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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
Science and Ecosystem Support Division
Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

February 9, 2012

4SESD-EIB

MEMORANDUM

SUBJECT: *QAPP Transmittal, Blackleaf Chemical Removal Assessment; Louisville,* Kentucky; SESD Project Identification Number: 12-0195

FROM: Donald Hunter, Regional Expert
Air and Superfund Section

THRU: Laura Ackerman, Section Chief
Superfund and Air Section

TO: Art Smith, On-Scene Coordinator
Emergency Response and Removal Branch
Superfund Division

Please find attached the Quality Assurance Project Plan (QAPP) for the upcoming removal assessment at the Blackleaf Chemical Superfund Site in Louisville, Kentucky. The investigation will be conducted during the week of February 13, 2012. Please contact me at your earliest convenience if you have any questions regarding this QAPP. I can be reached at hunter.don@epa.gov or (706) 355-8605.

Attachment

Black Leaf Chemical Removal Assessment
Quality Assurance Project Plan
U.S. Environmental Protection Agency

Science and Ecosystem Support Division
980 College Station Road
Athens, GA 30605

SESD Project ID No.: 12-0195
SESD Category 3 QAPP

SECTION A: Project Planning Elements		
A1. Title (*Project Name*):	Black Leaf Chemical Removal Assessment	
Project Location:	1350 South 17th Street Louisville, Jefferson County, Kentucky	
Project Requestor and Organization:	Art Smith, On-Scene Coordinator, ERRB Region 4 U.S.E.P.A. Superfund Division 61 Forsyth Street SW Atlanta, Georgia 30303-8960	
Project Leader's Name, Position, and Organization:	Donald Hunter, Regional Expert Superfund and Air Section Enforcement and Investigations Branch	
Project Leader's Signature:	Donald Hunter	Date: 02/08/12
Technical Reviewer's Name and Position:	Tim Simpson, Environmental Scientist	
Technical Reviewer's Signature:	Timothy Simpson	Date: 02/08/12
Section Chief's Name and Position:	Laura Ackerman, Chief Superfund and Air Section	
Section Chief's Signature:	Laura Acker	Date: 02/08/12
A2. Table of Contents	NA	
A3. Distribution List	Art Smith, OSC, Region 4 Emergency Response and Removal Branch	
A4. Project Personnel	**Organization**	**Responsibilities**
Don Hunter	R4 SESD Superfund and Air Section	Project Leader, Sampler
Tim Simpson	R4 SESD Superfund and Air Section	SSO, Sampler
Jonathan Vail	R4 SESD Superfund and Air Section	Sampler
Brian Herndon	Integrated Laboratory Services (ILS)	Scribe, Custody, Shipping, Decon

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Ian Adams	Integrated Laboratory Services (ILS)	XRF Screening
Three OTIE (TBD)	Oneida Total Integrated Enterprises	Samplers

A5. Problem Definition – Investigation Objectives and Background Information:

Introduction/Background – The site is located in northwestern Jefferson County at 1350 South 17th Street, Louisville, Kentucky, approximately 2.5 miles south of I-64 and 2.2 miles east of the Shawnee Expressway. The site is located on a portion of a 29-acre parcel of land currently owned by Louisville Industrial Park, LLC. Locally, the site can be accessed by vehicle from Dixie Highway or from 17th Street. GPS coordinates at the 17th Street entrance are Latitude 38.232967 degrees north and Longitude -85.782500 degrees west.

The site is situated in an inner city area known as the Park Hill Neighborhood and is bordered by a residential area to the north, a large rail yard to the south and industrial/commercial areas to the east and west.

Operational History – EPA first became aware of the site in 1981 upon receipt of a Notification of Hazardous Waste Site form, which indicated that Diamond Shamrock Corporation handled pesticides at the site from 1955-1970. A Preliminary Assessment was performed by the Kentucky Division of Waste Management in 1987, however, no samples were collected and no substantial information relating to the site's operations was included.

Information relating to the site history was presented in a Phase 1 Environmental Site Assessment completed by ATC Associates in 1999. According to that report, the chain-of-ownership for the portion of the property where the site is located is as follows:

1910-1928	Tobacco Bi-Products (and Chemical)
1928-1933	Diamond Black Leaf
1933-1959	Diamond Alkali Corp.
1959-1982	Schenley Distillers/Louisville Cooperage
1982-1987	Lanham Lumber & Dry Kiln
1987-1993	Dunaway Lumber & Dry Kiln Company
1993-2001	Down River Forest Products
2001-present	Louisville Industrial Park, LLC

	Sanborn Fire Insurance maps for the property indicated that Building 20, located within the portion of the property designated as the Black Leaf Chemical Site, was used for the manufacturing of insecticides. Diamond Black Leaf/Alkali manufactured pesticides, including DDT and benzene hexachloride at different plants across the United States. Diamond also manufactured and sold chlorinated products, cement-coke, chromium chemicals, electro-chemicals, plastics, silicate, detergent, calcium and soda products. It is possible that some of these materials were used, distributed or manufactured at the Black Leaf Chemical Site. Investigation Objectives - The primary objective of this investigation is to determine the nature and extent of contamination that might be present in the back and front yards of properties adjacent to the site, along St. Louis Avenue, Wilson Avenue, Dixie Highway and South 15th Street. Access agreements were sent to all residents living on these streets at the potentially affected properties. Samples will be collected from the backyards of all properties granting access, as well as from the front yards of up to 20 percent of these locations. Primary contaminants of concern will be lead, arsenic and organochlorine pesticides. A secondary objective is to further investigate for the residual presence of pesticides in on-site areas surrounding Building 20, where formulating operations were conducted. In addition to chlorinated pesticides, there is anecdotal evidence that lead arsenate was also used in historical operations, and the SI results show releases of polycyclic aromatic hydrocarbons (PAHs) onsite. XRF screening will be utilized to bias the sample locations in areas where significantly elevated levels of arsenic and lead are detected. Soil samples will be collected at up to 5 locations, where both a surface soil and subsurface soil sample will be collected.
A6. Project Description:	**Sample Collection – Residential Properties** Following procedures in SESDPROC-300-R1, each sample will be collected as a four to five-point composite of the 0-inches to 4-inches below ground surface (bgs) interval. The number and locations for these aliquots will be determined in the field by the sample team leader

and will be based on considerations such as the size of the yard and the presence of structures, trees, shrubs and landscaping treatments. No aliquot will be collected within 10 feet of any identifiable burn pile, stained soil or storage areas. A sketch of the yard and sample locations will be drawn in the field log book. The approximate center of the sample aliquot pattern will be located and logged using a mapping-grade Trimble global positioning system (GPS) receiver. The coordinates will be noted in the field logbook and all coordinates will be downloaded at the end of each sampling day to a laptop computer and will later be used to create a location EDD, to be loaded into DART for archival purposes.

Samples will be collected using stainless steel hand augers and will be placed in a glass pan and mixed, using the quartering method, with a stainless steel spoon. When the sample has been thoroughly homogenized, it will be portioned into two 8-ounce glass sample jars, one for metals and one for pesticides/semi-volatile organics.

Sample Collection - On-Site Samples

Surface and subsurface samples will be collected as grab samples from locations designated by OSC Smith. The surface soil sample interval will be approximately 0" – 6" bgs. The subsurface sample will be collected over the 12" – 18" bgs interval or other interval, as directed by OSC Smith. All samples will be placed in glass pans and homogenized using the quartering method prior to containerization.

Sample Nomenclature

Residential Samples:

The station ID for each sample will consist of a two letter street identifier, where:

WA = Wilson Avenue
SL = St. Louis Avenue
DH = Dixie Highway
SF = South 15th Street

	and a four digit address code corresponding to the residence's street address. Samples collected from front yards will have the same station ID as the backyard samples with an "X" appended. The sample ID will be the station ID with "SF" appended, to indicate a surface soil sample. Co-located duplicate samples will be collected from five percent of the sampled locations and will be indicated by appending a "D" to the sample ID. For example, the primary sample collected in the backyard at 1700 St. Louis Avenue would be identified as SL1700SF. The front yard sample would be identified as SL1700XSF. If there was a co-located duplicate, also collected from the front yard, it would be identified as SL1700XSFD. On-Site Samples: The station ID for each on-site sample will consist of two letters, BC (Blackleaf Chemical), followed by a sequential series of two digits, beginning with "01", and ending in either "SF", for surface soil, or "SB" for subsurface soil. If a duplicate sample is collected, a "D" will be appended to the end of the given sample ID. Locations for on-site samples will be determined in the field and prescribed by the On-Scene Coordinator for the site. Figure 1, attached, shows the properties for which access has been granted through January 27, 2012. Additional properties will be added upon mobilization and collection of additional access agreements.
Applicable regulatory information, action levels, etc.	All results will be compared to the applicable EPA Removal Action Levels.
Decision(s) to be made based on data:	Do observed concentrations exceed Removal Action Levels? If so, do levels warrant consideration for removal. This decision will be made in consultation between the Region 4 OSC and Region 4, Superfund Division, Technical Services Section personnel.
Field Study Date:	February 13 through 16, 2012
Projected Lab Completion Date:	30 days from end of project

Projected Final Report Completion Date:	30 days from receipt of data

A7. Quality Objectives and Criteria

All samples/sample locations meet the field investigation objectives and purposes summarized in Sections A5 and A6 of this QAPP.

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-R4.
SESD Operating Procedure for Control of Records, SESDPROC-002-R5.

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	80	Lead, Arsenic, Organochlorine Pesticides and Semi-Volatile Organic Compounds
	80	XRF Field Screening for Lead/Arsenic

B2. Sampling Methods, General Procedures

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

SESDPROC-010-R4, Logbooks
SESDPROC-011-R3, Field Sampling Quality Control
SESDPROC-107-R2, Field X-Ray Fluorescence (XRF) Measurement
SESDPROC-110-R3, Global Positioning
SESDPROC-202-R2, Management of Investigation Derived Waste
SESDPROC-205-R2, Field Equipment Cleaning and Decontamination
SESDPROC-300-R2, Soil Sampling

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 managed according to the following:

SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, July 2011.
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.

B4. Analytical Methods

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

SESD:	Samples for metals analysis (arsenic and lead) will be analyzed in accordance with the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual*, July 2011. Specifically: EPA Methods 6010 and 200.8
CLP:	Samples for organochlorine pesticides and SVOCswill be analyzed by the CLP laboratory in accordance with the most recent CLP Statement of Work.
Other:	Additionally, each sample will be screened for lead and arsenic using XRF, in accordance with EPA Method 6200 and SESDPROC-107-R2.

B5. Quality Control

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

Field:	Field quality control measures will be in accordance with the *SESD Operating Procedure for Field Sampling Quality Control*, SESDPROC-011-R3, and/or *40 CFR Part 136.3, Table II-Required Containers, Preservation Techniques, and Holding Times*, as applicable. The number and type of field quality control samples proposed for this investigation are as follows: Co-located field duplicates: These will be collected at 5 percent of the locations. These are not pan splits but actual co-located duplicates collected from locations five feet away from the primary sample location. This direction will be determined in the field and described in the field log book.
Laboratory:	Specific laboratory quality control measures are specified in the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual*, July 2011. Based on the anticipated number of samples, five Matrix Spike/Matrix Spike Duplicate samples (one per twenty samples) will be designated for laboratory QC purposes.

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-R3.
SESD Operating Procedure for Equipment Inventory and Management, SESDPROC-108-R3
SESD Operating Procedure for Field Sampling Quality Control, SESDPROC-011-R3.

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.

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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-R5.
SESD Operating Procedures for Logbooks, SESDPROC-010-R4.

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.

Figure 2
Sample Location Map
Black Leaf Chemical Removal Assess
Louisville, Kentucky