UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC 2 1 2011

GENERAL NOTICE, OFFER TO NEGOTIATE, AND REQUEST FOR INFORMATION
URGENT LEGAL MATTER
PROMPT REPLY NECESSARY
VIA EMAIL AND CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Walter Coke, Inc.
Attn: Jarred O. Taylor II
Maynard, Cooper, & Gale P.C.
1900 Sixth Avenue North
2400 Regions/Harbert Plaza
Birmingham, Alabama 35203

Re: General Notice Letter for the 35th Avenue Coke Site in Birmingham, Jefferson County, Alabama

Dear Mr. Taylor:

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the federal "Superfund" law, the U.S. Environmental Protection Agency is responsible for responding to the release or threat of release of hazardous substances, pollutants or contaminants into the environment – that is, for stopping further contamination from occurring and for cleaning up or otherwise addressing any contamination that has already occurred. The EPA has documented that such a release has occurred at the 35th Avenue Coke Site, which includes portions of the Fairmont, Collegeville, and Harriman Park communities, portions of Five Mile Creek, and a ditch located in Harriman Park that receives runoff from industry, all of which are located in and around Birmingham, Jefferson County, Alabama (Site). The EPA has spent, or is considering spending, public funds to investigate and control releases of hazardous substances or potential releases of hazardous substances at the Site.

Based on information presently available to the EPA, the Agency has determined that Walter Coke, Inc., your client, may be responsible under CERCLA for cleanup of the Site or costs the EPA has incurred in cleaning up the Site. The EPA currently is investigating the past and current operations of companies located in and around the Site to identify other parties who also may be a source of the releases, and who may be responsible under CERCLA for the cleanup of the Site and the costs incurred by the EPA. The EPA will provide to your client a list of parties the EPA identifies, if any, in order to facilitate communication and potential coordination for the performance of response actions at the Site.

Explanation of Potential Liability

Under CERCLA, specifically Sections 106(a) and 107(a), potentially responsible parties (PRPs) may be required to perform cleanup actions to protect the public health, welfare, or the environment. PRPs may also be responsible for costs incurred by the EPA in cleaning up the Site, unless the PRP can show divisibility or any of the other statutory defenses. PRPs include current and former owners and operators of a site, as well as persons who arranged for treatment and/or disposal of any hazardous substances found at the site, and persons who accepted hazardous substances for transport and selected the site to which the hazardous substances were delivered. The EPA has initiated an investigation in order to identify any PRPs for this Site. Based on the information collected to date, the EPA believes that your client may be liable under Section 107(a) of CERCLA with respect to the Site.

Information Request

The EPA currently is investigating the source, extent and nature of the release or threatened release of hazardous substances, pollutants or contaminants, or hazardous wastes on or about the Site. This investigation requires inquiry into the identification, nature and quantity of materials that have been or are generated, treated, stored or disposed of at, or transported to, the Site and the nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from the Site. The EPA also is seeking information relating to the ability of a person to pay for or to perform a cleanup of the Site.

Although the EPA already has identified your client as a PRP for this Site, pursuant to the authority of Section 104 of CERCLA, 42 U.S.C. § 9604, as amended, and Section 3007 of the Resources Conservation and Recovery Act (RCRA), 42 U.S.C. § 6927, your client is hereby requested to respond to the Information Request set forth in Enclosures A and B, attached hereto.

While the EPA seeks your cooperation in this investigation, compliance with the Information Request, set forth in Enclosures A and B, is mandatory. Failure to respond fully and truthfully to the Information Request within forty-five (45) days of receipt of this letter, or to adequately justify such failure to respond, can result in enforcement action by the EPA pursuant to Section 104(e) of CERCLA, as amended, and/or Section 3008 of RCRA. Each of these statutes permits the EPA to seek the imposition of penalties of up to $37,500.00 for each day of continued non-compliance. Please be further advised that provision of false, fictitious, or fraudulent statements or representations may subject your client to criminal penalties under 18 U.S.C. § 1001 or Section 3008(d) of RCRA.

This Information Request is not subject to the approval requirements of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501, et seq.

Your client's response to this Information Request should be mailed to:

U.S. Environmental Protection Agency, Region 4
Office of Environmental Accountability
Kavita K. Batra, Associate Regional Counsel
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

Offer to Negotiate

At this time, the EPA would like to offer your client the opportunity to perform certain removal activities at the Site as set forth in the proposed Administrative Settlement Agreement and Order on Consent (AOC), which is identified as Enclosure C. The EPA would like to negotiate this AOC as expeditiously as possible. To that end, the EPA would like to receive your client's written comments on this proposed AOC no later than forty-five (45) days from your receipt of this letter. In addition, the EPA would like to invite you and your client to participate in a conference call to further discuss this proposed settlement and to answer any other questions you or your client may have regarding the Site. The EPA asks that you please contact Ms. Batra, at (404) 562-9697, to schedule this conference call to take place at a mutually convenient date and time, preferably during the second week of January 2012.

Decision Not to Use Special Notice

Under CERCLA Section 122(e), the EPA has the discretionary authority to invoke special notice procedures to formally negotiate the terms of an agreement between the EPA and PRPs to conduct or finance response activities. Use of these special notice procedures triggers a moratorium on certain EPA activities at the Site while formal negotiations between the EPA and the PRP or PRPs are conducted. In this case, the EPA has decided not to invoke the Section 122(e) special notice procedures. It is the EPA's policy not to use the special notice procedures for a removal action unless there is a six-month planning lead time after the decision to respond and prior to the initiation of the action. This is a time-critical removal action, and special notice procedures accordingly will not be used. Nonetheless, as noted above, the EPA is willing to discuss settlement opportunities without invoking a moratorium but will continue the response actions to completion if such discussions do not lead to settlement expeditiously.

Administrative Record

Pursuant to CERCLA Section 113(k), the EPA will establish an Administrative Record that contains documents that serve as the basis for the EPA's selection of a cleanup action for the Site. The Administrative Record will be available to you and the public for inspection and comment. The Administrative Record will also be available for inspection and comment at the Superfund Records Center, EPA Region 4, at 61 Forsyth Street, S.W., Atlanta, Georgia 30303.

Due to the legal ramifications of your failure to respond properly, the EPA strongly encourages you to give this matter your immediate attention and to respond to this Information Request within the time specified above. If you have any legal or technical questions relating to this Information Request, you may consult with the EPA prior to the time specified above. Please direct legal questions to Ms. Batra,

Associate Regional Counsel, at (404) 562-9697. Technical questions should be directed to Jeff Crowley, On-Scene Coordinator, at the above address, or at (404) 562-9587. Thank you for your prompt attention to this matter.

Sincerely,

A. Shane Hitchcock, Chief
Emergency Response and Removal Branch
Superfund Division

Enclosures:
1. Information Request
2. Information Request Questions
3. Proposed AOC

cc: Jeff Kitchens, ADEM
Tom Johnston, ADEM

ENCLOSURE A

35TH AVENUE COKE SITE - INFORMATION REQUEST

Instructions:

Please provide a separate narrative response to each and every question and subpart of a question set forth in this Information Request.

Precede each answer with the number of the question to which it corresponds.

If information or documents not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Moreover, should you find, at any time after the submission of your response, that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA of this fact as soon as possible and provide the EPA with a corrected response.

For each document produced in response to this Information Request, indicate on the document, or in some other reasonable manner, the number of the question to which it responds.

The information requested herein must be provided even though you may contend that it includes possibly confidential information or trade secrets. You may, if you desire, assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of CERCLA, 42 U.S.C. Sections 9604(e)(7)(E) and (F), Section 3007(b) of RCRA, 42 U.S.C. Section 6927(b), and 40 C.F.R. Section 2.203(b), by attaching to such information at the time it is submitted, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," or "proprietary," or "company confidential." Information covered by such a claim will be disclosed by the EPA only to the extent, and only by means, of the procedures set forth in statutes and regulation set forth above. If no such claim accompanies the information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. You should read the above cited regulations carefully before asserting a business confidentiality claim, since certain categories of information are not properly the subject of such a claim.

Definitions:

The following definitions shall apply to the following words as they appear in this Enclosure:

1. The term "you" or "Respondent" shall mean the addressee of this Request, the addressee's officers, managers, employees, representatives, contractors, trustees, partners, successors, assigns, and agents.

2. The term "person" shall have the same definition as in Section 101(21) of CERCLA: an individual, firm, corporation, association, partnership, consortium, joint venture,

commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body.

3. The terms the "Site" shall mean the 35th Avenue Coke Site, and shall include those areas comprised of portions of the Fairmont, Collegeville, and Harriman Park communities, portions of Five Mile Creek, and a ditch located in Harriman Park that receives runoff from industry, all of which are located in and around Birmingham, Jefferson County, Alabama.

4. For purposes of this Information Request, the term "facility" shall mean the Walter Coke, Inc. plant, generally located at 3500 35th Avenue North in Birmingham, Jefferson County, Alabama.

5. The term "hazardous substance" shall have the same definition as that contained in Section 101(14) of CERCLA and includes any mixtures of such pollutants and contaminants with any other substances. Petroleum products mixed with pollutants and contaminants are also included in this definition.

6. The term "hazardous waste" shall have the same definition as that contained in Section 1004(5) of RCRA.

7. The term "solid waste" shall have the same definition as that contained in Section 1004(27) of RCRA.

8. The term "identify" means, with respect to a natural person, to set forth the person's name, present or last known business address and business telephone number, present or last known home address and home telephone number, and present or last known job title, position or business.

9. The term "identify" means, with respect to a corporation, partnership, business trust or other association or business entity (including a sole proprietorship), to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business.

10. The term "identify" means, with respect to a document, to provide its customary business description, its date, its number, if any (invoice or purchase order number), the identity of the author, addressor, addressee and/or recipient, and the substance or the subject matter.

11. The terms "and" and "or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.

12. Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions.

13. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in CERCLA, RCRA, 40 C.F.R. Part 300, or 40 C.F.R. Parts 260 and 280, in which case the statutory or regulatory definitions shall apply.

ENCLOSURE B

35th AVENUE COKE SITE

INFORMATION REQUEST QUESTIONS

1. Identify the person(s) answering these questions on behalf of Respondent, including all persons consulted in answering these questions and the documents consulted, examined, or referred to in preparation of answering these questions. Provide true and accurate copies of all such documents.

2. State Respondent's correct legal name.

3. Identify all branches, subsidiaries, and parents of Respondent. If Respondent is incorporated, provide the state of incorporation, the date of organization, and Respondent's registered agent in the State of Alabama.

4. Identify the legal entity that would be responsible for the liabilities of Respondent arising from or relating to any release or threatened release of hazardous substances at the Site, including, but not limited to, successors and individuals.

5. Describe whether and how Respondent may be responsible for any liabilities of United States Pipe & Foundry Company ("U.S. Pipe"), including any of U.S. Pipe's officers, managers, employees, representatives, contractors, trustees, partners, successors, predecessors, assigns, and agents.

6. Identify all past and present solid waste management units (e.g., waste piles, landfills, surface impoundments, waste lagoons, waste ponds or pits, tanks, container storage areas, etc.) located at the facility, going back fifteen (15) years in time. For each such solid waste management unit, provide the following information:

    a. A map, showing the unit's boundaries and the location of all known solid waste management units, whether currently in operation or not. The map should be drawn to scale, if possible, and clearly indicate the location and size of all past and present units;

    b. The type of unit (e.g., storage area, landfill, waste pile, etc.), and the dimensions of the unit;

    c. The dates that the unit was/has been in use;

    d. The purpose and past/current usage (e.g., storage, spill containment, etc.);

    e. The quantity and types of materials (hazardous substances and any other chemicals) located in each unit, and;

f. The construction (materials, composition), volume, size, dates of cleaning, and condition of each unit.

g. If the unit is no longer in use, how was such unit closed and what actions were taken to prevent or address potential or actual releases of waste constituents from the unit.

7. Identify all leaks, spills, or releases into the environment of any hazardous substances that have occurred at or from the facility within the last fifteen (15) years. In addition, identify:

a. When such releases occurred;

b. How the releases occurred (e.g., when the substances were being stored, delivered by a vendor, transported or transferred (to or from any tanks, drums, barrels, or recovery units), and treated);

c. The amount of each hazardous substances, pollutants, or contaminants so released;

d. Where such releases occurred;

e. Any and all activities undertaken in response to each such release or threatened release, including the notification of any agencies or governmental units about the release;

f. Any and all investigations of the circumstances, nature, extent or location of each release or threatened release including, the results of any soil, water (ground and surface), or air testing undertaken; and

g. All persons with information relating to these releases.

8. Describe all occurrences involving releases of coal tar from your company's plant operations within the last fifteen (15) years.

9. Describe in detail all instances in which any material from the facility was or could have been used as fill material in the Fairmont, Collegeville, and Harriman Park communities in Birmingham, Jefferson County, Alabama.

10. Describe all occurrences associated with violations of any environmental laws, citations, deficiencies, and/or accidents concerning the facility within the last fifteen (15) years. Provide copies of all documents associated with such an occurrence.

11. Provide data sheets and/or other related documents for all Method 9 tests performed for determining stack and fugitive emissions from charging operations, pushing operations,

coke oven doors, offtake systems, topside port lids, collecting mains, and control devices for the previous fifteen (15) years.

12. Provide supporting documentation relating to the company's reported releases of Arsenic and Polycyclic Aromatic Hydrocarbons, for the Toxics Release Inventory, for the previous ten (10) years.

13. Provide copies of all analytical data, reports, sampling data, and corresponding QA/QC data for each data set obtained by Respondent from January 2009 through January 2011, regarding the residential sampling conducted by Walter Coke, Inc., and any additional documents that are relevant to this question.

14. Provide copies of all information and documents used to generate the list of companies identified as PRPs in your letter sent to EPA, dated September 6, 2011.

15. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 4

IN THE MATTER OF:
35th Avenue Coke Site
Birmingham, Jefferson County, Alabama

Respondent
Walter Coke, Inc.

ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR REMOVAL ACTION

U.S. EPA Region 4
CERCLA Docket No. ____

Proceeding Under Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622

TABLE OF CONTENTS

I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent ("Settlement Agreement") is entered into voluntarily by the United States Environmental Protection Agency ("EPA"), the State of Alabama ("the "State"), and Walter Coke, Inc. ("Respondent"). This Settlement Agreement provides for the performance of a removal action by Respondent and the payment of certain response costs incurred by the United States and the State at or in connection with the "35th Avenue Coke Site" (the "Site"), which is comprised of portions of the Fairmont, Collegeville, and Harriman Park communities, portions of Five Mile Creek, and a ditch located in Harriman Park that receives runoff from industry, all of which are located in and around Birmingham, Jefferson County, Alabama. EPA is currently investigating the past and current operations of companies located in and around the Site to identify potentially responsible parties ("PRPs") who may be source(s) of the release(s) at the Site.

2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622 ("CERCLA").

3. EPA has notified the State of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. EPA, the State, and Respondent recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Settlement Agreement do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of facts, conclusions of law, and determinations in Sections IV and V of this Settlement Agreement. Respondent agrees to comply with and be bound by the terms of this Settlement Agreement and further agrees that it will not contest the basis or validity of this Settlement Agreement or its terms.

II. PARTIES BOUND

5. This Settlement Agreement applies to and is binding upon EPA, the State, and upon Respondent and its heirs, successors, and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter Respondent's responsibilities under this Settlement Agreement.

6. Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this Settlement Agreement. Respondent shall be responsible for any noncompliance with this Settlement Agreement.

III. DEFINITIONS

7. Unless otherwise expressly provided in this Settlement Agreement, terms used in this Settlement Agreement that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

"35th Avenue Coke Site Special Account" shall mean the special account, within the EPA Hazardous Substance Superfund, established for the Site by EPA pursuant to Section 122(b)(3) of CERCLA, 42 U.S.C. § 9622(b)(3).

"Action Memorandum/Enforcement" shall mean the EPA Action Memorandum relating to the Site, signed by the Regional Administrator, EPA Region 4, or her delegate, and all attachments thereto.

"ADEM" shall mean the Alabama Department of Environmental Management and any successor departments or agencies of the State.

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

"Day" or "day" shall mean a calendar day. In computing any period of time under this Settlement Agreement, where the last day would fall on a Saturday, Sunday, or federal or state holiday, the period shall run until the close of business of the next working day.

"DOJ" shall mean the United States Department of Justice and its successor departments, agencies, or instrumentalities.

"Effective Date" shall mean the effective date of this Settlement Agreement as provided in Section XXXV.

"EPA" shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

"EPA Hazardous Substance Superfund" shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

"EPA Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports, and other deliverables pursuant to this Settlement Agreement, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 33 (including, but not limited to, costs and attorneys fees and any monies paid to secure access, including, but not limited to, the amount of just

compensation), Paragraph 43 (emergency response), and Paragraph 72 (work takeover). EPA Future Response Costs shall also include Agency for Toxic Substances and Disease Registry ("ATSDR") costs regarding the Site, all Interim Response Costs, and all Interest on those Past Response Costs Respondent has agreed to pay under this Settlement Agreement that have accrued pursuant to 42 U.S.C. § 9607(a) during the period from _____ to the Effective Date.

"EPA Interim Response Costs" shall mean all costs, including but not limited to direct and indirect costs, (a) paid by the United States in connection with the Site between _____ and the Effective Date, or (b) incurred prior to the Effective Date, but paid after that date.

"EPA Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid at or in connection with the Site through _____, plus Interest on all such costs through such date.

"Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

"Paragraph" shall mean a portion of this Settlement Agreement identified by an Arabic numeral or an upper or lower case letter.

"Parties" shall mean EPA, the State, and Respondent.

"RCRA" shall mean the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992 (also known as the Resource Conservation and Recovery Act).

"Respondent" shall mean Walter Coke, Inc.

"Section" shall mean a portion of this Settlement Agreement identified by a Roman numeral.

"Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXXIII). In the event of conflict between this Settlement Agreement and any appendix, this Settlement Agreement shall control.

"Site" shall mean those areas comprised of portions of the Fairmont, Collegeville and Harriman Park communities, portions of Five Mile Creek, and a ditch located in Harriman Park that receives runoff from industry, all of which are located in and around Birmingham, Jefferson County, Alabama.

"State" shall mean the State of Alabama.

"State Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the State of Alabama incurs in reviewing or developing plans, reports, and other deliverables pursuant to this Settlement Agreement, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 33 (including, but not limited to, costs and attorneys fees and any monies paid to secure access, including, but not limited to, the amount of just compensation), Paragraph 43 (emergency response), and Paragraph 72 (work takeover).

"Study Area" shall mean those portions of the Site that Respondent is required to address pursuant to this Settlement Agreement, including: (1) residential properties located in the Fairmont, Collegeville, and Harriman Park communities, located south of 49th Street, east of 26th Street/Highway 31, north of 27th Avenue, and west of the railroad lines; (2) non-residential properties, that include childcare facilities, church playgrounds, parks and playgrounds, and schools; (3) the ditch flowing through Harriman Park; and (4) a 1.5 mile stretch of Five Mile Creek between Highway 31 and Springdale Road, set forth in Appendix A of this Settlement Agreement.

"United States" shall mean the United States of America and each department, agency, and instrumentality of the United States, including EPA.

"Waste Material" shall mean (a) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (d) any hazardous waste under Ala. Code Section 22-30-3(5).

"Work" shall mean all activities Respondent is required to perform under this Settlement Agreement except those required by Section XI (Record Retention).

IV. FINDINGS OF FACT

8. Since 1919, a coke manufacturing plant has been operating at 3500 35th Avenue North in Birmingham, Jefferson, County, Alabama, where Walter Coke, Inc. currently is operating on approximately 400 acres ("WC Facility").

9. The original coke manufacturing began operation in 1919 as Sloss Sheffield Steel and Iron Company, producing foundry and furnace coke and by-products.

10. In 1952, Sloss Sheffield Steel and Iron Company merged with United States Pipe and Foundry Company, at which time the coke facility began producing all of the coke used by United States Pipe and Foundry Company. In 1969, Jim Walter Corporation purchased United States Pipe and Foundry Company.

11. In 1976, Sloss Sheffield Steel and Iron Company became a part of the Coke Iron and Chemical Division of Jim Walter Resources, Inc. In 1987, the Coke Iron and Chemical Division of Jim Walter Resources, Inc. separated from Jim Walter Resources, Inc. and established as Sloss Industries Corporation, becoming a part of the new parent company, Walter Industries.

12. In 1988, the New York Investment firm of Kohlberg Kravis Roberts and Company acquired Jim Walter Corporation in a leveraged buyout. In 1991, the parent corporation's name was changed to Walter Industries, Inc.

13. On September 29, 1989, the EPA issued a RCRA Section 3008(h) Administrative Order to Sloss Industries Corporation, for the performance of certain activities intended to prevent or mitigate the migration of releases of hazardous wastes or hazardous constituents at or from the WC Facility. EPA issued the order upon determining that a release of hazardous waste or hazardous constituents occurred from the Sloss Industries Corporation facility.

14. In 2009, Walter Industries, Inc. changed its name to Walter Energy, Inc., and, at that time, Sloss Industries Corporation became Walter Coke, Inc.

15. In 2009, and with oversight from the EPA, Walter Coke, Inc. has taken and analyzed soil samples for two Contaminants of Concern ("COC's"), arsenic and benzo(a)pyrene ("BaP"), from 78 properties located within the Study Area. The analysis of the soil samples revealed that soils on 23 of the 78 properties are contaminated with arsenic, BaP, or both COCs above EPA's Removal Action Levels ("RAL"). To date, Walter Coke, Inc. has been addressing the contamination at a number of these 23 properties in accordance with the Residential Soil Remedial Action Work Plan – Phase I.

16. Walter Coke, Inc. is an operating company that currently manufactures foundry and furnace coke as well as coke by-products at the WC Facility.

17. Walter Coke, Inc.'s operations produce contaminants that include but are not limited to BaP, which is a polycyclic aromatic hydrocarbon ("PAH"), and Arsenic, at the WC Facility.

18. EPA has determined that levels of BaP and Arsenic are present above EPA's RALs in certain portions of the Site.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

19. Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

a. The 35th Avenue Coke Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

c. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is jointly and severally liable for performance of a response action and for response costs incurred and to be incurred at the Site. Respondent arranged for disposal or treatment, of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

e. The conditions described in Paragraphs 8-18 of the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C.§ 9601(22).

f. The removal action required by this Settlement Agreement is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Settlement Agreement, will be consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

VI. SETTLEMENT AGREEMENT AND ORDER

20. Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Settlement Agreement, including, but not limited to, all attachments to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

21. Respondent shall retain one or more contractors to perform the Work and shall notify EPA of the name(s) and qualifications of such contractor(s) within fifteen (15) days after the Effective Date. Respondent shall also notify EPA of the name(s) and qualification(s) of any

other contractor(s) or subcontractor(s) retained to perform the Work at least fifteen (15) days prior to commencement of such Work. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If EPA disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within five (5) days after EPA's disapproval. The proposed contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002), or equivalent documentation as required by EPA.

22. Within fifteen (15) days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondent required by this Settlement Agreement and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within five (5) days following EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondent.

23. EPA has designated Jeffery J. Crowley of the Emergency Response and Removal Branch, Region 4, as its On-Scene Coordinator ("OSC"). Except as otherwise provided in this Settlement Agreement, Respondent shall direct all submissions required by this Settlement Agreement to the OSC at 61 Forsyth Street, S.W., 11th Floor, Atlanta, Georgia 30303. EPA and Respondent shall have the right, subject to Paragraph 21, to change their respective designated OSC or Project Coordinator. Respondent shall notify EPA fifteen (15) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

24. Respondent shall perform, at a minimum, the community involvement and technical assistance activities in Section XXXI (Community Involvement and Technical Assistance Plan), and the following:

a. Within thirty (30) days of the Effective Date, submit for review and approval by EPA, a Removal Investigation Sampling Plan ("RISP") to take soil samples from residential and non-industrial properties located within the Study Area, including those properties sampled by Respondent in 2009, and analyze the soil samples for the following COCs: target analyte list metals, PAHs, semi-volatile organic compounds ("SVOCs"). For those soil samples collected that abut the former or currently operating substations, the samples shall be analyzed for

polychlorinated biphenyls ("PCBs"). The RISP shall incorporate the sampling methodology that is set forth in Appendix B of this Settlement Agreement.

b. Within thirty (30) days of EPA's approval of the RISP, Respondent shall begin implementation of the RISP.

c. Within thirty (30) days of completion of the implementation of the RISP, Respondent shall submit to EPA and the State a Final Sampling Report, with all analytical data. The Final Sampling Report shall include but not be limited to maps, diagrams, videos, and logs of all areas investigated.

d. Within sixty (60) days of the Effective Date, or at a later date, as otherwise specified in writing by EPA, Respondent shall submit to EPA for review and approval, a Removal Action Work Plan ("RAWP"). The RAWP shall be developed to enable Respondent to clean up twenty-five (25) properties identified by EPA, within the Study Area, that have been identified as having soils that exceed the RALS for the COCs identified in paragraph 22(a) during the implementation of the RISP. The RAWP shall also include the cleanup of the four properties referenced in Paragraph 15 of this Settlement Agreement, previously sampled by Walter Coke, Inc., that Walter Coke, Inc. has sought to clean up, which are located at the following addresses:

(1) 3569 43rd Avenue North;
(2) 3409 31st Way North;
(3) 3452 30th Way North; and
(4) 3347 30th Place North;

The RAWP shall include, but not be limited to, the following:

i. Clean up soils to EPA's RALs for residential properties. The RAL for BaP is 1.5 mg/kg, and the RAL for As is 39 mg/kg. Should sampling show that COCs other than BaP or As exist, Respondent shall achieve the cleanup at a number based on residential RALs, as set forth in Appendix C of this Settlement Agreement.

ii. Where excavation of contaminated soil is performed, backfill all excavated areas with clean soil. Soil used for backfill shall be sampled to screen for hazardous substance contamination. If a vegetative cover existed prior to excavation, it shall be restored to prevent erosion.

iii. Document the current condition of any structure prior to any excavation activity in the immediate vicinity of the structure(s). This shall include an exterior survey of any building, deck, patio, sidewalk, and hard feature. In the event of accidental contact with any of the above features, assess, repair and/or replace the damaged feature to the extent practicable unless the non-Respondent property owner and Respondent have agreed to an alternate plan. Written notice shall be given to the OSC upon the discovery of any damage immediately upon completion of the assessment.

iv. Repair and/or replace, to the extent practicable, landscaping if removed or damaged in the process of conducting this removal activity unless the non-Respondent property owner and Respondent have agreed to an alternate plan. Landscaping includes, but is not limited to, trees, sod, shrubs, plants, and flowers.

v. Devise and implement a program to inform any impacted businesses and residents of the analytical results of their properties' soil. This program shall be implemented such that results are easily understood by the businesses and residents and delivered to them within fourteen (14) days of Respondent's receipt of confirmed data with respect to any particular property.

vi. Install barriers with notifications, alerting the community of the removal activity, during cleanup of any property.

vii. Restore areas that are disturbed by the removal activity to their pre-removal state, to the maximum extent practicable.

viii. Ensure that field vehicles will be located such that they do not interrupt or impede the flow of traffic.

ix. Implement institutional controls, as required by EPA, to prevent future exposure to contamination above EPA's RALs.

e. Within thirty (30) days of EPA's approval of the RAWP, or at a later date, as otherwise specified in writing by EPA, Respondent shall begin implementation of the RAWP at all properties identified in 24(d) and .

f. Respondent shall provide office space for EPA, the State, and all representatives of EPA and the State, including contractors, which shall include access to a telephone, facsimile machine, and internet, during the development and implementation of all of the activities set forth in Section VIII (Work to be Performed) and Section XXXI (Community Involvement and Technical Assistance Plan).

25. Work Plan and Implementation.

a. In accordance with the time frames established in Paragraph 24 above, Respondent shall submit to EPA for approval a draft RISP and RAWP for performing the removal action generally described in Paragraph 24 above. The draft RISP and RAWP shall provide a description of, and an expeditious schedule for, the actions required by this Settlement Agreement. EPA shall require preparation of a Quality Assurance Project Plan ("QAPP") as part of the RISP. The QAPP should be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001, Reissued May 2006), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/240/R-02/009, December 2002).

b. EPA may approve, disapprove, require revisions to, or modify the draft RISP and or RAWP in whole or in part. If EPA requires revisions, Respondent shall submit a revised draft RISP and/or RAWP within fifteen (15) days after receipt of EPA's notification of the required revisions. Respondent shall implement the RISP and RAWP as approved in writing by EPA in accordance with the schedule set forth in Paragraph 24 of this Settlement Agreement. Once approved, or approved with modifications, the RISP, the RAWP, the schedules, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement Agreement.

c. Respondent shall not commence any Work except in conformance with the terms of this Settlement Agreement. Respondent shall not commence implementation of the Work Plan developed hereunder until receiving written EPA approval pursuant to Paragraph 25.b.

26. Health and Safety Plan. Within fifteen (15) days after the Effective Date, Respondent shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of on-site work under this Settlement Agreement. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action.

27. Quality Assurance and Sampling.

a. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001; Reissued May 2006)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements.

b. Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondent shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than fifteen (15) days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

28. Post-Removal Site Control. In accordance with the RAWP schedule, or as otherwise directed by EPA, Respondent shall submit a proposal for post-removal site control consistent with Section 300.415(*l*) of the NCP and OSWER Directive No. 9360.2-02. Upon EPA approval, Respondent shall implement such controls and shall provide EPA with documentation of all post-removal site control arrangements.

29. Reporting.

a. Respondent shall submit a written progress report to EPA concerning all actions undertaken pursuant to this Settlement Agreement every 15th day after the date of receipt of EPA's approval of the RISP until termination of this Settlement Agreement, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

b. Respondent shall submit three (3) copies of all plans, reports or other submissions required by this Settlement Agreement, the Statement of Work, or any approved work plan. Upon request by EPA, Respondent shall submit such documents in electronic form.

c. Respondent shall, at least thirty (30) days prior to the conveyance of any interest in real property at the Site, give written notice to the transferee that the property is subject to this Settlement Agreement and written notice to EPA and the State of the proposed conveyance, including the name and address of the transferee. Respondent also agree to require that its successors comply with the immediately preceding sentence and Sections IX (Site Access) and X (Access to Information).

30. Final Report. Within thirty (30) days after completion of all Work required by this Settlement Agreement, Respondent shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Settlement Agreement. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement Agreement, a listing of quantities and types of materials removed off-Site or handled on-site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g.,

manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

> "Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

31. Off-Site Shipments.

a. Respondent shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the On-Scene Coordinator. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

(1) Respondent shall include in the written notification the following information: (i) the name and location of the facility to which the Waste Material is to be shipped; (ii) the type and quantity of the Waste Material to be shipped; (iii) the expected schedule for the shipment of the Waste Material; and (iv) the method of transportation. Respondent shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

(2) The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the removal action. Respondent shall provide the information required by Paragraph 31.a and 31.b as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-Site location, Respondent shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent shall only send hazardous substances, pollutants, or contaminants from the Site to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

IX. SITE ACCESS

32. If the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by Respondent, Respondent shall, commencing on the Effective Date, provide EPA, the State, and their representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Settlement Agreement.

33. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall use its best efforts to obtain all necessary access agreements within thirty (30) days after the Effective Date, or as otherwise specified in writing by EPA. Respondent shall immediately notify EPA if after using its best efforts it is unable to obtain such agreements. For purposes of this Paragraph, "best efforts" include the following:

a. Identifying property owners and occupants. Respondent will use publicly available information to identify the owners and occupants (should the owner(s) not reside on the property) of the properties that are the subject of the removal action described in this Settlement Agreement;

b. Providing notification via hand delivery or U.S. Postal Service (via certified mail) to the owners and occupants, consisting of the following:

i. A certified letter from Respondent to the property owners, tenants, or their authorized representatives, requesting an access agreement to permit Respondent to gain access to the property to conduct the activities required under this Settlement Agreement.

ii. The certified letter shall provide background information, a summary of the work to be performed, and contact names and information for Respondent in the event that the owner or occupant has questions. The letter will request that the owners and occupants sign and return the included access agreement by a specified date. The letter generally will provide twenty-one (21) days for the return of the signed access agreement.

iii. Two follow-up telephone calls or visits after business hours to the property owners, tenants, or their authorized representatives, requesting an access agreement.

iv. The access agreement, identifying the work to be performed, restricting access of the owners and occupants from any ongoing sampling, excavation or construction activity, and giving Respondent permission to sample, and, if required, to remove and replace soils in the subject yards. The access agreement also will provide access for EPA, the State, and their representatives, including contractors. To the extent that Respondent is accessing property for purposes of cleanup, Respondent also shall add a statement indicating that Respondent will restore the area(s) that are disturbed by the removal action to the pre-removal state, to the maximum extent practicable.

v. A pre-paid return envelope, providing for the return of the signed access agreement; and

c. Attempting to contact the owners and occupants directly if notification was delivered via U.S. Postal Service to answer any questions and to confirm that both owners and occupants intend to grant access.

d. In the event that the property owner does not reside at the property, Respondent will not consider access to be granted until it has received the signed access agreement from both the current occupant and the property owner.

e. Respondent shall detail in a log its efforts to obtain access, including the dates and times of all telephone calls and visits, the date the certified letter was mailed, the date the notice of delivery was received, and either the date of the response by the property owners, tenants, or their authorized representatives, or the date Respondent was notified of the property owners', tenants', or their authorized representatives' failure to respond. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response actions described in this Settlement Agreement, using such means as EPA deems appropriate. Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XV (Payment of Response Costs).

34. Notwithstanding any provision of this Settlement Agreement, EPA and the State retain all of their access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

35. Respondent shall provide to EPA and the State, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

36. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA and the State under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA and the State, or if EPA has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondent.

37. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA and the State with the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of the author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the contents of the document, record, or information; and (f) the privilege asserted by Respondent. However, no documents, reports, or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged or confidential.

38. No claim of privilege or confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XI. RECORD RETENTION

39. Until ten (10) years after Respondent's receipt of EPA's notification pursuant to Section XXXII (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until ten (10)years after Respondent's receipt of EPA's notification pursuant to Section XXXII (Notice of Completion of Work), Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature, or description relating to performance of the Work.

40. At the conclusion of this document retention period, Respondent shall notify EPA and the State at least 90 days prior to the destruction of any such records or documents, and, upon request by EPA or the State, Respondent shall deliver any such records or documents to EPA or the State. Respondent may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide EPA or the State with the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of the author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged or confidential.

41. Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of

any records, documents, or other information (other than identical copies) relating to its potential liability regarding the Site since the earlier of notification of potential liability by EPA or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA and State requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law.

XII. COMPLIANCE WITH OTHER LAWS

42. Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-site actions required pursuant to this Settlement Agreement shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements ("ARARs") under federal environmental or state environmental or facility siting laws. Respondent shall identify ARARs in the Work Plan subject to EPA approval.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

43. In the event of any action or occurrence during performance of the Work that causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate, or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify the OSC or, in the event of his unavailability, the Regional Duty Officer, Emergency Response and Removal Branch, EPA Region 4, at (404) 562-8700, of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

44. In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the OSC at (404) 562-9587 and the National Response Center at (800) 424-8802. Respondent shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

XIV. AUTHORITY OF ON-SCENE COORDINATOR

45. The OSC shall be responsible for overseeing Respondent's implementation of this Settlement Agreement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement Agreement, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

XV. PAYMENT OF RESPONSE COSTS

46. Payment for EPA Past Response Costs.

a. Within 30 days after the Effective Date, Respondent shall pay to EPA $_____ for EPA Past Response Costs. Payment shall be made to EPA by Fedwire Electronic Funds Transfer ("EFT") to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York NY 10045
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number B4M3 and the EPA docket number for this action.

b. At the time of payment, Respondent shall send notice that payment has been made to Paula Painter, Environmental Protection Specialist, at EPA Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303, and to the EPA Cincinnati Finance Office by email at acctsreceivable.cinwd@epa.gov, or by mail to

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, Ohio 45268

Such notice shall reference Site/Spill ID Number B4M3 and the EPA docket number for this action.

c. The total amount to be paid by Respondent pursuant to Paragraph 46(a) shall be deposited by EPA in the 35th Avenue Coke Site Special Account to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

47. Payments for EPA Future Response Costs.

a. Respondent shall pay EPA all EPA Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Respondent a bill requiring payment that includes a Superfund Cost Recovery Package Imaging and On-Line System ("SCORPIOS") Report, which includes direct and indirect costs incurred by EPA, its contractors, and the U.S. Department of Justice. Respondent shall make all payments within 30 days after receipt of each bill requiring payment, except as otherwise provided in Paragraph 49 of this Settlement Agreement.

b. Respondent shall make all payments required by this Paragraph to EPA by Fedwire Electronic Funds Transfer ("EFT") to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York NY 10045
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number B4M3 and the EPA docket number for this action.

c. At the time of payment, Respondent shall send notice that payment has been made to Paula Painter, Environmental Protection Specialist, at EPA Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303, and to the EPA Cincinnati Finance Office by email to acctsreceivable.cinwd@epa.gov, or by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, Ohio 45268

Such notice shall reference the Site/Spill ID Number and EPA docket number for this action.

d. The total amount to be paid by Respondent pursuant to Paragraph 47.a shall be deposited by EPA in the 35th Avenue Coke Site Special Account to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

48. Interest. In the event that the payments for EPA Future Response Costs are not made within 30 days after Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. The Interest on EPA Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by

virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

49. Respondent may contest payment of any EPA Future Response Costs billed under Paragraph 47 if it determines that EPA has made a mathematical error or included a cost item that is not within the definition of EPA Future Response Costs, or if it believes EPA incurred excess costs as a direct result of an EPA action that was inconsistent with a specific provision or provisions of the NCP. Such objection shall be made in writing within thirty (30) days after receipt of the bill and must be sent to the OSC. Any such objection shall specifically identify the contested EPA Future Response Costs and the basis for objection. In the event of an objection, Respondent shall within the 30-day period pay all uncontested EPA Future Response Costs to EPA in the manner described in Paragraph 47. Simultaneously, Respondent shall establish, in a duly chartered bank or trust company, an interest-bearing escrow account that is insured by the Federal Deposit Insurance Corporation ("FDIC"), and remit to that escrow account funds equivalent to the amount of the contested EPA Future Response Costs. Respondent shall send to the EPA OSC a copy of the transmittal letter and check paying the uncontested EPA Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondent shall initiate the Dispute Resolution procedures in Section XVI (Dispute Resolution). If EPA prevails in the dispute, within five (5) days after the resolution of the dispute, Respondent shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 47. If Respondent prevails concerning any aspect of the contested costs, Respondent shall pay that portion of the costs (plus associated accrued interest) for which it did not prevail to EPA in the manner described in Paragraph 47. Respondent shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XVI (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondent's obligation to reimburse EPA for its EPA Future Response Costs.

50. Payments for State Future Response Costs.

a. Respondent shall pay to the State all State Future Response Costs not inconsistent with the NCP, in accordance with instructions provided by the State.

XVI. DISPUTE RESOLUTION

51. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

52. If Respondent objects to any EPA action taken pursuant to this Settlement Agreement, including billings for EPA Future Response Costs, it shall notify EPA in writing of their objection(s) within thirty (30) days after such action, unless the objection(s) has/have been

resolved informally. EPA and Respondent shall have fifteen (15) days from EPA's receipt of Respondent's written objection(s) to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA.

53. Any agreement reached by the parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, an EPA management official at the Superfund Division Director level or higher will issue a written decision on the dispute to Respondent. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Respondent's obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

54. This Paragraph is reserved for addressing disputes with respect to State Future Response Costs.

55. This Paragraph is reserved for addressing disputes with respect to State Future Response Costs.

XVII. FORCE MAJEURE

56. Respondent agrees to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

57. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondent shall notify EPA orally within twenty-four (24) hours of when Respondent first knew that the event might cause a delay. Within three (3) days thereafter, Respondent shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if it intends to assert such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

58. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondent in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. STIPULATED PENALTIES

59. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 60 and 61 for failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Section XVII (*Force Majeure*). "Compliance" by Respondent shall include completion of the activities under this Settlement Agreement or any work plan or other plan approved under this Settlement Agreement identified below in accordance with all applicable requirements of law, this Settlement Agreement, and any plans or other documents approved by EPA pursuant to this Settlement Agreement and within the specified time schedules established by and approved under this Settlement Agreement.

60. Stipulated Penalty Amounts – Work (Including Payments).

a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Paragraph 60.b:

Penalty Per Violation Per Day	Period of Noncompliance
$2,000.00	1st through 14th day
$3,000.00	15th through 30th day
$5,000.00	31st day and beyond

b. Compliance Milestones.

(1) Failure to hire and obtain EPA approval of Respondent's contractor(s) or Project Coordinator, as required by Section VII of this Settlement Agreement;

(2) Failure to develop and/or implement a RISP, in accordance with Section VIII of this Settlement Agreement;

(3) Failure to develop and/or implement a RAWP, in accordance with Section VIII of this Settlement Agreement;

(4) Failure to implement institutional controls, in accordance with Section VIII of this Settlement Agreement;

(5) Failure to develop and/or implement a Health and Safety Plan, in accordance with Section VIII of this Settlement Agreement;

(6) Failure to develop and/or implement the Technical Assistance Plan, in accordance with Sections VIII and XXXI of this Settlement Agreement;

(7) Failure to develop and/or implement the Community Implementation Plan, in accordance with Sections XIII and XXXI of this Settlement Agreement;

(8) Failure to establish and maintain the financial assurance mechanism, as required by Section XXVIII of this Settlement Agreement;

(9) Failure to establish an escrow account in the event of a dispute, pursuant to Section XV of this Settlement Agreement;

(10) Failure to pay all monies required to be paid pursuant to this Settlement Agreement to EPA or the State, in accordance with Section XV of this Settlement Agreement.

(11) Failure to implement further response actions, pursuant to Section XXX of this Settlement Agreement.

61. Stipulated Penalty Amounts – Reports. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports or other written documents pursuant to this Settlement Agreement that are not referenced in Paragraph 60 above:

Penalty Per Violation Per Day	Period of Noncompliance
$1,500.00	1st through 14th day
$2,500.00	15th through 30th day
$3,000.00	31st day and beyond

62. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 72 (Work Takeover), Respondent shall be liable for a stipulated penalty in the amount of $800,000.00.

63. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (a) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; and (b) with respect to a decision by the EPA Management Official at the Superfund Division Director level or higher, under Paragraph 53 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 30th day after the Negotiation Period begins until the date that the EPA management official issues a final decision regarding such dispute. Nothing in this Settlement Agreement shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

64. Following EPA's determination that Respondent has failed to comply with a requirement of this Settlement Agreement, EPA may give Respondent written notification of the failure and describe the noncompliance. EPA may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondent of a violation.

65. All penalties accruing under this Section shall be due and payable to EPA within 30 days after Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). Respondent shall make all payments required by this Paragraph to EPA by Fedwire Electronic Funds Transfer ("EFT") to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York NY 10045
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference stipulated penalties, Site/Spill ID Number B4M3, and the EPA docket number for this action.

At the time of payment, Respondent shall send notice that payment has been made as provided in Paragraph 47.c above.

66. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Settlement Agreement.

67. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of EPA's decision.

68. If Respondent fails to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 65. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(*l*) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(*l*), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(*l*) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided in this Section, except in the case of a willful violation of this Settlement Agreement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 72 (Work Takeover). Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XIX. COVENANT NOT TO SUE BY EPA

69. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work, Past Response Costs, and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Respondent of all obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Paragraph 47 (Payments for Future Response Costs). This covenant not to sue extends only to Respondent and does not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY EPA

70. Except as specifically provided in this Settlement Agreement, nothing in this Settlement Agreement shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Settlement Agreement shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

71. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

a. liability for failure by Respondent to meet a requirement of this Settlement Agreement;

b. liability for costs not included within the definition of EPA Future Response Costs;

c. liability for performance of response action other than the Work;

d. criminal liability;

e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and

g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site not paid as EPA Future Response Costs under this Settlement Agreement.

72. Work Takeover. In the event EPA determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondent may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States or the State in performing the Work pursuant to this Paragraph shall be considered EPA Future Response Costs that Respondent shall pay pursuant to Section XV (Payment of Response Costs). Notwithstanding any other provision of this Settlement Agreement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XXI. COVENANT NOT TO SUE BY THE STATE

73. This Paragraph is intentionally reserved for the State.

XXII. RESERVATIONS OF RIGHTS BY THE STATE

74. This Paragraph is intentionally reserved for the State.

XXIII. COVENANT NOT TO SUE BY RESPONDENT

75. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, the State, or their contractors or employees, with respect to the Work, EPA Past Response Costs, EPA Future Response Costs, State Future Response Costs, or this Settlement Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Alabama Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), or state law relating to the Work, EPA Past Response Costs, EPA Future Response Costs, or State Future Response Costs.

Except as provided in Paragraphs 78 (Claims Against De Micromis Parties) and 80 (Claims Against *De Minimis* and Ability to Pay Parties), these covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to any of the reservations set forth in Section XX (Reservations of Rights by EPA), other than in Paragraph 71.a (liability for failure to meet a requirement of the Settlement Agreement) or 71.d (criminal liability), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

76. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

77. Respondent agrees not to seek judicial review of the final rule listing the Site on the NPL based on a claim that changed site conditions that resulted from the performance of the Work in any way affected the basis for listing the Site.

78. Claims Against De Micromis Parties. Respondent agrees not to assert any claims and to waive all claims or causes of action (including but not limited to claims or causes of action under Sections 107(a) and 113 of CERCLA) that it may have for all matters relating to the Site against any person where the person's liability to Respondent with respect to the Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at the Site, or having accepted for transport for disposal or treatment of hazardous substances at the Site, if all or part of the disposal, treatment, or transport occurred before April 1, 2001, and the total amount of material containing hazardous substances contributed by such person to the Site was less than 110 gallons of liquid materials or 200 pounds of solid materials.

79. The waiver in Paragraph 78 shall not apply with respect to any defense, claim, or cause of action that Respondent may have against any person meeting the above criteria if such person asserts a claim or cause of action relating to the Site against Respondent. This waiver also shall not apply to any claim or cause of action against any person meeting the above criteria if EPA determines:

a. that such person has failed to comply with any EPA requests for information or administrative subpoenas issued pursuant to Section 104(e) or 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) or 9622(e), or Section 3007 of RCRA, 42 U.S.C. § 6972, or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the Site, or has been convicted of a criminal violation for the conduct to which this waiver would apply and that conviction has not been vitiated on appeal or otherwise; or

b. that the materials containing hazardous substances contributed to the Site by such person have contributed significantly, or could contribute significantly, either individually or in the aggregate, to the cost of response action or natural resource restoration at the Site.

80. Claims Against *De Minimis* and Ability to Pay Parties. Respondent agrees not to assert any claims and to waive all claims or causes of action (including but not limited to claims or causes of action under Sections 107(a) and 113 of CERCLA) that it may have for response costs relating to the Site against any person that has entered or in the future enters into a final Section 122(g) *de minimis* settlement or a final settlement based on limited ability to pay, with EPA with respect to the Site. This waiver shall not apply with respect to any defense, claim, or cause of action that Respondent may have against any person if such person asserts a claim or cause of action relating to the Site against such Respondent.

XXIV. OTHER CLAIMS

81. By issuance of this Settlement Agreement, the United States, EPA, and the State assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States, EPA, or the State shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement Agreement.

82. Except as expressly provided in Paragraphs78 (Claims Against De Micromis Parties), 80 (Claims Against *De Minimis* and Ability to Pay Parties), Section XIX (Covenant Not to Sue by EPA), and Section XXI (Covenant Not to Sue by the State), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages, and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

83. No action or decision by EPA pursuant to this Settlement Agreement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXV. EFFECT OF SETTLEMENT/CONTRIBUTION

84. Except as provided in Paragraphs 78 (Claims Against De Micromis Parties) and 80 (Claims Against *De Minimis* and Ability to Pay Parties), nothing in this Settlement Agreement shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Settlement Agreement. Except as provided in Paragraphs 78 (Claims Against De Micromis Parties) and 80 (Claims Against *De Minimis* and Ability to Pay Parties), each of the Parties expressly reserves any and all rights (including, but not limited to, pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto. Nothing in this Settlement Agreement diminishes the right of the United States or the State, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

85. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), and that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), or as may be otherwise provided by law, for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work, EPA Past Response Costs, EPA Future Response Costs, and State Future Response Costs. The Parties further agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondent has, as of the Effective Date, resolved its liability to the United States for the Work, EPA Past Response Costs, EPA Future Response Costs, and State Future Response Costs.

86. Respondent shall, with respect to any suit or claim brought by it for matters related to this Settlement Agreement, notify EPA and the State in writing no later than sixty (60) days prior to the initiation of such suit or claim. Respondent also shall, with respect to any suit or claim brought against it for matters related to this Settlement Agreement, notify EPA in writing within ten (10) days after service of the complaint or claim upon it. In addition, Respondent shall notify EPA within ten (10) days after service or receipt of any Motion for Summary Judgment and within ten (10) days after receipt of any order from a court setting a case for trial, for matters related to this Settlement Agreement.

87. In any subsequent administrative or judicial proceeding initiated by EPA, or by the United States on behalf of EPA, or by the State, for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondent shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, *res judicata*, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in

this Paragraph affects the enforceability of the covenants by EPA and the State, set forth in Sections XIX and XXI.

88. Effective upon signature of this Settlement Agreement by Respondent, Respondent agrees that the time period commencing on the date of its signature and ending on the date EPA and the State receive from Respondent the payment(s) required by Section XV (Payment of Response Costs) and, if any, Section XVIII (Stipulated Penalties) shall not be included in computing the running of any statute of limitations potentially applicable to any action brought by the United States or the State related to the "matters addressed" as defined in Paragraph 85 and that, in any action brought by the United States or the State related to the "matters addressed," Respondent will not assert, and may not maintain, any defense or claim based upon principles of statute of limitations, waiver, laches, estoppel, or other defense based on the passage of time during such period. If EPA gives notice to Respondent that it will not make this Settlement Agreement effective, the statute of limitations shall begin to run again commencing ninety days after the date such notice is sent by EPA.

XXVI. INDEMNIFICATION

89. Respondent shall indemnify, save, and hold harmless the United States, the State, and their officials, agents, contractors, subcontractors, employees, and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondent agrees to pay the United States and the State all costs incurred by the United States and the State, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States or the State based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. Neither the United States nor the State shall be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Settlement Agreement. Neither Respondent nor any such contractor shall be considered an agent of the United States or the State.

90. The United States and the State shall give Respondent notice of any claim for which the United States or the State plan to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

91. Respondent waives all claims against the United States and the State for damages or reimbursement or for set-off of any payments made or to be made to the United States or the State, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States and the State with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of

Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XXVII. INSURANCE

92. At least fifteen (15) days prior to commencing any on-site work under this Settlement Agreement, Respondent shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of two million dollars, combined single limit, naming EPA as an additional insured. Within the same time period, Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondent shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Settlement Agreement. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVIII. FINANCIAL ASSURANCE

93. Within 30 days after the Effective Date, Respondent shall establish and maintain financial security for the benefit of EPA in the amount of $800,000.00 in one or more of the following forms, in order to secure the full and final completion of Work by Respondent:

a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;

b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA;

c. a trust fund administered by a trustee acceptable in all respects to EPA;

d. a policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;

e. a written guarantee to pay for or perform the Work provided by one or more parent companies of Respondent, or by one or more unrelated companies that have a substantial business relationship with Respondent, including a demonstration that any such guarantor company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); and/or

f. a demonstration of sufficient financial resources to pay for the Work made by Respondent, which shall consist of a demonstration that Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).

94. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, Respondent shall, within 30 days after receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 93, above. In addition, if at any time EPA notifies Respondent that the anticipated cost of completing the Work has increased, then, within 30 days after such notification, Respondent shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondent's inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement.

95. If Respondent seeks to ensure completion of the Work through a guarantee pursuant to Paragraph 93.e or 93.f of this Settlement Agreement, Respondent shall (a) demonstrate to EPA's satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f); and (b) resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date or such other date as agreed by EPA, to EPA. For the purposes of this Settlement Agreement, wherever 40 C.F.R. Part 264.143(f) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the dollar amount to be used in the relevant financial test calculations shall be the current cost estimate of $800,000.00 for the Work at the Site plus any other RCRA, CERCLA, TSCA, or other federal environmental obligations financially assured by Respondent or guarantor to EPA by means of passing a financial test.

96. If, after the Effective Date, Respondent can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 93 of this Section, Respondent may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondent shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, Respondent may seek dispute resolution pursuant to Section XVI (Dispute Resolution). Respondent may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

97. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXIX. MODIFICATIONS

98. The OSC may make modifications to any plan or schedule or Statement of Work in writing or by oral direction. Any oral modification will be memorialized in writing by EPA

promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement Agreement may be modified in writing by mutual agreement of the parties.

99. If Respondent seeks permission to deviate from any approved work plan or schedule or Statement of Work, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 98.

100. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

XXX. ADDITIONAL REMOVAL ACTION

101. If EPA determines that additional removal actions not included in an approved plan are necessary to protect public health, welfare, or the environment, EPA will notify Respondent of that determination. Unless otherwise stated by EPA, within thirty (30) days after receipt of notice from EPA that additional removal actions are necessary to protect public health, welfare, or the environment, Respondent shall submit for approval by EPA a Work Plan for the additional removal actions. The plan shall conform to the applicable requirements of Section VIII (Work to Be Performed) of this Settlement Agreement. Upon EPA's approval of the plan pursuant to Section VIII, Respondent shall implement the plan for additional removal actions in accordance with the provisions and schedule contained therein. This Section does not alter or diminish the OSC's authority to make oral modifications to any plan or schedule pursuant to Section XXIX (Modifications).

XXXI. COMMUNITY INVOLVEMENT AND TECHNICAL ASSISTANCE PLAN

102. While EPA has overall responsibility for community involvement activities at the Site, Respondent shall assist the Agency with such activities. At EPA's discretion, Respondent shall establish (or assist in the establishment of) a community information repository at or near the Site, to house one copy of the Administrative Record. In addition, within forty-five (45) days of the Effective Date, Respondent shall submit a Community Involvement Plan ("CIP") that specifically addresses the requirements of §§ 300.415(n) and 300.430(c) of the NCP to EPA for review and approval and shall provide a copy of the plan to ADEM. This plan is intended to respond to the need for an interactive relationship with interested community elements regarding environmental response activities being conducted by Respondent at the Site. The CIP shall include, but not be limited to, the use of the following communication tools and activities:

a. Press announcements;
b. Fact sheets;
c. Public meetings/availability sessions;
d. Central information contacts;
e. Door-to-door outreach;
f. Community Advisory Group ("CAG"); and
g. Technical Assistance Plan ("TAP").

Upon receiving EPA's approval of the CIP, Respondent shall commence with and continue its community outreach efforts. Any proposed revision or amendment to Respondent's CIP shall also be submitted to EPA for review and approval, and a copy of the revision or amendment shall be provided to ADEM.

103. Before issuance of any proposed press release regarding the selection or implementation of removal or remedial actions at the Site, Respondent shall advise and consult with EPA and ADEM regarding the contents thereof.

104. In accordance with the timeframes established in the CIP, Respondent will assist EPA and community members in the establishment of a Community Advisory Group ("CAG"). A CAG is made up of members of the community and is designed to serve as the focal point for the exchange of information among the local community and EPA, Respondent, the State regulatory agency, and other pertinent Federal agencies involved in cleanup of the Superfund site. A CAG provides a forum for community members to present and discuss their needs and concerns related to the Superfund decision-making process, and it offers EPA and Respondent a unique opportunity to hear and seriously consider community preferences for site cleanup and remediation.

105. Technical Assistance Plan.

a. Upon request by EPA, Respondent shall provide EPA with a Technical Assistance Plan (TAP) for providing and administering $50,000.00 of Respondent's funds to be used by a qualified community group to receive services from an independent technical advisor who can help group members understand Site characterization, sampling, and cleanup issues and to share this information with others in the community during the Work conducted pursuant to this Settlement Agreement. The TAP shall be consistent with this Settlement Agreement and relevant EPA policy and guidance. It shall state that Respondent will provide and arrange for any additional assistance needed if the selected community group demonstrates such a need as provided in this Settlement Agreement. If EPA disapproves of or requires revisions to the Respondent's draft TAP, in whole or in part, then Respondent shall amend and submit to EPA a revised TAP that is responsive to EPA's comments, within fifteen (15) days of receiving EPA's comments.

b. The community group will use this assistance to: (i) obtain the services of a technical advisor, independent from the Respondent, who can help group members understand Site characterization, sampling, and cleanup issues. The technical advisor will help interpret and comment on Site-related documents developed under this Settlement Agreement through the completion of the removal action; and (ii) share this information with others in the community.

c. To be eligible for TAP assistance, a community group shall be: (1) comprised of People who are affected by a release or threatened release at the Site; and (2) able to demonstrate its ability to adequately and responsibly manage TAP-related responsibilities. A group is ineligible if it is: (1) a potentially responsible party ("PRP") at the Site, represents such a PRP, or receives money or services from a PRP (other than through the TAP); (2) affiliated with a national organization; (3) an academic institution; (4) a political subdivision; (5) a tribal government; or (6) a group established or presently sustained by any of the entities listed above or if members of the group represent any of these entities.

d. Respondent's Responsibilities Relating to the TAP. Upon request by EPA, Respondent shall coordinate with EPA in soliciting interest in the TAP from community groups. If there are multiple interested groups, then Respondent shall coordinate with EPA in encouraging the groups to submit a joint application in order to better represent the community.

e. After EPA approves the TAP, Respondent shall:

i. Arrange for publication of a notice in local media that a Letter of Intent ("LOI") to submit an application for TAP assistance has been received. The notice should explain how other interested groups could also try to combine efforts with the LOI group or else submit their own applications, by a reasonable specified deadline.

ii. Review the application(s) received and determine the Community Group's eligibility pursuant to the criteria in section c. above. Respondent shall notify EPA of its determination on eligibility to ensure that it is consistent with the settlement before notifying the group(s). If more than one eligible group applies in a timely manner, then Respondent shall review each application and review it according to the criteria specified in section c. above. Respondent shall document its evaluation and its selection of a qualified community group. It should brief EPA, which will determine if Respondent's evaluation process satisfactorily followed the settlement criteria. Respondent will subsequently notify the applicant(s) about its decision.

iii. Designate a point of contact to be the primary contact with the selected community group within fifteen (15) days of any EPA request for such a designation. The point of contact also may respond to the public's inquiries and questions about the TAP and/or any other aspect of the Site. Respondent may hire a third party to act as the point of contact. If Respondent opts to hire a third party, it shall submit in writing that person's name, title, and qualifications to EPA within 15 days of EPA's request for a TAP.

iv. Negotiate an agreement with the selected community group that specifies the duties of Respondent and the community group, respectively. As part of the negotiations, Respondent shall inform the selected group of the activities that it can and cannot receive or undertake pursuant to the TAP. The list of allowable activities should generally be consistent with 40 C.F.R. § 35.4075 (e.g., activities related to litigation, political lobbying, etc.). The agreement shall provide for:

(1) Respondent's review of the community group's recommended choice for technical advisor will be limited, consistent with 40 C.F.R. §§ 35.4190 and 35.4195, to criteria such as whether the advisor has relevant knowledge, academic training, and experience as well as the ability to translate technical information into terms the community can understand.

(2) The establishment of the process for the community group to seek additional TAP assistance, pursuant to the criteria specified below.

Respondent shall submit the draft agreement to EPA for its review.

v. Review any request from the selected community group for additional TAP assistance, as follows:

(1) The community group must demonstrate that it has effectively managed its TAP responsibilities to date;

(2) The community group must show that at least three of the nine factors below are met:

i. EPA expects that more than eight years (beginning with the initiation of the removal action) will pass before the removal is completed;

ii. EPA requires treatability studies or evaluation of new and innovative technologies for this removal;

iii. EPA amends it Action Memorandum or significantly modifies the Removal Action Work Plan for Sampling or Cleanup;

iv. EPA determines that additional phases for the removal action are needed;

v. A legislative or regulatory change results in significant new Site information;

vi. Significant public concern about the Site exists, as evidenced, e.g., by relatively large turnout at meetings, the need for multiple meetings, the need for numerous copies of documents to inform community members, etc.;

vii. Any other factor that, in EPA's judgment, indicates that this Site is unusually complex;

viii. Removal activities costing at least $2 million are performed;

ix. The public health assessment (or related activities) for the Site indicates the need for further health investigations and/or health related activities.

f. If the community group demonstrates a need for additional TAP assistance, then Respondent will arrange to provide the additional services or monies needed. Any unobligated TAP funds shall be retained by the Respondent, upon EPA's determination that the removal action is complete.

106. Within three (3) days of the Effective Date, Respondent shall:

a. Place quarter-page newspaper announcements in the Birmingham News, Birmingham Times, and the Birmingham Business Journal, explaining this Settlement Agreement, and thereafter, again at least every thirty (30) days and in accordance with the criteria established in the CIP, until the completion of the Work required by this Settlement Agreement.

b. Place a total of ten (10) radio announcements between the hours of 8:00 a.m. and 9:00 p.m. on at least each of the following radio stations, WERC AM 960, WDXB FM 102.5, WENN FM 105.5, WMJJ Magic 96.5 FM, WQEN 103.7, WBHM FM 90.3, WAPI AM 1070, and WZZK FM 104.7, explaining this Settlement Agreement, and thereafter, again, at a frequency and in accordance with the criteria established in the CIP.

c. Prepare and distribute informational flyers to churches, libraries, schools, and meeting halls in the Fairmont, Collegeville, and Harriman Park communities, explaining the activities Respondent shall perform pursuant to this Settlement Agreement, and thereafter, again, at a frequency and in accordance with the criteria established in the CIP; and

d. Hold at least one public meeting and/or availability session, in a location that is central to the Fairmont, Collegeville, and Harriman Park communities, and thereafter, again, at least once every month and in accordance with the criteria established in the CIP, unless EPA notifies Respondent to hold the meetings or session less frequently.

XXXII. NOTICE OF COMPLETION OF WORK

107. When EPA determines, after EPA's review of the Final Report that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including payment of EPA Future Response Costs, State Future Response Costs, or record retention, EPA will provide written notice to Respondent. If EPA determines that such Work has not been completed in accordance with this Settlement Agreement, EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent modifies the Work Plan if appropriate in order to correct such deficiencies. Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Settlement Agreement.

XXXIII. INTEGRATION/APPENDICES

108. This Settlement Agreement and its appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied

in this Settlement Agreement. The parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement:

(1) Appendix A: Map of Study Area
(2) Appendix B: Sampling Methodology Summary
(3) Appendix C: Removal Action Levels

XXXIV. ADMINISTRATIVE RECORD

109. This Administrative Settlement Agreement shall be added to the Administrative Record for this Site, which shall be made available for public comment for a period of not less than thirty (30) days.

XXXV. EFFECTIVE DATE

110. This Settlement Agreement shall be effective upon signature by the Regional Administrator or her delegatee.

The undersigned representative Respondent certifies that it is fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the party it represents to this document.

Agreed this ___ day of _____, 2011.

35th Avenue Coke Site, Birmingham, Jefferson County, Alabama
CERCLA Docket No. _____

RESPONDENT: Walter Coke, Inc.

By: _____

Title: _____

Address: _____

_____

It is so ORDERED and Agreed this _____ day of _____, 2011.

BY: _____ DATE: _____

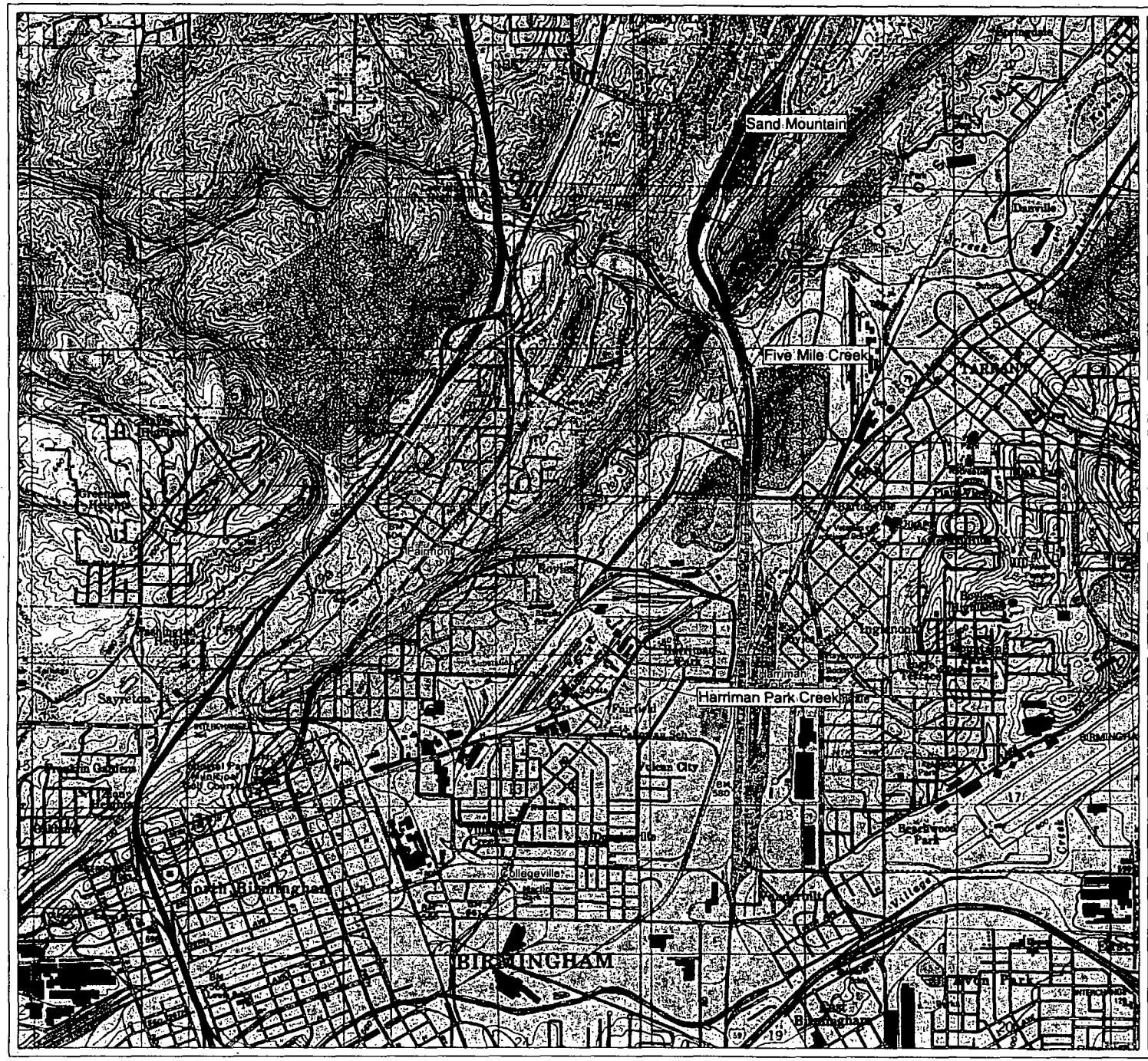
Shane Hitchcock, Chief
Emergency Response and Removal Branch
Region 4
U.S. Environmental Protection Agency

EFFECTIVE DATE: _____

Specified Deliverables Required Pursuant to AOC

DESCRIPTION OF DELIVERABLE OR WORK TASK	DEADLINE
Notify EPA of name(s) and qualifications of contractor(s)	Within 15 days of the Effective Date
Designate Project Coordinator	Within 15 days of the Effective Date
Submit Health and Safety Plan	Within 15 days of the Effective Date
Submit Draft Removal Investigation Sampling Plan	Within 30 days of the Effective Date
Implement Removal Investigation Sampling Plan	Within 30 days of EPA's approval of Removal Investigation Sampling Plan
Submit Final Sampling Report	Within 30 days of completion of implementation of Removal Investigation Sampling Plan
Submit a Community Involvement Plan	Within 45 days of the Effective Date
Submit a Technical Assistance Plan	Upon request by EPA
Submit Draft Removal Action Work Plan	Within 60 days of the Effective Date
Implement Removal Action Work Plan	Within 30 days of EPA's approval of the RAWP
Submit Final Report	Within 30 days of completion of all Work required by Settlement Agreement

APPENDIX A

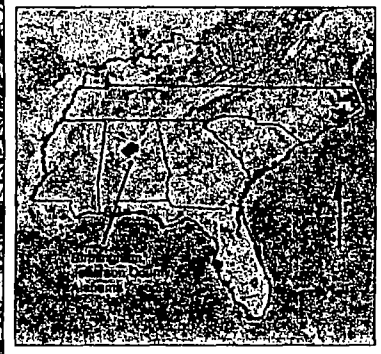


Legend

- Study Area Boundary
- Harriman Park
- Collegeville
- Fairmont
- Five Mile Creek
- Harriman Park Creek

Notes:
USGS Topo Quad. 1:24,000 scale of
Quad Birmingham North Date published: 1978.
Quad ID: 33086-E7

Feet
0 2,500 5,000



United States Environmental Protection Agency

35TH AVENUE COKE SITE
BIRMINGHAM,
JEFFERSON COUNTY,
ALABAMA
TDD No. TNA-05-003-0148

FIGURE 1
TOPOGRAPHICAL MAP

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APPENDIX B

Appendix B

SAMPLING METHODOLOGY SUMMARY

35TH AVENUE COKE STUDY AREA
BIRMINGHAM, JEFFERSON COUNTY, ALABAMA

1.0 INTRODUCTION

Respondent shall use the sampling methodology set forth herein to develop the Removal Investigation Sampling Plan (RISP) for sampling and analysis of the soil taken from residential and non-industrial properties in the Study Area, as defined in the Administrative Settlement Agreement and Order on Consent for Removal ("Settlement Agreement"), and depicted in Appendix A to the Settlement Agreement.

2.0 PROJECT OBJECTIVES

All sampling activities should be conducted in accordance with the EPA Science and Ecosystem Support Division (SESD) Field Branches Quality System Technical Procedures (FBQSTP) (Ref. 1). Primarily, surface soils and sediments should be sampled to assess whether polycyclic aromatic hydrocarbons (PAHs) and TAL metals are present at concentrations above the EPA Removal Action Levels (RALs). In addition to comparing PAH compounds to individual RALs, a benzo(a)pyrene toxicity equivalence (BaP TEQ) should be calculated from the concentrations detected in the seven carcinogenic PAH compounds and compared to the RAL for benzo(a)pyrene. All samples should be field screened for metals using an XRF and total cPAH concentrations using RaPID Assay® kits to efficiently identify properties where potentially elevated levels of Contaminants of Concern (COCs), as identified in the Settlement Agreement, may be present. A subset of the samples collected and field screened should be submitted to a National Environmental Laboratory Accreditation Conference (NELAC) accredited laboratory for TCL semivolatile organic compound (SVOC), low-level PAH, and TAL metals analysis for confirmation purposes. Samples collected near former or currently operational substations should also be submitted to a laboratory for polychlorinated biphenyl (PCB) analysis as set forth in Table 1, which is a summary of the analytical methods to be used for this project. The analytical data gathered during this investigation will provide EPA with sufficient information to identify the need for removal of individual properties within the study boundary.

2.1 PROJECT TARGET PARAMETERS AND INTENDED DATA USAGE

The target parameters, laboratory reporting limits (RLs), and RALs for this project are included in Appendix C to the Settlement Agreement. Table 5 herein summarizes the field screening analytes and detection levels achieved using RaPID Assay®.

All environmental data should be reported to the analyte's laboratory-specific method detection limit (MDL); i.e., positive results below the RL but greater than the MDL should be reported by the laboratory and flagged as estimated (J). MDLs should be adjusted on a sample-by-sample basis, as necessary, based on dilutions, sample volume, and percent moisture.

Field screening and laboratory analytical data should be compared to RALs for decision making purposes.

2.2 DATA QUALITY OBJECTIVES AND CRITERIA

Data Quality Objectives (DQOs) for the Study Area should be identified in accordance with the EPA Guidance for the DQO Process, (U.S. EPA QA/G-4, 2000b), which define study objectives, decisions to be made, and the criteria by which the data should be assessed (Ref. 2). These data may then be used for decision making. Upon completion of the work described in this document, the data collected should be compared to the established DQOs to ensure that the information collected meets the intended goal of the work.

2.2.1 Study Area Decision Inputs

The primary input needed to support the decision making process is contaminant levels in surface soil samples collected from the residential and non-industrial properties at the Study Area, background soil samples collected from off-Study Area areas, unaffected by Study Area influences, and sediment samples collected along Five Mile Creek and the ditch flowing through Harriman Park. All field samples should be compared the RALs and to respective background samples. One or more background surface soil samples should be collected off Study Area at locations up gradient from potential impacts from on-Study Area contamination.

Results used in the decision-making process will come from the following:

- TAL metals field screening using a portable XRF instrument,
- Total cPAH concentrations using RaPID Assay® field screening kits, and
- TCL SVOC, low-level PAH, TAL metal, and PCB laboratory analysis.

Field screening for TAL metals using XRF and total cPAH concentrations using RaPID Assay® will assist field investigators to efficiently determine potentially contaminated properties. Samples selected for laboratory analysis based on the decision rules (Section 2.2.5) should be submitted to NELAC accredited laboratories.

In order to simplify PAH evaluation at the Study Area, the toxic equivalency factor (TEF) approach should be used. The TEF approach is designed to estimate the toxicity of complex mixtures for risk assessment purposes. The BaP TEQ is based on the EPA 1993 toxicity equivalency factors and the concentrations of the seven individual carcinogenic PAHs (Ref. 3). The BaP TEQ calculation is based on a BaP TEF multiplied by the concentration of the PAH for each of the following seven carcinogenic PAHs and then summed as follows:

BaP TEQ = (0.1) benzo(a)anthracene + (1.0) benzo(a)pyrene + (0.1)benzo(b)fluoranthene + (0.01) benzo(k)fluoranthene + (0.001) chrysene + (0.1) indeno(1,2,3cd)pyrene + (1) dibenzo(a,h)anthracene

2.2.2 Study Boundaries

The media of interest is surface soils and sediments. The study boundaries for the Study Area are sample depth, temporal boundaries such as field investigation dates and turnaround times on analytical results, and physical boundaries.

- The Study Area is depicted in Appendix A of the Settlement Agreement. Residential and non-industrial properties located south of 49th Street, east of 26th Street/Highway 31, north of 27th Avenue, and west of the L & N railroad lines in the Fairmont, Collegeville, and Harriman Park neighborhoods; a 1.5 mile stretch of Five Mile Creek, and the ditch at Harriman Park are included as part of the Study Area.

- For purposes of this investigation, composite and grab surface soil samples should be collected from 0 to 4 inches below ground surface (bgs).
- A 14 day turnaround time from sample submittal to laboratories should be required for this project.

2.2.3 Decision Rule

The primary decisions in the DQO process for the Study Area should be: (1) Are contaminants of concern present in the surface soils at properties located within the Study Area or the sediments along Five Mile Creek or the ditch flowing through Harriman Park? (2) Do the concentrations of the detected contaminants in soils and/or sediments exceed the RALs for PAHs, BaP TEQ, metals, SVOC, and/or PCB?

All environmental samples should be field screened for metals using an XRF and total cPAH concentrations using RaPID Assay® kits. Samples should be submitted to a NELAC accredited laboratory for low-level PAH, TCL SVOC, and TAL metals analysis based on the following field screening criteria:

- Samples with total cPAH RaPID® Assay concentrations greater than or equal to 1.0 parts per million (ppm)
- Ten percent (10%) of the samples with total cPAH RaPID Assay® concentrations less than 1.0 ppm
- Ten percent (10%) of the samples screened with the XRF.

Additionally, samples collected near former or currently operational substations will also be submitted for PCB analysis.

2.3 MEASUREMENT QUALITY OBJECTIVES

Measurement quality objectives can be expressed in terms of accuracy, precision, completeness, and sensitivity goals. Accuracy and precision are monitored through the analysis of QC samples. Completeness is a calculated value. Sensitivity is monitored through instrument calibration and the determination of MDLs and RLs (see Tables 2 to 5). Qualitative quality objectives,

expressed in terms of comparability, are not addressed as part of this sampling design since sampling locations are biased and not random.

- **Accuracy** is defined as the degree of agreement between an observed value and an accepted reference value. Accuracy shall be measured through the collection of blanks, performance evaluation samples, and blind spike samples.
- **Precision** is defined as degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. Precision shall be measured through the collection of duplicate field samples.
- **Completeness** is the amount of data collected as compared to the amount needed to ensure that the uncertainty or error is within acceptable limits. The goal for data completeness is 100%. However, the project will not be compromised if 95% of the samples collected are analyzed with acceptable quality.
- **Representativeness** is the degree to which data accurately and precisely represent a characteristic of a population. This is a qualitative assessment and is addressed primarily in the sample design, through the selection of sampling sites and procedures that reflect the project goals and environment being sampled. It is ensured in the laboratory through (1) the proper handling, homogenizing, compositing, and storage of samples and (2) analysis within the specified holding times so that the material analyzed reflects the material collected as accurately as possible.
- **Sensitivity** is the capability of a test method or instrument to discriminate between measurement responses representing different levels (e.g., concentrations) of a variable of interest. Sensitivity is addressed primarily through the selection of appropriate analytical methods, equipment, and instrumentation. The methods selected for this assessment were chosen to provide the sensitivity required for the end-use of the data. This is a quantitative assessment and is monitored through the instrument calibrations and calibration verification samples and the analysis of procedural blanks with every analytical batch.
- **Method Detection Limits** (MDLs) for all analysis should be those identified through the appropriate analytical methods identified in Table 1. Field screening quantitation limit are identified in Table 5 and are based on approved instrument and kit manufacturer provided information.
- **Reporting Limits** (RLs) for all analysis are based on a low calibration standard and are described in each analytical method identified above. Sample-specific reporting limits should be calculated and reported with the final data. There may be numbers reported that are below the RL. These numbers must be flagged appropriately. When the analysis demonstrates a non-detect at the MDL, the data shall be flagged with a "U." The value reported is the MDL, adjusted by any dilution factor used in the analysis. When an analyte is detected between the lower quantitation limit and the MDL, the data shall be flagged with a "J." The value reported is an estimate.

3.0 SAMPLE DESIGN, DATA GENERATION, AND ACQUISITION

3.1 SAMPLE DESIGN

The sampling design presented shall be in accordance with the EPA *Guidance on Choosing a Sampling Design for Environmental Data Collection* (QA/G-5S) to ensure that DQOs are fulfilled for the sampling investigation (Ref. 4). The sample design should take into account the results of previous sampling conducted by Walter Coke, current soil removal efforts being conducted by Walter Coke, and on information provided by EPA.

3.1.1 Residential Sampling

Figure 1 is a topographical map that illustrates the Study Area boundary.

The total number of 5-point composite surface soil samples to be collected from each property should be based on the lot size as follows:

- Residential lots with a total surface area less than (<) 5,000 square feet - the front yard and back yards of each property. Aliquots should be collected away from influences with drip lines and burn areas in a five dice configuration (each of the four corners and the center)
- Residential lots with a total surface area greater than (>) 5,000 square feet and < one acre - the property should be divided into two roughly equal surface areas. Aliquots should be collected away from influences with drip lines and burn areas ensuring equal spacing between aliquots.
- Residential properties over one acre in size should be divided into ¼-acre sections. Aliquots should be collected away from influences with drip lines and burn areas in a five dice configuration, if possible, ensuring equal spacing between aliquots.

Grab surface soil samples should be collected from apparent exposure pathways where active play sets are located.

Three- point composite surface soil samples should be collected from distinct vegetable gardens from each property.

3.1.2 Five Mile Creek Sampling

Ten sampling locations should be identified along the banks and within Five Mile Creek to take into account previous sampling and the industrial nature of the area.

3.1.3 Ditch flowing through Harriman Park Sampling

Ten sampling locations should be identified along the ditch flowing through Harriman Park to take into account previous sampling and the industrial nature of the area.

3.1.4 Quality Assurance Sampling

Additional quality assurance/quality control samples should be collected in accordance with applicable SESD FBQSTP protocols. All samples collected should be immediately preserved in accordance with FBQSTP Sample and Evidence Management (SESDPROC-005-R1) guidelines.

3.2 FIELD SAMPLING METHODS AND PROCEDURES

The Field Sampling Methods and Procedures section of this report discusses Study Area mobilization, control, access, and map generation. This section should also describes sample collection and equipment decontamination procedures.

3.2.1 Study Area Mapping

The location of all sampling stations should be collected using a Trimble® Global Position System (GPS) instrument. GPS coordinates should be collected at each sampling aliquot location during the field event. As specified in FBQSTP Global Positioning System procedure (SESDPROC-110-R3), stations should be located with one meter accuracy. If a location is in an area where a GPS signal cannot be received, the GPS of sampling locations should be collected from the nearest point where a signal is received and any deviations noted in the field logbook.

3.2.2 Sample Collection

Grab sediment samples should be collected in accordance with FBSQTP for Sediment Sampling (SESDPROC-200-R2) from 0 to 4 inches bgs using stainless steel scoops at locations along the banks of Five Mile Creek or the ditch flowing through Harriman Park, and using a ponar dredge from locations within the waters of Five Mile Creek.

Five point or three point composite surface soil samples should be collected in accordance with FBSQTP for Soil Sampling (SESDPROC-300-R1) from residential and non-industrial properties from the 0 to 4 inches bgs interval at each aliquot location using stainless steel spoons, hand augers, or scoops.

Each soil or sediment sample should be homogenized in a stainless steel bowl. One 4-ounce jar should be filled and the remaining sample material should be placed in zip-top bags for screening. Information identifying the location, sample point, and date/time should be inscribed on each jar and zip-top bag.

Samples will not be sieved based on a review of historical sampling results. The majority of soil samples collected during the 2009 assessment showed higher levels of arsenic concentrations in the unsieved (coarse) fraction over the sieved (fine) fraction. Based on the EPA *TRW Recommendations for Sampling and Analysis of Soil at Lead (Pb) Study Areas* (EPA #540-F-00-010, 2000), the more conservative approach of analyzing the unsieved fraction should be used to assess the Study Area for metals contamination.

Once collected, the sample bags should be transported to a central point at the Study Area where the homogenized sample should be placed in a warm and dry location to allow excess moisture to evaporate. Once the sample has dried, the zip-top bag should be compressed by folding over the excess plastic and removing as much air and space from the sample as possible. The XRF should be placed directly on the exterior of the compressed sample in the plastic zip top bag to measure metals concentrations. Following XRF screening, sample material should be containerized into two 8-ounce jars, and placed on ice.

Material contained within the 4-ounce jar should be field screened for total cPAH concentrations using RaPID Assay® test kits.

Based on the XRF and cPAH field screening results as presented in Section 2.2.5, the two 8-ounce jars soil and sediment samples should be submitted to a NELAC certified laboratory for TCL SVOC and low-level PAH and/or TAL metals. Samples collected near current or historically operational substations will also be submitted for PCB analysis.

Sampling activities will not be conducted during and one day after rain events to allow soil material to effectively dry prior to sample collection.

3.2.3 Equipment Decontamination Procedures

All field sampling equipment should be cleaned and decontaminated accordance with the FBQSTP.

3.2.4 Management of Investigation-Derived Waste

All investigation derived waste (IDW) and unused sample volume should be managed according to the procedures found in the FBQSTP Management of Investigation-Derived Waste procedure (SESDPROC-202-R2).

3.2.5 Sample Processing and Custody

All samples should be collected, containerized, preserved, handled, and documented in accordance with the EPA FBQSTP.

3.3 ANALYTICAL METHODS AND VALIDATION

The analytical procedures section of this report discusses the analytical procedures associated with field and laboratory methodologies that should be used to identify contamination in soil and sediment samples at the Study Area.

3.3.1 Field Analytical Methods

A portable XRF instrument should be used in the field to screen soil samples for TAL metals content in accordance with EPA Method 6200 (in situ modified for samples placed in zip top bags) and the FBQSTP for Field X-Ray Fluorescence Measurement (SESDPROC-107-R1).

RaPID Assay® field testing kits should be used to analyze for total cPAH concentrations in accordance with SW846-4020.

Total cPAH Field Screening All soil and sediment samples collected should be screened in the field for total cPAH using the RaPID Assay® System in accordance with EPA SW 846 Method 4020 and the RaPID Assay® System User's Guide (Attachment 1). The RaPID Assay® System is a field portable instrument that applies the principles of enzyme-linked immunosorbent assay (ELIZA) to the determination of cPAH. The RaPID Assay® System uses an enzyme conjugate and paramagnetic particles coated with PAH-specific antibodies, where the PAH (which may be in the sample) and the enzyme labeled PAH compete for the antibody binding Study Areas and bind in proportion to their original concentration. The presence of cPAHs is detected by a colored reaction, where the color development is inversely proportional to the concentration of cPAH in the sample (e.g., the darker the color, the less PAHs present in the sample). The color developed is quantified with a small, handheld photometer. The RaPID Assay® System provides no information on specific cPAH identification. Instead it provides an approximate total cPAH concentration.

The RaPID Assay® System consists of three primary components including the RaPID Prep Soil Collection Kit®, the assay kit itself, and the RPA-I RaPID Analyzer®, which is the small photometer.

XRF All soil samples should be field screened for TAL metals using a Niton XRF in accordance with SW846-6200, modified for bagged samples. In Niton XRFs, the photons of energy that cause fluorescence are provided by either a cadmium-109 and/or an americium-241radioactive source in the instrument. The cadmium-109 is a source of photons at 22.1 keV, 24.9 keV, and 88.0 keV. The americium-241 source provides 59.6 keV gamma-rays. Cadmium-109 sources

are suitable for identifying arsenic, chromium, selenium, lead, mercury, zinc, copper, nickel, and iron. Americium-241 is used for fluorescence of cadmium, silver, barium, and antimony. The XRF can determine the concentration of a particular analyte in a sample by determining the total number of x-rays at a particular frequency during a given amount of time.

3.3.2 Laboratory Analytical Methods

Samples should be submitted to a NELAC certified laboratory for TAL metals, TCL SVOC, low-level PAH, and PCB parameters to meet DQOs for the project. Applicable SW846 or EPA methodologies should be requested from the laboratory.

3.4 SAMPLE VALIDATION

Data validation is the process of verifying that qualitative and quantitative information generated relative to a given sample is complete and accurate. Data validation procedures shall be performed for both field and laboratory operations as described below.

3.4.1 Procedures Used to Validate Laboratory Data

Validation of analytical data should be conducted based on contractual and technical requirements outlined in the analytical method and in accordance with the National Functional Guidelines. A data qualifier report should be prepared to determine any data limitations and the impact of any qualified data on overall data usability for the project. Detailed guidance for data assessment may be found in the *Guidance for Data Quality Assessment* (EPA QA/G-9 2000).

3.4.2 Procedures Used to Evaluate Field Data

Procedures to evaluate field data for this project primarily should include checking for transcription errors and review of field logbooks/field data sheets, on the part of field crewmembers. Further, results of all instrument calibration should be reviewed to ensure that all criteria are met for the project. Data collected from instruments not meeting calibration standards should be re-measured once the calibration problem has been solved.

4.0 DOCUMENTATION AND RECORDS

All field records and documentation must comply with the documentation requirements defined in the SESD FBSQTP Logbooks (SESDPROC-010-R4).

5.0 REFERENCES

1. U.S. Environmental Protection Agency (EPA), Science and Ecosystem Support Division (SESD), Region 4. *Field Branches Quality System and Technical Procedures* (FBQSTP). November 2007.

2. EPA. EPA/240/B-06/001. Guidance on Systematic Planning Using the Data Quality Objectives Process. EPA QA-G4. February 2006.

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5.1. TABLES

1. Analytical Methodology, Sample Containers, Preservative, and Holding Times for Samples
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Attachment 1 – Strategic Diagnostics, Inc. RaPID Assay® PAH Test Kit User's Guide

Figure 1 – Topographical map that illustrates the Study Boundary

TABLE 1

ANALYTICAL METHODOLOGY, SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIME FOR SAMPLES
35th AVENUE COKE STUDY AREA

Matrix	Analysis	Laboratory/Field	EPA Method	Sample Container	Preservative	Holding Time
Soil / Sediment	Total cPAH	Field	RaPID Assay Kit SW846-4020	One 4-oz glass Jar	Cool to 4 °C	14 days to extraction 40 days to analysis
	SVOC + PAH	Laboratory	SW846-8270D + SIM	One 8-oz glass Jar	Cool to 4 °C	14 days to extraction 40 days to analysis
	PCB	Laboratory	SW846-8082	One 8-oz glass Jar	Cool to 4 °C	14 days to extraction 40 days to analysis
	TAL Metals	Laboratory	SW846-6010/7470	One 8-oz glass Jar	Cool to 4 °C	6 months/28 days
QA/QC Water	SVOC + PAH	Laboratory	SW846-8270D + SIM	Four 1-L amber bottles	Cool to 4 °C	7 days to extraction 40 days to analysis
	PCB	Laboratory	SW846-8082	Two 1-L amber bottles	Cool to 4 °C	7 days to extraction 40 days to analysis
	TAL Metals	Laboratory	SW846-6010/7471	One 1-L poly bottle	HNO_3 to pH<2 Cool to 4 °C	28 days to extraction 40 days to analysis

Notes:
°C - Degree Celsius
cPAH - Carcinogenic PAH
HNO_3 - Nitric Acid
L - Liter
oz - Ounce
SIM - Selective Ion Monitoring
SVOC - Semivolatile Organic Compounds
SW846 - Solid Waste 846 Methods
TAL - Target Analyte List
TCL - Target Compound List
PAH - Polycyclic Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

TABLE 2
TCL SVOC PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	CRQL Low Soil (ug/kg) SOM01.2
TCL PAHs			
2-Methylnaphthalene	91-57-6	3290000	3.3
Acenaphthene	83-32-9	34900000	3.3
Acenaphthylene	208-96-8	NL	3.3
Anthracene	120-12-7	175000000	3.3
Benzo(a)anthracene	56-55-3	8980	3.3
Benzo(a)pyrene	50-32-8	1480	3.3
Benzo(b)fluoranthene	205-99-2	8980	3.3
Benzo(g,h,i)perylene	191-24-2	NL	3.3
Benzo(k)fluoranthene	207-08-9	8980	3.3
Chrysene	218-01-9	89800	3.3
Dibenzo(a,h)anthracene	53-70-3	2630	3.3
Fluoranthene	206-44-0	23300000	3.3
Fluorene	86-73-7	23300000	3.3
Indeno(1,2,3,-cd) pyrene	193-39-5	8980	3.3
Naphthalene	91-20-3	389000	3.3
Pyrene	129-00-0	17500000	3.3
OTHER TCL SVOC			
1,1'-Biphenyl	92-52-4	41100000	170
1,2,4,5-Tetrachlorobenzene	95-94-3	187000	170
2,2'-Oxybis(1-choloropropane)	108-60-1	32900000	170
2,3,4,6-Tetrachlorophenol	58-90-2	18700000	170
2,4,5-Trichlorophenol	95-95-4	62400000	170
2,4,6-Trichlorophenol	88-06-2	624000	170
2,4-Dichlorophenol	120-83-2	1870000	170
2,4-Dimethylphenol	105-67-9	12500000	170
2,4-Dinitrophenol	51-28-5	1250000	330
2,4-Dinitrotoluene	121-14-2	1240000	170
2,6-Dinitrotoluene	606-20-2	626000	170
2-Chloronaphthalene	91-58-7	65700000	170
2-Chlorophenol	95-57-8	4110000	170
2-Methylphenol	95-48-7	31200000	170
2-Nitroaniline	88-74-4	NL	330
2-Nitrophenol	88-75-5	NL	170
3,3'-dichlorobenzidine	91-94-1	108000	170
3-Nitroaniline	99-09-2	187000	330
4,6-Dinitro-2-methylphenol	534-52-1	62400	330
4-Bromophenyl-phenylether	101-55-3	NL	170
4-Chloro-3-methylphenol	59-50-7	NL	170
4-Chloroaniline	106-47-8	899000	170
4-Chlorophenyl-phenyl ether	7005-72-3	NL	170
4-Methylphenol	106-44-5	NL	170
4-Nitroaniline	100-01-6	1870000	330
4-Nitrophenol	100-02-7	NL	330
Acetophenone	98-86-2	82100000	170
Benzaldehyde	100-52-7	82100000	170
Bis(2-chloroethoxy) methane	111-91-1	1870000	170

TABLE 2
TCL SVOC PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	CRQL Low Soil (ug/kg) SOM01.2
Bis(2-chloroethyl) ether	111-44-4	18500	170
Bis(2-ethylhexyl) phthalate	117-81-7	3470000	170
Butylbenzylphthalate	85-68-7	25600000	170
Caprolactam	105-60-2	312000000	170
Carbazole	86-74-8	NL	170
Dibenzofuran	132-64-9	NL	170
Diethylphthalate	84-66-2	499000000	170
Dimethylphthalate	131-11-3	NL	170
Di-n-butylphthalate	84-74-2	62400000	170
Di-n-octylphthalate	117-84-0	NL	170
Hexachlorobenzene	118-74-1	30300	170
Hexachlorobutadiene	87-68-3	622000	170
Hexachlorocyclopentadiene	77-47-4	3730000	170
Hexachloroethane	67-72-1	624000	170
Isophorone	78-59-1	51100000	170
Nitrobenzene	98-95-3	411000	170
N-Nitroso-di-n propylamine	621-64-7	6940	170
N-Nitrosodiphenylamine	86-30-6	9910000	170
Pentachlorophenol	87-86-5	297000	330
Phenanthrene	85-01-8	NL	170
Phenol	108-95-2	187000000	170

Notes:

[a] - PAH analyzed using Selective Ion Methodology (SIM)

CRQL - Contract Required Quantitation Limits

NL - Not listed

PAH - Polycyclic Aromatic Hydrocarbon compounds

RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)

SVOC - Semivolatile Organic Compounds

TCL - Target Compound List

ug/kg - Micrograms per kilogram

TABLE 3
TAL METALS PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (mg/kg)	CRQL ISM01.3 ICP-AES Soil (mg/kg)
Aluminum	7429-90-5	791000	20
Antimony	7440-36-0	329	6
Arsenic	7440-38-2	38.9	1
Barium	7440-39-3	164000	20
Beryllium	7440-41-7	1610	0.5
Cadmium	7440-43-9	729	0.5
Chromium	7440-47-3	27600	1
Cobalt	7440-48-4	244	5
Iron	7439-89-6	575000	10
Lead	7439-92-1	400	1
Magnesium	7439-95-4	NL	500
Manganese	7439-96-5	NL	1.5
Mercury	7439-97-6	20	0.1
Nickel	7440-02-0	16400	4
Potassium	7440-09-7	NL	500
Selenium	7782-49-2	4110	3.5
Silver	7440-22-4	4110	1
Sodium	7440-23-5	NL	500
Thallium	7440-28-0	53.2	2.5
Vanadium	7440-62-2	4140	5
Zinc	7440-66-6	246000	6

Notes:

CRQL - Contract Required Quantitation Limit

mg/kg - Milligrams per kilogram

NL - Not listed

RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)

TABLE 4
PCB PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	CRQL Soil CLP SOM01.2 (ug/kg)
Aroclor-1016	12674-11-2	39900	33
Aroclor-1221	11104-28-2	17200	33
Aroclor-1232	11141-16-5	17200	33
Aroclor-1242	53469-21-9	22100	33
Aroclor-1248	12672-29-6	22100	33
Aroclor-1254	11097-69-1	11400	33
Aroclor-1260	11096-82-5	22100	33
Aroclor-1262	37324-23-5	NL	33
Aroclor-1268	11100-14-4	NL	33

Notes:

CRQL - Contract Required Quantitation Limit

NL - Not listed

RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)

ug/kg - Micrograms per kilogram

TABLE 5
RAPID ASSAY TARGET PARAMETERS, DETECTION LEVELS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	RaPID Assay LOQ (ppb)	ICS50 Total (ppb)	TEF
Benzo(a)pyrene	50-32-8	1480	10	160	1
Benzo(a)anthracene	56-55-3	8980	3	48	0.1
Benzo(b)fluoranthene	205-99-2	8980	8.1	130	0.1
Benzo(k)fluoranthene	207-08-9	8980	3.9	63	0.01
Chrysene	218-01-9	8980	4.3	69	0.001
Indeno(1,2,3)pyrene	193-39-5	8980	12.7	203	0.1
Dibenzo(a,h)anthracene	53-70-3	2630	15	241	1

Notes:

ICS50 - Concentration required to inhibit one-half of the color produced with the negative control
LOQ - Limit of Quantitation
ppb - Parts per billion
RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)
TEF - Toxicity Equivalency Factor
ug/kg - Micrograms per kilogram

Attachment 1

STRATEGIC DIAGNOSTICS INC.

RaPID Assay® PAH Test Kit

A00156/A00157

Intended Use

The RaPID Assay® PAH (polyaromatic hydrocarbons) Test Kit can be used as a quantitative, semi-quantitative or qualitative enzyme immunoassay (EIA) for the analysis of PAH in water (groundwater, surface water, well water). For soil application please refer to specific procedure. For applications in other matrices please contact our Technical Service department or refer to the soil application procedure provided. The RaPID Assay® PAH Test Kit allows reliable and rapid screening for PAH (measured and reported as phenanthrene) and related compounds, with quantitation between 2.66 and 66.5 (as phenanthrene). The minimum detection level of the kit is 0.93 (as phenanthrene) in water.

Test Principles

The PAH RaPID Assay® kit applies the principles of enzyme linked immunosorbent assay (ELISA) to the determination of PAH and related compounds. The sample to be tested is added, along with an enzyme conjugate, to a disposable test tube, followed by paramagnetic particles with antibodies specific to PAH attached. Both the PAH (which may be in the sample) and the enzyme labeled PAH (the enzyme conjugate) compete for antibody binding sites on the magnetic particles. At the end of an incubation period, a magnetic field is applied to hold the paramagnetic particles (with PAH and labeled PAH analog bound to the antibodies on the particles, in proportion to their original concentration) in the tube and allow the unbound reagents to be decanted. After decanting, the particles are washed with Washing Solution.

The presence of PAH is detected by adding the enzyme substrate (hydrogen peroxide) and the chromogen (3,3',5,5' – tetramethylbenzidine). The enzyme labeled PAH analog bound to the PAH antibody catalyzes the conversion of the substrate/chromogen mixture to a colored product. After an incubation period, the reaction is stopped and stabilized by the addition of acid. Since the labeled PAH (conjugate) was in competition with the unlabeled PAH (sample) for the antibody sites, the color developed is inversely proportional to the concentration of PAH in the sample.

NOTE: Color development is inversely proportional to the PAH concentration.

Darker color = lower concentration
Lighter color = higher concentration

The determination of the PAH level in an unknown sample is interpreted relative to the standard curve generated from kit standards after reading with a spectrophotometer.

Performance Characteristics

The PAH RaPID Assay® will detect PAH and related compounds to different degrees. Refer to the table below for data on several of these compounds. The PAH RaPID Assay® kit provides screening results. As with any analytical technique (GC, HPLC, etc.) positive results requiring some action should be confirmed by an alternative method.

The PAH RaPID Assay® immunoassay test does not differentiate between PAH and other related compounds. The table below shows compounds at the method detection limit (MDL) which is the lowest concentration of the compound that can be picked up in the assay in a water matrix. The limit of quantitation (LOQ) is an approximate concentration in water required to yield a positive result at the lowest standard. **This is the lowest concentration of the compound that can be quantified in the assay in water.** The IC50 is the concentration required to inhibit one half of the color produced by the negative control. It is also used to calculate cross-reactivity values to similar compounds.

Compound	MDL (ppb)	LOQ (ppb)	IC50 (ppb)
Phenanthrene	0.93	2.66	21.9
Fluoranthene	0.43	0.76	6.25
Benzo(a)pyrene	0.67	1.12	9.18

Pyrene	0.27	1.24	10.24
Chrysene	0.53	1.26	10.4
Anthracene	0.72	1.77	14.6
Indeno(1,2,3-c,d)pyrene	1.04	4.4	36.2
Benzo(a)anthracene	1.02	4.6	37.8
Fluorene	2.19	5.7	46.8
Benzo(b) fluoranthene	1.21	8.77	72.1
Acenaphthylene	13.3	72.3	595
Benzo(k) fluoranthene	1.02	84.7	697
Acenaphthalene	17.2	111.1	915
Benzo(g,h,i) perylene	19.6	>162	>1330
Naphthalene	86.5	>162	>1330
Dibenzo(a,h) anthracene	34.2	>162	>1330
Heating Fuel	17.02	47.2	388.4
JP-5	452.2	1011.3	8326
JP-4	811.3	>1615	>13300
Gasoline	1330	>1615	>13300
Kerosene	1662.5	>1615	>13300
Jet A Fuel	>13300	>13300	>13300

The presence of the following substances up to 250 ppm were found to have no significant effect on PAH RaPID Assay® results: calcium, copper, iron, manganese, magnesium, mercury, nickel, nitrate, phosphate and zinc. In addition, sodium chloride up to 1.0M, sulfate to 10,000 ppm, sulfite and thiosulfate to 100 ppm, showed no significant effect on results.

The Total PAH (sum of 16 PAH compounds) of the indicated contaminant types in soil samples are expressed below, at each of the three kit calibrator (standards) levels, in units comparable to results from GC Method 8270 or HPLC Method 8310.

PAH RaPID Assay®
Total PAH in Water (in ppb)

Contaminant	S1 Equivalent	S2 Equivalent	S3 Equivalent
Creosote	0.532	4	13.3
Coal Tar Oil	0.532	2.66	13.3
Diesel	0.133	1.33	5.32
Turbine Jet Fuel	2	10.64	53.2
Fuel Oil #1	2	10.64	53.2
Fuel Oil #2	0.133	1.33	6.65
Fuel Oil #4	0.133	0.665	3.33
Fuel Oil #5,6	0.133	0.4	1.33

Precautions

- Training is strongly recommended prior to using the RaPID Assay® test system. Contact Strategic Diagnostics for additional information.
- Treat PAH, solutions that contain PAH, and potentially contaminated samples as hazardous materials.
- Use gloves, proper protective clothing, and methods to contain and handle hazardous material where appropriate.
- Reagents must be added in a consistent manner to the entire rack. A consistent technique is the key to optimal performance. Be sure to treat each tube in an identical manner.
- Water samples should be at a neutral pH prior to analysis. Samples containing gross particulate should be filtered (e.g. 0.2 um Anotop™ 25 Plus, Whatman, Inc.) to remove particles.
- Store all test kit components at 2°C to 8°C (36°F to 46°F). Storage at ambient temperature (18°C to 27°C or 64°F to 81°F) on the day of use is acceptable. *Test tubes require no special storage and may be stored separately to conserve refrigerator space.*
- Allow all reagents to reach ambient temperature (18°C to 27°C or 64°F to 81°F) before beginning the test. This typically requires at <u>least</u> 1 hour to warm from recommended storage conditions.
- Do not freeze test kit components or expose them to temperatures above 100°F (39°C).
- Do not use test kit components after the expiration date.
- Do not use reagents or test tubes from one test kit with reagents or test tubes from a different test kit.
- Do not mix reagents from kits of different lot numbers.
- Use approved methodologies to confirm any positive results.

- Do not under any circumstances attempt to disassemble the base of the magnetic rack. Magnets will be violently attracted to each other.
- Adequate sample number and distribution are the responsibility of the analyst.
- The photometer provided in the accessory kit requires electricity and comes with a 110V adapter. Adapters for 220V are available. Do not attempt to operate with a car adaptor.
- Do not expose color solution to direct sunlight.
- Do not dilute or adulterate test reagents or use samples not called for in the test procedure; this may give inaccurate results.
- Tightly recap the standard vials when not in use to prevent evaporative loss.

Materials Provided

- Antibody Coupled Paramagnetic Particles in buffered saline containing preservative and stabilizers.

  30 test kit: one 20 mL vial
  100 test kit: one 65 mL vial

- Lyophilized Enzyme Conjugate

  1 vial

- Enzyme Conjugate Diluent

  30 test kit: one 10 mL vial (minimum)
  100 test kit: one 35 mL vial (minimum)

- Standards

  Three concentrations (2.0, 10.0, 50.0 ppb) of Phenanthrene standards (as phenanthrene analog) in buffered saline containing preservative and stabilizers are supplied. Each vial contains 4 mL.

- Control

  A concentration (approximately 25 ppb) of Phenanthrene (as phenanthrene analog) in buffered saline containing preservative and stabilizers. A 4 mL volume is supplied in one vial.

- Diluent/Zero Standard

  Buffered saline containing preservative and stabilizers without any detectable PAH.

  30 test kit: one 10 mL vial
  100 test kit: one 35 mL vial

- Color Solution containing hydrogen peroxide and 3,3',5,5'-tetramethylbenzidine in an organic base.

  30 test kit: one 20 mL vial
  100 test kit: one 65 mL vial

- Stop Solution containing a solution of 2M sulfuric acid.

  30 test kit: one 20 mL vial
  100 test kit: one 60 mL vial

- Washing Solution containing preserved deionized water with detergent.

  30 test kit: one 70 mL vial
  100 test kit: one 250 mL vial

- Polystyrene test tubes

  30 test kit: one 36 tube box
  100 test kit: three 36 tube boxes

- User's Guide

Materials Required and Ordered Separately

See "Ordering Information" for the appropriate catalogue numbers.

Rapid Assay® Accessory Kit

Accessory equipment may be rented or purchased from Strategic Diagnostics. See "Ordering Information" for the appropriate catalogue numbers.

The accessory kit contains the following items:

- Adjustable Volume Pipet
- Eppendorf™ Repeater® Pipettor
- Electronic timer
- Portable balance capable of weighing 10 g (for soil samples)
- Vortex mixer
- Magnetic separation rack

- RPA-I RaPID Analyzer (or equivalent spectrophotometer capable of reading 450 nm in a 1 mL sample size).

Other Items

- 12.5 mL Combitips® for the Repeater pipettor - for 0.25 mL to 1.25 mL dispensing volumes (5)
- Pipet tips for adjustable volume pipet (100-1000 uL)

NOTE: Order replacement Combitips® and pipet tips separately. See the "Ordering Information" section.

Materials Required but Not Provided

- Methanol (HPLC grade or equivalent) for water samples
- Protective clothing (e.g., latex gloves)
- Absorbent paper for blotting test tubes
- Liquid and solid waste containers
- Marking pen
- Instructional video (optional)

Suggestions for Pipettor Use

- Practice using both pipettes (adjustable volume and Repeater pipettor) with water and extra tips before you analyze your samples.
- Use a new tip each time you use the Repeater pipettor to pipette a different reagent to avoid reagent cross-contamination. Tips can be rinsed thoroughly, dried completely and reused. By using the same tip to dispense the same reagent each time you can avoid cross contamination.

NOTE: Repeator tips should be changed periodically (after ~10 uses) since precision deteriorates with use.

- Draw the desired reagent volume into the Repeater pipettor and dispense one portion of the reagent back into the container to properly engage the ratchet mechanism. If you do not do this, the first volume delivered may be inaccurate.
- To add reagents using the Repeater pipettor, pipette down the side of the test tube just below the rim.
- When adding samples and standard using the positive displacement pipettor, always pipette into the bottom of the tube without touching the sides or bottom of the tube.
- Use a new adjustable volume pipet tip each time you pipette a new unknown.

Assay Procedure

Prior to performing your first Rapid Assay®, please take time to read the package inserts in their entirety and review the videotape if available. **On site training is strongly recommended for new users of this test system.** Please contact your account manager for further information. This procedure is designed for quantitative analysis. For running the kit semi-quantitatively or qualitatively, please contact Technical Support.

Reagent Preparation

The PAH Enzyme Conjugate is provided as a lyophilized preparation that must be reconstituted prior to use.

1. Prepare the conjugate by adding approximately 3 mL of the conjugate diluent to the lyophilized conjugate vial using the disposable transfer pipet.
2. Swirl gently to dissolve the conjugate.
3. Accurately transfer the vial contents to the diluent bottle.
4. Repeat this procedure twice more with 3 mL aliquots of conjugate diluent.
5. Invert diluent bottle several times to mix completely and let stand approximately 5 minutes before use.
6. Enter the date of reconstitution on the side label of the PAH Conjugate Diluent bottle. Also, enter the expiration date of the PAH Enzyme Conjugate solution which is **21 days** from the date of reconstitution.
7. If the conjugate cannot be used up within 21 days of reconstitution, aliquots should be prepared and frozen. *Frozen aliquots of reconstituted conjugate may be used until the expiration date found on the kit box label.*

Collect/Store the Sample

The following steps explain how to properly collect and store your samples.

1. Water samples should be collected in glass vessels with teflon cap liners. **Immediately upon collection, water samples should be diluted with (HPLC grade) methanol (1:3 or 1 part water sample to 3 parts of methanol) to prevent adsorptive losses to the glass containers.** This is a 1.33x dilution, which must be accounted for when interpreting results. See "Results Interpretation", Section 3a for further details. Use this diluted sample as "sample" in "Perform the Test".

NOTE: This 1.33x dilution is not required for soil samples.

2. Samples should be collected in appropriately sized and labeled containers.
3. If testing soil samples, follow the SDI Sample Extraction Kit User's Guide or the appropriate technical bulletin to properly collect and store your sample.
4. Samples should be tested as soon as possible after collection. If this is not possible, storage at 4°C (39°F) is recommended to minimize evaporative losses.

Set Up

1. Remove kits from refrigerator. All reagents must be allowed to come to room temperature prior to analysis. Remove reagents from packaging and place at room temperature at least 1 hour prior to testing.
2. Turn on the RPA-1 or other spectrophotometer. The RPA-1 should be warmed up for at least 30 minutes prior to the run.
3. Label five 12.5 mL Combitips "Conjugate", "Particles", "Wash", "Color" and "Stop". In addition, add the name of the compound you are testing for to each Combitip.
4. Remove nine clean blank test tubes for standards and control and one test tube for each sample (if testing in singlicate). Label the test tubes according to contents as follows.

Tube #	Contents
1	Negative control (replicate 1)
2	Negative control (replicate 2)
3	Standard 1 (replicate 1)
4	Standard 1 (replicate 2)
5	Standard 2 (replicate 1)
6	Standard 2 (replicate 2)
7	Standard 3 (replicate 1)
8	Standard 3 (replicate 2)
9	Control
10	Sample 1
11	Etc.

***Label at top of tubes to avoid interference with reading of tubes in photometer**

Sample Extraction and Dilution

Filtration may be necessary to remove gross particulate from the water sample. If testing at levels higher than standard kit levels is desired, contact SDI for special instructions. Please follow the instructions from the SDI Sample Extraction Kit to prepare and dilute the soil extract prior to running the assay. Dilute water samples as described in "Collect/Store the Sample."

Perform the Test

1. Separate the upper rack from the magnetic base. Place labeled test tubes into the rack.
2. Add **250 uL** of standards, control or samples to the appropriate tubes using the adjustable volume pipet with the dial set on **0250**. The negative control, standards and control must be run with each batch of samples.

NOTE: Sample should be added to the bottom of the tube by inserting the pipet tip into the tube without touching the sides or the bottom of the tube. Take care not to contact sample with pipette tip once dispensed into bottom of the tube.

3. Using the Repeater Pipettor with the "Conjugate" tip attached and the dial set on **"1"**, add **250 uL** of Enzyme conjugate down the **inside wall** of each tube. (Aim the pipet tip ¼" to ½" below the tube rim or tube wall; deliver liquid gently to avoid splashback.)
4. Thoroughly mix the magnetic particles by swirling (avoid vigorous shaking) and attach the "Particles" tip

to the Repeater Pipettor. With the dial set on **"2"** add **500 uL** of magnetic particles to each tube, aiming down the side of the tube as described above. Vortex, mixing each tube 1 to 2 seconds at low speed to minimize foaming. Pipetting of magnetic particles should be kept to 2 minutes or less.

5. Incubate 30 minutes at room temperature.

6. After the incubation, combine the upper rack with the magnetic base and press all tubes into the base; allow 2 minutes for the particles to separate.

7. With the upper rack and magnetic base combined, use a smooth motion to invert the combined rack assembly over a sink and pour out the tube contents.

NOTE: If the rack assembly inadvertently comes apart when lifting to pour out tube contents, re-combine and wait an additional 2 minutes to allow particles to separate.

8. **Keep the rack inverted** and gently blot the test tube rims on several layers of paper towels. It is important to remove as much liquid as possible but **do not bang** the rack or you may dislodge the magnetic particles and affect the results.

9. Set the Repeater Pipettor dial to **"4"** and put on the tip labeled "Wash". Add **1 mL** of Washing Solution down the inside wall of each tube by using the technique described earlier. Vortex tubes for 1-2 seconds. **Wait 2 minutes** and pour out the tube contents as described previously. **Repeat this step one more time.**

NOTE: The number of washes and wash volume are important in ensuring accurate results.

10. Remove the upper rack (with its tubes) from the magnetic base. With the "Color" tip attached to the Repeater Pipet and the dial set to **"2"** add **500 uL** of Color Reagent down the inside wall of each tube as described previously. Vortex 1 to 2 seconds (at low speed).

11. Incubate 20 minutes at room temperature. During this period, add approximately 1 mL of Washing solution to a clean tube for use as an instrument blank for "Results Interpretation".

12. After the incubation, position the Repeater pipettor at Setting **"2"** and use the "Stop" tip to add **500 uL** of Stop solution to all test tubes.

13. Proceed with results interpretation.

WARNING: Stop solution contains 2M sulfuric acid. Handle carefully.

Results Interpretation

1. After addition of Stop Solution to the test tubes, results should be read within 15 minutes.

2. Wipe the outside of all antibody coated tubes prior to photometric analysis to remove fingerprints and smudges.

Photometric Interpretation Using the RPA-I

1. The RPA-I photometer (provided in the Rapid Assay® Accessory kit) can be used to calculate and store calibration curves. It is preprogrammed with various RaPID Assay® protocols. To obtain results from the PAHs Rapid Assay® test kit parameters are as follows:

Data Reduct:		Lin. Regression
Xformation :		Ln/LogitB
Read Mode :		Absorbance
Wavelength :		450 nm
Units	:	PPB
# Rgt Blk	:	0

Calibrators:

# of Cals	:	4
# of Reps	:	2

Concentrations:

#1	:	0.00 ppb
#2	:	2.00 ppb
#3	:	10.0 ppb
#4	:	50.0 ppb
Range	:	0.7 – 50.0

Correlation :	0.990
Rep. %CV :	10%

NOTE: Prior to analysis the RPA-I User's Manual should be thoroughly reviewed for more detailed operation instructions.

2. Follow the instrument prompts to read the absorbance of all tubes:

Instrument Display	Operator Response
SELECT COMMAND RUN PROTOCOL	Press RUN Scroll using the YES [] or NO [] keys until the desired protocol appears. Then press ENTER
SPL. REPLICATES (1-5)	Press 1 (for analysis of samples in singlicate.) Press ENTER
BLANK TUBE, INSERT TUBE, EVALUATING TUBE, REMOVE TUBE (Beep)	Insert blank tube containing 1mL wash solution. Remove tube
CAL #1, REP. #1, INSERT TUBE, EVALUATING TUBE, REMOVE TUBE (Beep)	Insert Tube #1 Remove tube

Follow prompts to read tubes.

NOTE: Tube order is important. The RPA-I expects to see the standards in ascending order, in duplicate, starting with the negative control.

Following evaluation of all standards, the instrument will display:

PRINTING DATA,	Data will print
PRINTING CURVE	Curve will print only if programmed to print (See RPA1 User's Manual).
CTRL #1 REP #1, INSERT TUBE, EVALUATING TUBE, REMOVE TUBE (Beep)	Insert Control Tube Remove Tube
EDIT CALIBRATORS YES/NO	Press NO (if editing is necessary press YES and refer to the RPA1 User's Manual).
SPL #1 REP#1 INSERT TUBE EVALUATING TUBE REMOVE TUBE (Beep)	Insert first sample tube Remove tube

Continue to follow prompts. After all samples have been read, press STOP.

Expected Results:

- **%CV (coefficient of variation) between standard duplicates of 10% or less.**
- **Absorbance reading for the 0 ppb standard should be between 0.8 and 2.0 for all assays.**
- **Correlation (r) of 0.990 or greater for all assays.**
- **Kit control within range specified on vial.**
- **Absorbance of negative control and standards should be as follows:**

  Negative Control>Std. 1>Std. 2>Std. 3.

3. Concentrations will be indicated for all samples on the RPA-I printout.

   a) The concentration, as indicated on the printout, is multiplied by the appropriate dilution factor (if applicable) introduced in the procedure. The quantitation range of the kit is also multiplied by this factor.

   EXAMPLE: Water samples were diluted 1.33 with methanol upon collection (see "Collect/Store the Sample" in the User's Guide). As a result, the concentrations listed on the printout should be multiplied by 1.33 to determine the sample concentration. The standard concentrations are also multiplied by 1.33 to give a quantitation range in water 2.66 to 66.5 ppb.

   b) Samples with an "nd" and no concentration listed have an absorbance greater than the negative control; therefore, no concentration

can be computed for these samples. Results must be reported as <2.66 ppb (or Standard 1 multiplied by the dilution factor).

c) Samples with an "nd" next to a listed concentration have an estimated concentration below the minimum detection level of the test kit. Results must be reported as <2.66 ppb (or Standard 1 multiplied by the dilution factor).

NOTE: Any samples with concentrations determined to be lower than Standard 1 (the limit of quantitation) must be reported as <2.66 ppb (or Standard 1 multiplied by the dilution factor). Quantitation is not possible below this standard as this is outside the linear range of the assay.

d) Similarly, samples with a "hi" next to a listed concentration have an estimated concentration higher than Standard 3 and must be reported as >66.5 ppb (or Standard 3 multiplied by the dilution factor).

NOTE: In order to determine the concentration of samples with concentrations greater than Standard 3, they must be subjected to repeat testing using a diluted sample. A ten-fold or greater dilution of the sample is recommended with an appropriate amount of PAH diluent. This additional dilution must then be taken into account when calculating the concentration. Please contact Technical Support for assistance in performing dilutions.

Photometric Interpretation Using Other Photometers

Other photometers may also be used to interpret results obtained from the RPA-I photometer. It is important that the photometer be able to read absorbance at 450nm and that the instrument can read at a 1 mL fill volume. Absorbances obtained from other spectrophotometers (reading at 450 nm) may be used to manually calculate sample concentrations as outlined below.

1. Calculate the mean absorbance for each of the three standards and the negative control.

2. Determine the standard deviation and %CV (coefficient of variation) of each standard and ensure %CV is less than 10% for each.

3. Calculate the %B/Bo for each standard by dividing the mean absorbance value for the standard by the mean absorbance value for the negative control and multiplying the results by 100.

4. Construct a standard curve by plotting the %B/Bo for each standard on the vertical logit (y) axis versus the corresponding analyte concentration on the horizontal logarithmic (x) axis on the graph paper provided in the test kit. **Graph papers are specific for each method. Use only the graph paper supplied with each kit.**

5. Draw the best straight line through all points. Using the %B/Bo of the sample, the concentration can be interpolated from the standard curve.

6. Multiply results by the appropriate dilution factor (if applicable) introduced in the procedure. For example, if the sample was diluted 10-fold to increase the detection levels of the kit then the results must be multiplied by 10. This dilution also changes the range of the assay (standards) by the same factor.

Limitations of the Procedure

The Rapid Assay® PAH Test Kit is a screening test **only**. Sampling error may significantly affect testing reliability. Adequate sample number and distribution are the responsibility of the analyst.

Ordering Information

Description	Catalogue Number
Rapid Assay® PAH 30 Tube Kit	A00156
Rapid Assay® PAH 100 Tube Kit	A00157
Rapid Assay® Accessory Kit**	6050100
Adjustable Volume Pipet Tips (100-1000 uL)	A00013
12.5 mL Combitip for Repeating Pipette (1 each)	A00009
PAH Diluent	A00159
PAH Soil Proficiency Sample	A00158
Rapid Assay® Rental Accessory Kit	6997010
**** To obtain part numbers and pricing for individual items in the Accessory Kit contact SDI at the number below.**	

Ordering/Technical Assistance

Should you have any questions regarding this procedure prior to analysis contact Technical Service to avoid costly mistakes.

To Place an Order or Receive Technical Assistance, please call Strategic Diagnostics Inc. at:

Call toll-free **800-544-8881**`

Or 302-456-6789 Phone
302-456-6782 Fax
Web site: www.sdix.com
E-mail: techservice@sdix.com

General Limited Warranty

SDI's products are manufactured under strict quality control guidelines and are warranted to be free from defects in materials and workmanship. New instruments and related non-expendable items are warranted for one year from date of shipment against defective materials or workmanship under normal use and service.
Warranty obligation is limited to repair or replacement of the defective product or to refund of the purchase price, at the discretion of SDI. Other warranties, express or implied, are disclaimed. SDI's liability under any warranty claim shall not exceed the refund of the purchase price paid by the customer. Under no circumstances shall SDI be liable for special, indirect or consequential damages.

Safety

To receive an MSDS for this product, visit our web site at www.sdix.com.

Z00304.1, Rev 4/6/00

Operation of the Repeater Pipet

To Set or Adjust Volume

To determine the pipetting volume, the dial setting (1-5) is multiplied by the minimum pipetting volume of the tip (indicated on the side of the Combitip, e.g. 1~100 uL.)

To Assemble Pipet Tip

Slide filling lever down until it stops. Then raise the locking clamp and insert the tip until it clicks into position. Be sure the tip plunger is fully inserted into the barrel before lowering the locking clamp to affix the tip in place.

To Fill Tip

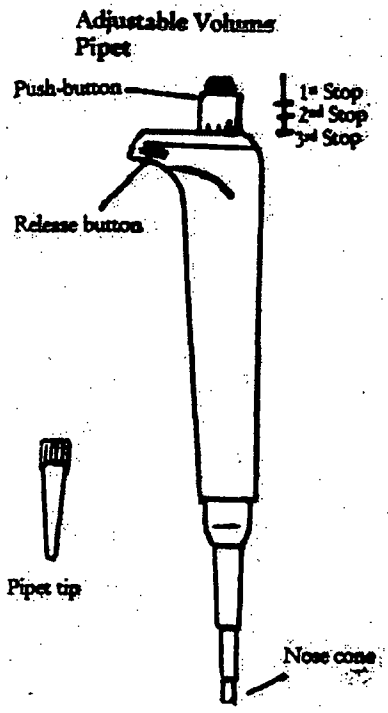
With tip mounted in position on pipet, immerse end of tip into solution. Slide filling lever upward slowly. Combitip will fill with liquid.

To Dispense Sample

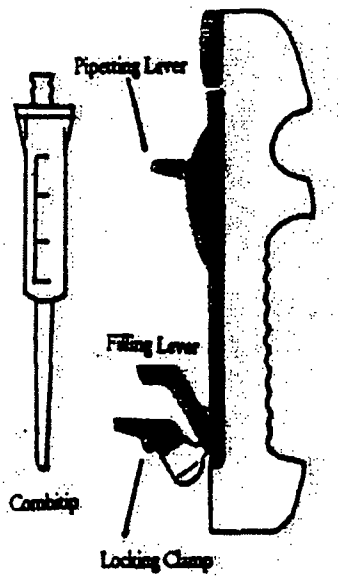
Check the volume selection dial to ensure pipetting volume. Place tip inside test tube so that tip touches the inner wall of tube. Completely depress the pipetting lever to deliver sample. NOTE: Dispense one portion of reagent back into the container to engage the ratchet mechanism and ensure accuracy.

To Eject Tip

Empty tip of any remaining solution into appropriate container by pushing filling lever down. Raise locking clamp upward, and remove the Combitip.



Repeater Pipet



Operation of the Adjustable Volume Pipet

To Set or Adjust Volume

Press release button on side of pipette and turn the push-button to adjust volume up or down. Volume setting is displayed on top of pipet. See kit instructions for appropriate setting. Pipet will accurately dispense volumes between 100 and 1000 uL.

To Assemble Pipet Tip

Gently push nose cone of pipet firmly into a pipet tip contained in the pipet tip rack.

To Withdraw Sample

Keep pipet almost vertical. With tip mounted in position on pipet, press push-button to 1st stop and hold it. Place tip at bottom of liquid sample and slowly release push-button to withdraw measured sample. Ensure that no air bubbles exist in the pipette tip. If bubbles exist, dispense sample and re-withdraw. Slide tip out along the inside of the vessel.

To Dispense Sample

Wipe any liquid from outside of tip taking care not to touch orifice. Place tip into tube, almost to the bottom, and slowly press push-button to 2nd stop. Hold push-button at 2nd stop when removing tip from tube.

To Eject Tip

Press push-button to 3rd stop. Tip is ejected.

STRATEGIC DIAGNOSTICS INC.

RaPID Assay® PAH In Soil Application

Intended Use

For detection of Polynuclear Aromatic Hydrocarbons (PAHs) (as phenanthrene) in soil. For testing in other matrices, please contact our technical support department at 1-800-544-8881.

Materials Required but Not Provided

SDI Sample Extraction Kit
(Part Number: A00160EA/A00160EB)

Procedural Notes and Precautions

- Prepare soil samples for analysis according to the procedure in the SDI Sample Extraction Kit Users Guide.
- After extraction and dilution of samples, follow the immunoassay procedure as described in the Rapid Assay ® PAH Test Kit User's Guide.
- The initial 1.33x dilution described for water samples in Step 1 of "Collect/Store the Sample" does not need to be performed for soil samples.

Quality Control

A control solution at approximately 25 ppb (as phenanthrene) is provided with the PAH RaPID Assay® Kit. It is recommended that it be included in every run and treated in the same manner as unknown samples. If running standard soil procedures an acceptable result should be 100 times the value stated on the control vial (i.e. 2.5 + or – 0.5 ppm) when the control results are corrected for the dilution factors (see Results section below).

Results Interpretation

Interpret soil sample results as described in the RaPID Assay® PAH Test Kit procedure, accounting for the total dilution factor indicated in the table of the SDI Sample Extraction Kit Users Guide. Alternatively, program the RPA-1 Analyzer as listed below to automatically correct for this dilution factor.

1. The RPA-I photometer (provided in the Rapid Assay® Accessory kit) can be used to calculate and store calibration curves. To obtain soil results from the PAH Rapid Assay® test kit on the RPA-I the following parameter settings are recommended:

Data Reduct:	Lin. Regression
Xformation :	Ln/LogitB
Read Mode :	Absorbance
Wavelength :	450 nm
Units :	PPM
# Rgt Blk :	0
Calibrators:	
# of Cals :	4
# of Reps :	2
Concentrations:	
#1 :	0.00 PPM
#2 :	0.20 PPM
#3 :	1.00 PPM
#4 :	5.00 PPM
Range :	0.2 – 5 ppm
Correlation :	0.990
Rep. %CV :	10%

Performance Data

The PAH RaPID Assay® does not differentiate between PAH and other related compounds. The table below shows compounds at the method detection limit (MDL) which is the lowest concentration of the compound in soil that can be picked up in the assay. The limit of quantitation (LOQ) is an approximate concentration required to yield a positive result at the lowest standard, this is the lowest concentration of the compound in soil that can be quantified in the assay. The IC50 is the concentration in soil required to inhibit one half of the

color produced by the negative control. It is also used to calculate cross-reactivity values to similar compounds.

Compound	MDL (ppm)	LOQ (ppm)	IC50 (ppm)
Phenanthrene	0.07	0.2	1.65
Fluoranthene	0.032	0.057	0.47
Benzo(a)pyrene	0.05	0.084	0.69
Pyrene	0.02	0.093	0.77
Chrysene	0.04	0.095	0.78
Anthracene	0.054	0.133	1.1
Indeno(1,2,3-cd)pyrene	0.078	0.33	2.72
Benzo(a)anthracene	0.077	0.344	2.84
Fluorene	0.165	0.43	3.52
Benzo(b)fluoranthene	0.091	0.66	5.42
Acenaphthylene	1.0	5.42	44.7
Benzo(k)fluoranthene	0.077	6.35	52.4
Acenaphthalene	1.29	8.3	68.8
Benzo(g,h,i)perylene	1.47	>12.12	>100
Naphthalene	6.5	>12.12	>100
Dibenzo(a,h)anthracene	2.57	>12.12	>100

The Total PAHS (sum of 16 PAH compounds) of the indicated contaminant types in soil samples are expressed below, at each of the three kit calibrator (standard) levels, in units comparable to results from GC Method 8270 or HPLC Method 8310.

Contaminant	S1 Equivalent	S2 Equivalent	S3 Equivalent
Creosote	0.04	0.3	1.0
Coal Tar Oil	0.04	0.2	1.0
Diesel	0.01	0.1	0.4
Turbine (Jet) Fuel	0.15	0.8	4.0
Fuel Oil #1	0.15	0.8	4.0
Fuel Oil #2	0.01	0.1	0.5
Fuel Oil #4	0.01	0.05	0.25
Fuel Oil #5,6	0.01	0.03	0.1

Range of Detection

The PAH RaPID Assay® has a range of detection in soil of 0.2 ppm to 5 ppm (as phenanthrene) when used in conjunction with the SDI Sample Extraction Kit.

Recovery

PAH recoveries will vary depending on soil type, retention mechanism, solvent and extraction apparatus used, length of extraction period and levels of potentially interfering substances in the soil.

APPENDIX C

TAL METALS PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (mg/kg)	CRQL ISM01.3 ICP-AES Soil (mg/kg)
Aluminum	7429-90-5	791000	20
Antimony	7440-36-0	329	6
Arsenic	7440-38-2	38.9	1
Barium	7440-39-3	164000	20
Beryllium	7440-41-7	1610	0.5
Cadmium	7440-43-9	729	0.5
Chromium	7440-47-3	27600	1
Cobalt	7440-48-4	244	5
Iron	7439-89-6	575000	10
Lead	7439-92-1	400	1
Magnesium	7439-95-4	NL	500
Manganese	7439-96-5	NL	1.5
Mercury	7439-97-6	20	0.1
Nickel	7440-02-0	16400	4
Potassium	7440-09-7	NL	500
Selenium	7782-49-2	4110	3.5
Silver	7440-22-4	4110	1
Sodium	7440-23-5	NL	500
Thallium	7440-28-0	53.2	2.5
Vanadium	7440-62-2	4140	5
Zinc	7440-66-6	246000	6

Notes:

CRQL - Contract Required Quantitation Limit

mg/kg - Milligrams per kilogram

NL - Not listed

RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)

RAPID ASSAY TARGET PARAMETERS, DETECTION LEVELS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	RaPID Assay LOQ (ppb)	ICS50 Total (ppb)	TEF
Benzo(a)pyrene	50-32-8	1480	10	160	1
Benzo(a)anthracene	56-55-3	8980	3	48	0.1
Benzo(b)fluoranthene	205-99-2	8980	8.1	130	0.1
Benzo(k)fluoranthene	207-08-9	8980	3.9	63	0.01
Chrysene	218-01-9	8980	4.3	69	0.001
Indeno(1,2,3)pyrene	193-39-5	8980	12.7	203	0.1
Dibenzo(a,h)anthracene	53-70-3	2630	15	241	1

Notes:

ICS50 - Concentration required to inhibit one-half of the color produced with the negative control
LOQ - Limit of Quantitation
ppb - Parts per billion
RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)
TEF - Toxicity Equivalency Factor
ug/kg - Micrograms per kilogram

TCL SVOC PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES

35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	CRQL Low Soil (ug/kg) SOM01.2
TCL PAHs			
2-Methylnaphthalene	91-57-6	3290000	3.3
Acenaphthene	83-32-9	34900000	3.3
Acenaphthylene	208-96-8	NL	3.3
Anthracene	120-12-7	175000000	3.3
Benzo(a)anthracene	56-55-3	8980	3.3
Benzo(a)pyrene	50-32-8	1480	3.3
Benzo(b)fluoranthene	205-99-2	8980	3.3
Benzo(g,h,i)perylene	191-24-2	NL	3.3
Benzo(k)fluoranthene	207-08-9	8980	3.3
Chrysene	218-01-9	89800	3.3
Dibenzo(a,h)anthracene	53-70-3	2630	3.3
Fluoranthene	206-44-0	23300000	3.3
Fluorene	86-73-7	23300000	3.3
Indeno(1,2,3,-cd) pyrene	193-39-5	8980	3.3
Naphthalene	91-20-3	389000	3.3
Pyrene	129-00-0	17500000	3.3
OTHER TCL SVOC			
1,1'-Biphenyl	92-52-4	41100000	170
1,2,4,5-Tetrachlorobenzene	95-94-3	187000	170
2,2'-Oxybis(1-choloropropane)	108-60-1	32900000	170
2,3,4,6-Tetrachlorophenol	58-90-2	18700000	170
2,4,5-Trichlorophenol	95-95-4	62400000	170
2,4,6-Trichlorophenol	88-06-2	624000	170
2,4-Dichlorophenol	120-83-2	1870000	170
2,4-Dimethylphenol	105-67-9	12500000	170
2,4-Dinitrophenol	51-28-5	1250000	330
2,4-Dinitrotoluene	121-14-2	1240000	170
2,6-Dinitrotoluene	606-20-2	626000	170
2-Chloronaphthalene	91-58-7	65700000	170
2-Chlorophenol	95-57-8	4110000	170
2-Methylphenol	95-48-7	31200000	170
2-Nitroaniline	88-74-4	NL	330
2-Nitrophenol	88-75-5	NL	170
3,3'-dichlorobenzidine	91-94-1	108000	170
3-Nitroaniline	99-09-2	187000	330
4,6-Dinitro-2-methylphenol	534-52-1	62400	330
4-Bromophenyl-phenylether	101-55-3	NL	170
4-Chloro-3-methylphenol	59-50-7	NL	170
4-Chloroaniline	106-47-8	899000	170
4-Chlorophenyl-phenyl ether	7005-72-3	NL	170
4-Methylphenol	106-44-5	NL	170
4-Nitroaniline	100-01-6	1870000	330
4-Nitrophenol	100-02-7	NL	330
Acetophenone	98-86-2	82100000	170
Benzaldehyde	100-52-7	82100000	170
Bis(2-chloroethoxy) methane	111-91-1	1870000	170

TCL SVOC PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	CRQL Low Soil (ug/kg) SOM01.2
Bis(2-chloroethyl) ether	111-44-4	18500	170
Bis(2-ethylhexyl) phthalate	117-81-7	3470000	170
Butylbenzylphthalate	85-68-7	25600000	170
Caprolactam	105-60-2	312000000	170
Carbazole	86-74-8	NL	170
Dibenzofuran	132-64-9	NL	170
Diethylphthalate	84-66-2	499000000	170
Dimethylphthalate	131-11-3	NL	170
Di-n-butylphthalate	84-74-2	62400000	170
Di-n-octylphthalate	117-84-0	NL	170
Hexachlorobenzene	118-74-1	30300	170
Hexachlorobutadiene	87-68-3	622000	170
Hexachlorocyclopentadiene	77-47-4	3730000	170
Hexachloroethane	67-72-1	624000	170
Isophorone	78-59-1	51100000	170
Nitrobenzene	98-95-3	411000	170
N-Nitroso-di-n propylamine	621-64-7	6940	170
N-Nitrosodiphenylamine	86-30-6	9910000	170
Pentachlorophenol	87-86-5	297000	330
Phenanthrene	85-01-8	NL	170
Phenol	108-95-2	187000000	170

Notes:

[a] - PAH analyzed using Selective Ion Methodology (SIM)

CRQL - Contract Required Quantitation Limits

NL - Not listed

PAH - Polycyclic Aromatic Hydrocarbon compounds

RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)

SVOC - Semivolatile Organic Compounds

TCL - Target Compound List

ug/kg - Micrograms per kilogram

PCB PROJECT TARGET PARAMETERS, REPORTING LIMITS, AND COMPARISON VALUES
35th AVENUE COKE SITE

Analyte	Cas No	Residential RAL (ug/kg)	CRQL Soil CLP SOM01.2 (ug/kg)
Aroclor-1016	12674-11-2	39900	33
Aroclor-1221	11104-28-2	17200	33
Aroclor-1232	11141-16-5	17200	33
Aroclor-1242	53469-21-9	22100	33
Aroclor-1248	12672-29-6	22100	33
Aroclor-1254	11097-69-1	11400	33
Aroclor-1260	11096-82-5	22100	33
Aroclor-1262	37324-23-5	NL	33
Aroclor-1268	11100-14-4	NL	33

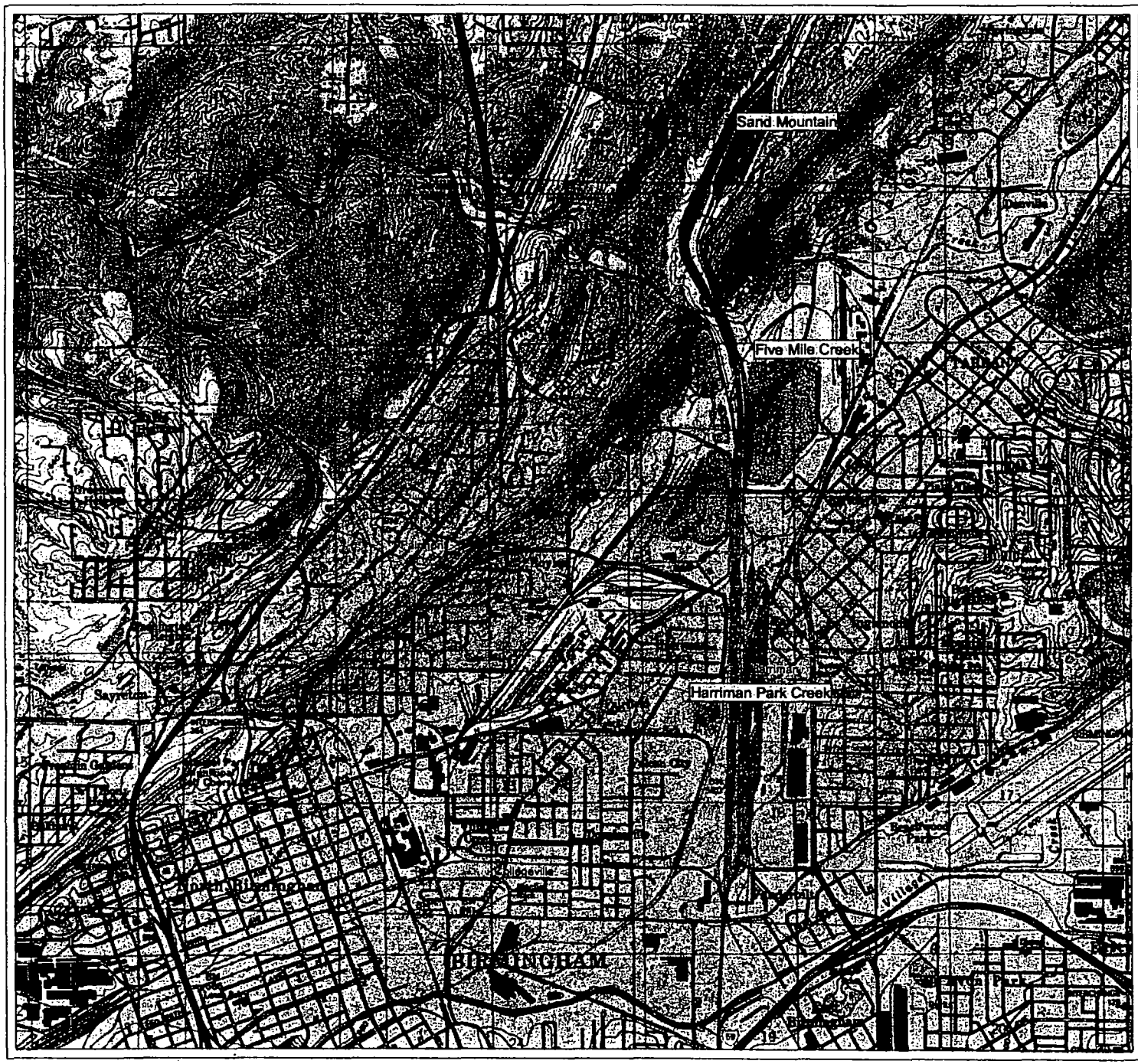
Notes:

CRQL - Contract Required Quantitation Limit

NL - Not listed

RAL - EPA Removal Action Levels for Chemical Contaminants at Superfund Sites (September 2008)

ug/kg - Micrograms per kilogram



Legend

- Study Area Boundary
- Harriman Park
- Collegeville
- Fairmont
- Five Mile Creek
- Harriman Park Creek

Notes:
USGS Topo Quad. 1:24,000 scale of
Quad Birmingham North Date published: 1978
Quad ID: 33086-E7

Feet
0 2,500 5,000

United States Environmental Protection Agency

35TH AVENUE COKE SITE
BIRMINGHAM,
JEFFERSON COUNTY,
ALABAMA
TDD No. TNA-05-003-0148

FIGURE 1
TOPOGRAPHICAL MAP

OTIE