab Completion Date:</b>   | November 30, 2010  |
| <b>Projected Final Report Completion Date:</b>  | December 10, 2010  |
| <b>A7. Quality Objectives and Criteria</b><br>All samples/sample locations meet the field investigation objectives and purposes summarized in Section A5 and A6 of this QAPP. |  |





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**A8. Special Training/Certifications**  
N/A.

**A9. Documents and Records**

For this project, SESD will implement the following procedures pertaining to Documents and Records:

*SESD Operating Procedure for Report Preparation and Distribution*, SESDPROC-003-R3.

*SESD Operating Procedure for Logbooks*, SESDPROC-010-R3.

*SESD Operating Procedure for Control of Records*, SESDPROC-002-R4.

**SECTION B: Data Generation and Acquisition**

**B1. Sampling Design**

The following matrix lists the proposed numbers and types of samples to be collected. Sample locations are described in Section A6 of this QAPP.

| Media: | Number of Samples: | Analyses:                |
|--------|--------------------|--------------------------|
| Soil   | 46                 | SVOCs, SVSIM, and dioxin |

**B2. Sampling Methods, General Procedures**

The following SESD field measurement and sampling procedures will be followed during this field study, as applicable:

SESDPROD300-R1 (Soil Sampling)

SESDPROD110-R2 (Global Positioning System)

SESDPROD202-R1 (Management of Investigation Derived Waste)

**B3. Sampling Handling and Custody**

All samples will be collected and handled according to the procedures listed in Section B2 of this QAPP. After collection, samples will be managed according to the following:

*SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual*, January 2009.

*SESD Operating Procedure for Sample and Evidence Management*, SESDPROC-005-R1.

*SESD Operating Procedure for Packing, Labeling and Shipping of Environmental and Waste Samples* SESDPROC-209-R1.





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**B4. Analytical Methods**

The following is a brief description of the analytical methods for this field investigation:

**SESD:**

N/A

**CLP:**

All samples collected for laboratory analysis will be analyzed by the CLP laboratory in accordance with the most recent Contract Laboratory Statement of Work.

**B5. Quality Control**

The following is a brief description of field and laboratory quality control measures to be implemented during this field investigation:

Approximately three soil samples (one per 20 samples collected) will be designated as a matrix spike/matrix duplicate. Split samples will be collected (1 per sampling team).

**Field:**

Field quality control measures will be in accordance with the *SESD Operating Procedure for Field Sampling Quality Control*, SESDPROC-011-R2, and 40 CFR Part 136, Table II-Required Containers, Preservations Techniques, and Holding Times, Revised as of July 1, 2007.

**Laboratory:**

Specific laboratory quality control measures are specified in the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual*, January 2010.

**B6. Instrument/Equipment Testing, Inspection and Maintenance**

All field measurement instruments and equipment will be maintained in accordance with the *SESD Operating Procedure for Equipment Inventory and Management*, SESDPROC-108-R3.

**B7. Instrument/Equipment Calibration and Frequency**

All field measurement instruments and equipment are calibrated according to the *SESD Operating Procedure for Equipment Inventory and Management*, SESDPROC-108-R3 and according to specific procedures included within the defined operating procedures for each instrument (see specific field measurement procedures in Section B2 of this QAPP).

**B8. Inspection/Acceptance for Supplies and Consumables**

All critical supplies and consumables for this field investigation are inspected and maintained in accordance with the following procedures:

*SESD Operating Procedure for Purchasing of Services and Supplies*, SESDPROC-015-R2.  
*SESD Operating Procedure for Field Sampling Quality Control*, SESDPROC-011-R2.



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The SESD Field Quality Manager and the Branch Quality Assurance Officers are responsible for ensuring that these requirements are met.

**B9. Non-direct Measurements:**

N/A for this category.

**B10. Data Management**

The field project leader will be responsible for ensuring that all requirements for data management are met. All data generated for this field investigation, whether hand-recorded or recorded and stored in an electronic data logger will be recorded, stored and managed according to the following procedures:

*SESD Operating Procedure for Control of Records, SESDPROC-002-R4.*  
*SESD Operating Procedures for Logbooks, SESDPROC-010-R3.*

**SECTION C: Assessment/Oversight and SECTION D: Data Validation/Usability**

The *SESD Field Branches Quality Management Plan (QMP)* and the *SESD Operating Procedures* address the Assessment/Oversight and Data Validation/Usability elements as required. Please consult those documents for more detailed information concerning the SESD Field Branches Quality System.

**\*\*Footnotes:** This Quality Assurance Project Plan (QAPP) has been prepared and approved according to the EPA *Requirements for Quality Assurance Project Plans (EPA QA/R5 EPA/240/B-01/003)*, U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC, March 2001 (USEPA, 2001). This document will be used to ensure that the environmental data collected for this project are of the type and quality for the intended purposes. **This document is for SESD use only.**