

US EPA ARCHIVE DOCUMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION VII  
11201 RENNER BOULEVARD  
LENEXA, KANSAS 66219

IN THE MATTER OF: )  
 )  
CARTER CARBURETOR SITE )  
ST. LOUIS, MISSOURI )  
 )  
ACF INDUSTRIES, LLC, )  
 )  
RESPONDENT, )  
 )  
Proceeding under Sections 104, 106(a), 107 and 122 )  
of the Comprehensive Environmental Response, )  
Compensation and Liability Act of 1980, as )  
amended, 42 U.S.C. §§ 9604, 9606(a), 9607 and )  
9622. )

Docket No. CERCLA-07-2013-0008

**ADMINISTRATIVE SETTLEMENT AGREEMENT**  
**AND ORDER ON CONSENT FOR REMOVAL ACTIONS**



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## **I. JURISDICTION AND GENERAL PROVISIONS**

1. This Administrative Settlement Agreement and Order on Consent for Removal Actions ("Settlement Agreement") is entered into voluntarily by ACF Industries, LLC ("ACF") ("Respondent") and Region VII of the United States Environmental Protection Agency ("EPA"). This Settlement Agreement provides for the performance of a removal action by Respondent and the reimbursement of Future Response Costs that may be incurred by the United States during the implementation of the removal actions under this Settlement Agreement at or in connection with the Carter Carburetor Site ("Site"), located in St. Louis, Missouri.

2. This Settlement Agreement is issued pursuant to 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, as amended ("CERCLA"), 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622. This Settlement Agreement is also entered into pursuant to the authority of the Attorney General of the United States to compromise and settle claims of the United States, which authority, in the circumstances of this settlement, has been delegated to the Assistant Attorney General for the Environment and Natural Resources Division of the United States Department of Justice.

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

4. The EPA and Respondent recognize that this Settlement Agreement has been negotiated in good faith and that the actions to be 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 proceeding other than any proceeding to implement or enforce this Settlement Agreement, the validity of the findings of fact and

determinations contained in Sections V and VI of this Settlement Agreement. Respondent agrees to undertake all actions required by this Settlement Agreement, including any modifications thereto, agrees to comply with and be bound by the terms of this Settlement Agreement, and agrees that it will not contest either EPA's authority to issue or to enforce this Settlement Agreement or the basis or validity of this Settlement Agreement or its terms.

## **II. STATEMENT OF PURPOSE**

5. The EPA and Respondent have entered into this Settlement Agreement for the purpose of implementing response actions as specified in Section IX and the Statement of Work (Attachment II), selected by EPA in the March 30, 2011, Enforcement Action Memorandum (Attachment III), for the Site. This Settlement Agreement also provides for settlement of costs incurred, or to be incurred, by the United States at or in connection with the Site.

## **III. PARTIES BOUND**

6. This Settlement Agreement applies to and is binding upon EPA and upon Respondent and its successors and assigns. Any change in the 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.

7. Respondent is responsible for carrying out all activities required by this Settlement Agreement.

8. Respondent shall ensure that its contractors, subcontractors and representatives that perform Work under this Settlement Agreement receive a copy of, and comply with this Settlement Agreement. Respondent shall be responsible for noncompliance with this Settlement Agreement, except as otherwise provided for herein.

#### IV. DEFINITIONS

9. Unless otherwise expressly provided herein, terms used in this Settlement Agreement which 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 and attachments attached hereto and incorporated hereunder, the following definitions shall apply:

A. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

B. "CBI" means Carter Building Inc., the owner of a portion of the Site as depicted in Attachment I.

C. "CBI Building" means the four story building located on the western portion of the Site as depicted in Attachment I.

D. "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 holiday, the period shall run until the close of business of the next working day.

E. "Document" or "record" shall mean any object that records, stores or presents information and includes writings, drawings, graphs, charts, photographs and other data compilations from which information can be obtained or translated, if necessary, through detection devices into reasonably useable form, and: (i) every copy of each document which is not an exact duplicate of a document which is produced; (ii) every copy which has any writing, figure or notation, annotation or the like on it; (iii) drafts; (iv) attachments to or enclosures with any document; and (v) every document referred to in any other document.

F. “Effective Date” shall mean the date this Settlement Agreement is effective pursuant to Section XXXVI of this Settlement Agreement.

G. “Enforcement Action Memorandum” shall mean the EPA Enforcement Action Memorandum relating to the Site signed on March 30, 2011 by the Regional Administrator, EPA Region VII and all attachments thereto. The Enforcement Action Memorandum is attached as Attachment III.

H. “EPA” shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

I. “Future Oversight Costs” shall mean all costs that EPA incurs, including, but not limited to, direct and indirect costs, in monitoring and supervising Respondent’s performance of the Work to determine whether such performance is consistent with the requirements of the Settlement Agreement, including but not limited to costs incurred in reviewing plans, reports, and other deliverables submitted pursuant to this Settlement Agreement, as well as costs incurred in overseeing implementation of the Work and costs incurred in securing access for EPA and Respondent necessary for the performance of Work under this Settlement Agreement. However, Future Oversight Costs do not include, the costs incurred by the United States pursuant to Paragraphs 55 and 56 to enforce Institutional Controls or post-removal Site controls, Paragraph 75 (Emergency Response) and Paragraph 102 (Work Takeover); the costs incurred by the United States in developing plans, reports, or other deliverables required to be submitted by Respondent pursuant to this Settlement Agreement, due to Respondent’s failure to properly resubmit them pursuant to Paragraph 63; the costs incurred by the United States in enforcing the terms of this Settlement Agreement; all costs incurred by the United States in connection with Dispute Resolution pursuant to Section XVIII of this

Settlement Agreement; and all costs incurred by the United States in responding to any judicial or administrative action initiated by Respondent against EPA concerning any matter related to this Settlement Agreement.

J. “Future Response Costs” shall mean the costs incurred by the United States, including, but not limited to, direct and indirect costs, pursuant to Paragraphs 55 and 56 to enforce Institutional Controls or post-removal Site controls), Paragraph 75 (Emergency Response) and Paragraph 102 (Work Takeover); the costs incurred by the United States in developing plans, reports, or other deliverables required to be submitted by Respondent pursuant to this Settlement Agreement, due to Respondent’s failure to properly resubmit them pursuant to Paragraph 63; the costs incurred by the United States in enforcing the terms of this Settlement Agreement; all costs incurred by the United States in connection with Dispute Resolution pursuant to Section XVIII of this Settlement Agreement; and all costs incurred by the United States in responding to any judicial or administrative action initiated by Respondent against EPA concerning any matter related to this Settlement Agreement.

K. “Hazardous Substance Superfund” shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

L. “Interest” shall mean interest at the current 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.

M. “LRA” means the Land Reutilization Authority of the City of St. Louis, the owner of a portion of the Site as depicted in Attachment I.



N. "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.

O. "Paragraph" shall mean a portion of the Settlement Agreement identified by an Arabic numeral.

P. "Party" or "Parties" shall mean EPA or Respondent or EPA and Respondent.

Q. "Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurred and/or paid at or in connection with the Site through the Effective Date of this Settlement Agreement as established by Section XXXVI herein, plus Interest on all such costs through such date.

R. "Performance Standards" shall mean the cleanup levels required in each of the three (3) areas of contamination described in the SOW that must be met by Respondent in conducting the removal actions as provided for in this Settlement Agreement.

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

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

U. "Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent for Removal Actions and all attachments hereto. In the event of conflict between this Settlement Agreement and any attachment, the Settlement Agreement shall control.



V. “Site” shall mean the former Carter Carburetor Facility, an approximately 10-acre former manufacturing and warehousing facility located in St. Louis, Missouri (see Attachment I).

W. “State” shall mean the state of Missouri, including all of its departments, agencies and instrumentalities.

X. “Statement of Work” or “SOW” shall mean the statement of work for implementation of the removal actions, as set forth in Attachment II to this Settlement Agreement, and any modifications made thereto in accordance with this Settlement Agreement.

Y. “United States” shall mean the United States of America, including all of its departments, agencies and instrumentalities.

Z. “Waste Materials” shall mean: (i) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (ii) any “pollutant or contaminant” under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (iii) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

AA. “Willco Property Site” shall mean the Willco Building and approximately 2-acre parcel of property retained or acquired by CBI as depicted in Attachment I, including the land beneath the Willco Building.

BB. “Work” shall mean all activities Respondent is required to perform under this Settlement Agreement, including, but not limited to, payment of Future Response Costs (except for the record preservation requirements under Section XIII of this Settlement Agreement) and any post-removal Site controls that may be required as provided in and subject to Paragraphs 54 and 55.

CC. "Respondent" shall mean ACF Industries, LLC. ("ACF"). For the purposes of Sections XXI, XXIII, and XXV, Respondent shall also mean any affiliated entities or any parent or ultimate parent, any of which directly operated or controlled ACF prior to the Effective Date of the Settlement Agreement, and any predecessors in interest.

## **V. FINDINGS OF FACT**

10. The Site includes one and one half square city blocks in the city of St. Louis, Missouri. The Site is bounded on the north by Dodier Street, on the east by Grand Blvd, on the south by St. Louis Avenue and on the west by North Spring Avenue and Hyams Street. In addition, the Site includes property located on the west side of Spring Avenue, which was the subject of a release of TCE. At one time, the Site consisted of several multistory, connected, manufacturing and warehouse buildings and adjacent lots located in a mixed, urban commercial/residential area. The Site property covers approximately 10 acres. The Site is 80 feet in elevation above the Mississippi River and is not within its 100 year flood plain zone.

11. ACF Industries, Incorporated ("ACF") owned the property from 1956 until April 26, 1985, when the Site property and buildings (also referred to herein as the "Facility") were deeded to LRA. During ACF's period of property ownership, carburetors were manufactured for use in gasoline and diesel powered equipment. When ACF closed the Facility in 1984, the manufacturing lines were dismantled and most of the equipment was shipped to new locations or sold. At the time the Site property was deeded to LRA, approximately twenty (20) transformers and an undisclosed number of capacitors and switch gears, all of which contained PCB fluids, remained on-site. Respondent ACF believes the transformers, capacitors and switch gears were operational and intact at the time of the conveyance to LRA. ACF Industries, Inc. became ACF Industries LLC on May 1, 2003.

12. On April 26, 1985, LRA deeded the Facility to Hubert and Sharon Thompson (the "Thompsons"). On January 9, 1986, the Thompsons sold a portion of the Facility to Edward Pivrotto and his wife (the "Pivrottos"). The Pivrottos subsequently failed to pay the real estate taxes on the portion of the Facility they owned, resulting in a Sheriff's sale on August 20-22, 1991. Because no substantive bids were received at the sale, the property reverted to LRA by operation of law. Thus on February 2, 1992, LRA became the owner of the northeastern portion of the Facility previously owned by the Pivrottos. The LRA currently owns the property upon which "die cast" buildings, the south warehouse facility and an adjacent north parking lot were located (see Attachment I).

13. CBI is the current owner of the portion of the Facility (the CBI Building and the Willco Building) not owned by LRA.

14. CBI leased areas of its buildings to several different businesses, including a metal fabrication shop, an auto repair shop, a plastics company and storage companies.

15. In the early 1980's, ACF was required by the Industrial Pollution Control Section of the Metropolitan St. Louis Sewer District ("MSD") to monitor and control waste water discharges containing PCBs. ACF instituted physical and procedural controls to reduce PCBs in their waste water discharges. These controls were reported to be in effect until the Facility was decommissioned in 1984. A source of the current contamination was the hydraulic fluid containing PCBs in machinery and equipment used in the Carter Carburetor manufacturing processes at the Facility during ACF's ownership of the Facility.

16. In August 1987, EPA conducted a Toxic Substances Control Act ("TSCA") inspection of the Facility which led to the issuance of a Complaint and Notice of Hearing to Hubert Thompson. In April 1988, Mr. Thompson contracted with U.S. Pollution Control Inc. to

cleanup, remediate and remove the PCB containing transformers.

17. In June 1988, a Consent Order issued by EPA required Mr. Thompson to remove and dispose of the PCB transformers.

18. In February 1989, the Missouri Department of Natural Resources ("MDNR") conducted an inspection at the Site. The inspection determined that transformers, transformer oil, switches, and contaminated concrete had been shipped offsite for disposal pursuant to the June 1988 Consent Order. Samples collected during the MDNR inspection revealed PCB contamination in soils under an old transformer area. Following the response actions by the Thompsons, a cleanup verification study was performed by Environmental Operations, Inc. in November 1989. This study indicated that PCBs were still present in the pump room (electrical substation #1). In April 1989, EPA collected samples at the Site and found PCB concentrations in the soils ranging from 17.2 parts per million ("ppm") to 18.5 ppm.

19. In March 1990, EPA conducted another TSCA inspection to determine if further cleanup action was necessary. Analysis of samples collected during this inspection indicated that surface wipe samples still exceeded PCB regulatory cleanup standards in 40 C.F.R. Part 761 and that a PCB transformer and two drums of PCB containing material remained on-site.

20. Another PCB study was conducted by Environmental Science and Engineering, Inc. (ESE) in September 1990 on behalf of Mr. Thompson. This study focused solely on the first floor pump room (electrical substation #1) which had originally contained six transformers. As a result of this study, EPA requested Mr. Thompson to provide a description of completed and/or planned cleanup activities at the Site. In February 1991, Mr. Thompson responded, indicating that he did not have the assets to continue the cleanup activities at the Site.

21. The EPA Emergency Planning and Response Branch conducted Site

investigations in November 1993 and January 1994. The primary reason for the investigations was to collect environmental samples and conduct an assessment of the Site to determine if anyone had access to and could be exposed to areas previously determined to contain PCBs. Samples were collected from areas at the Site known or suspected to have concentrations of PCBs. These areas included: (A) a vaulted pump room near the center of the CBI portion of the Facility that contained pumps, old boilers and other equipment, and once housed electrical substation #1; (B) locations near and below electrical substation #3 which was on the roof of the LRA portion of the Facility; and (C) locations near electrical substation #4 which was in the northeast corner of the LRA portion of the Facility. Analysis of a sediment sample taken from the floor drain in the pump room indicated the presence of PCBs; however, it could not be determined if PCBs had or were capable of being released to the city sewer system through this floor drain. Analytical results from samples taken during the November 1993 and January 1994 investigations confirmed the presence of PCBs at and near two large PCB transformers at electrical substations #3 and #4, indicating that releases of PCBs had occurred from each transformer. Two drums of oil containing PCBs were also found near the PCB transformer at electrical substation #4. A large PCB stained area, approximately 15 feet by 40 feet in size, was discovered immediately west of the drums of PCB oil. Analytical results from samples collected also indicated that PCBs were on certain areas of the floors in the main part of the manufacturing building. As a result of the discoveries, EPA requested the LRA to immediately over pack and secure the two drums of PCB oil, restrict access to the Site, and post PCB warning stickers.

22. The EPA conducted another Site investigation in March of 1994. The purpose of this investigation was to collect additional air, wipe and dust samples to further characterize the Site and determine the potential threat to those individuals who were in the building on a daily

basis. Analytical results from the air sampling and from fifty (50) wipe samples of the floors, walls and equipment at the Facility confirmed the existence of PCBs throughout the Facility.

23. Outside Contamination.

A. Based upon analytical results from samples collected during EPA's November 16, 1993 and January 6, 1994 investigations, significant PCBs existed outside of the die cast buildings in the north parking lot area. This PCB contamination was at least partially the result of releases from a PCB transformer (electrical substation #4) located on the northeast corner of the north die cast building. PCB contamination in this outside area was as high as 180,000 mg/kg.

B. As part of the Integrated Assessment Investigation, soil samples were collected from the nearby Herbert Hoover Boy's Club and from two occupied residential properties and analyzed for the presence of PCBs. Analytical results of the samples from these properties revealed the presence of PCBs in surface soils, but below levels of concern.

24. In December 1995 and January 1996, EPA and its contractors conducted an Integrated Assessment Investigation in order to complete a Preliminary Assessment/Site Inspection (PA/SI) to determine if off-site migration had occurred and to provide recommendations for further action based on the results of the PA/SI. This investigation revealed six (6) potential sources of releases of hazardous substances, based on the operational history and past investigations. The potential sources of PCBs within the Facility were transformers, drums, metal shavings, smokestack/exhaust ventilation, sumps and trenches and building material and dust.

25. Pydraul hydraulic fluid containing PCBs was used in the die cast machines during the carburetor manufacturing process.

26. The Thompsons and Pivirottos did not operate die casting machinery after they became owners of portions of the Facility property.

27. Based upon the November 1993, January and March 1994 investigations, and the December 1995 and January 1996 Integrated Assessment Investigation, EPA determined that releases of PCBs occurred on all four floors of the CBI Building. PCBs were located outside the north die cast building near electrical substation #4 and on the roof of the building near electrical substation #3, as well as surfaces inside the die cast building. Sample analytical results exceeded cleanup levels as outlined in EPA's Office of Solid Waste and Emergency Response, Directive No. 9355.4-01, "Guidance on Remedial Actions for Superfund Sites with PCB Contamination" and the PCB Spill Cleanup Policy set forth in Subpart G of 40 C.F.R. Part 761.

28. The Site is surrounded by commercial and residential areas to the north. The Herbert Hoover Boys and Girls Club of St. Louis and a ballpark are located across Dodier Street, north of the Facility. Two high schools and three elementary schools are located within one half a mile of the Facility.

29. On March 18, 1996, EPA determined that a time-critical removal action should be performed at the LRA-owned portion of the Site in order to reduce the immediate threat to human health and the environment posed by conditions at the Site. The EPA's determination that such action was necessary and a description of the actions that needed to be taken were described in the Removal Action Memorandum, signed by the Regional Administrator of the EPA, Region VII on March 18, 1996.

30. In July 1996, EPA issued a Unilateral Administrative Order for Removal Response Activities ("UAO"), Docket Number VII-96-F-0026, pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), to Respondent, ACF. The UAO required ACF to undertake the

actions identified in the March 1996 Removal Action Memorandum, which included: (A) the removal and disposal of a PCB transformer; (B) characterization, removal and disposal of all contaminated building material and debris located on the north side of the north die cast building; (C) characterization and disposal of the contents of the two die cast buildings and south warehouse, followed by the demolishing of the three structures and off-site disposal of the demolition debris; and (D) the installation of an interim cover over the die cast buildings' foundation floors following the demolition of the two die cast buildings and south warehouse.

31. In May of 1997, ACF began on-site removal actions pursuant to the 1996 UAO. The time-critical removal action required by the UAO primarily focused on the demolition and disposal of PCBs and asbestos in buildings on the LRA-owned portion of the Site. The buildings included two die cast buildings and the south warehouse. The south warehouse was completely demolished, including the foundations and floor. The die cast buildings were partly demolished, leaving the PCB contaminated foundation walls and floors of the die cast buildings in place. The foundations were cleaned, coated with epoxy and covered with limestone aggregate. Also, approximately 1,100 tons of soil was removed from the north parking lot transformer leak area. ACF has complied with the requirements of the UAO.

32. Since the conclusion of the UAO removal action, a portion of the walls of the die cast building has become exposed as the limestone aggregate has eroded away. The epoxy coating has also weathered and flaked off of the exposed concrete foundation walls that are not currently covered by the limestone aggregate.

33. In July 1998, EPA conducted an investigation at the Site and collected chip, wipe and water samples from the Carter Carburetor Manufacturing Building (also referred to as the CBI Building), the largest remaining Site building, which is currently owned by CBI. Results of



analyses of the wipe samples collected on the first floor indicated the presence of PCBs at levels as high as  $247.5 \mu\text{g}/100 \text{ cm}^2$ , with an average wipe sample concentration inside the CBI building on the first floor of  $61.5 \mu\text{g}/100 \text{ cm}^2$ . The concrete chip sample analytical results from the first floor indicated PCBs as high as 858 ppm, with an average chip sample PCB concentration of 176 ppm. Results of analyses of two water samples collected from a pit on the first floor indicated PCBs at 841 and 490 micrograms/liter (41). On the second floor, only one wipe sample analytical result exceeded  $10 \mu\text{g}/100 \text{ cm}^2$  with a concentration of PCBs at  $11.2 \mu\text{g}/100 \text{ cm}^2$ . The third floor sample analytical results indicated PCB concentrations as high as  $38.3 \mu\text{g}/100 \text{ cm}^2$ , with an average PCB concentration of  $11.1 \mu\text{g}/100 \text{ cm}^2$ .

34. In April 2003, ACF voluntarily contracted with an environmental consulting company to conduct additional environmental sampling at the Site. Several soil boring samples were collected at the Site, the majority of which were collected from beneath the concrete foundation floor of the two former die cast buildings. The analytical results from these soil samples indicated PCB concentrations as high as 11,470 parts per million ("ppm") in the sampled subsurface area, primarily beneath the die cast building's concrete foundation floors. Based on the results of these soil samples, ACF estimated that 1,750 cubic yards of PCB impacted material at concentrations above 10 ppm was present beneath or near the former die cast buildings. In addition to the PCBs, various hydrocarbon and chlorinated solvents have been identified at the Site. Tetrachloroethylene and trichloroethylene were identified in subsurface soils at concentrations of 3.46 ppm and 1.05 ppm respectively.

35. In September 2005, ACF entered into an Administrative Settlement Agreement and Order on Consent for Removal Action ("2005 Settlement Agreement") with EPA, which required ACF to conduct an engineering evaluation/cost analysis (EE/CA) at the Site for the

purpose of developing response action alternatives to address the remaining on-Site contamination. The 2005 Settlement Agreement included the collection of additional data to determine the extent of contamination and an investigation of a former TCE storage tank area for possible subsurface contamination.

36. In the summer of 2006, ACF and its contractors conducted environmental assessments for lead-based paint, asbestos, PCBs and TCE. The results of this investigation confirmed and further delineated; PCBs in the CBI Building, asbestos and lead paint in the CBI Building and Willco Building, friable/non-friable asbestos and peeling lead paint throughout both buildings. In addition, ACF's contractors identified the presence of relatively high levels of TCE in subsurface soils beneath the location of a former storage tank that Respondent ACF used to store TCE during the Facility's operations prior to 1985. After review of the 2006 investigation reports, EPA determined that further investigations were needed to define the extent of TCE contamination so that adequate response action alternatives could be developed for the EE/CA Report.

37. In the summer of 2007, ACF's contractors conducted an additional investigation that better delineated the extent of the TCE contamination in subsurface soils. In addition, ACF voluntarily investigated and cleaned all accessible sewer lines at the Site. The sewer lines had previously been sampled by MSD in the early 1980s, the analytical results of which indicated the presence of PCB-containing debris. The PCB-containing sewer line debris was removed to the extent possible and properly disposed of off-Site. After reviewing all of the data, EPA directed Respondent ACF to begin conducting the Stream-lined Risk Evaluation ("SRE") portion of the EE/CA.

38. After reviewing the subsurface TCE data and the approved SRE, the Missouri

Department of Health and Senior Services (MDHSS) recommended further assessment of the potential for TCE vapor intrusion. In October 2008, EPA conducted an on-Site vapor intrusion study by collecting samples directly beneath the buildings' floors and other concrete slabs at the Site. The results of this study indicated that TCE vapors were present beneath the on-site buildings and slabs at concentrations of concern. Further vapor intrusion sampling was conducted along the east side of the Herbert Hoover Boys and Girls Club property. Based on the analytical results from these samples, and the groundwater flow direction, it was determined that TCE from the Site was not significantly impacting the Herbert Hoover Boys and Girls Club.

39. On September 20, 2010, EPA approved the EE/CA Report with comments and ACF submitted the final EE/CA Report, dated September 22, 2010, to EPA. On September 27, 2011, EPA initiated a thirty (30) day public comment period through advertisements placed in several local St. Louis newspapers announcing the availability of the EE/CA Report and the Administrative Record. On October 4, 2010, EPA held a public meeting for the purpose of; describing the recommended actions for the Site, receiving comments, and answering questions concerning the EE/CA and the Site in general. The public comment period ended on January 31, 2011, after EPA had granted two extensions to the original thirty (30) day comment period.

40. After the close of the public comment period, EPA prepared a Responsiveness Summary that addressed the significant comments submitted during the public comment period. The Responsiveness Summary is part of the Administrative Record. EPA subsequently issued its decision document, an Enforcement Action Memorandum, on March 30, 2011.

41. The most commonly observed health effects in people exposed to large amounts of PCBs are skin conditions such as acne and rashes. Studies in exposed workers have shown changes in blood and urine that may indicate liver damage. PCB exposures in the general

population are not likely to result in skin and liver effects. Most of the studies of health effects of PCBs in the general population examined children of mothers who were exposed to PCBs.

Animals that ate food containing large amounts of PCBs for short periods of time had mild liver damage and some died. Animals that ate smaller amounts of PCBs in food over several weeks or months developed various kinds of health effects, including anemia; acne-like skin conditions; and liver, stomach, and thyroid gland injuries. Other effects of PCBs in animals include changes in the immune system, behavioral alterations and impaired reproduction. PCBs are not known to cause birth defects. A few studies of workers indicate that PCBs were associated with certain kinds of cancer in humans, such as cancer of the liver and biliary tract. The Department of Health and Human Services (DHHS) has concluded that PCBs may reasonably be anticipated to be carcinogens. The EPA and the International Agency for Research on Cancer (IARC) have determined that PCBs are probably carcinogenic to humans.

42. Exposure to excess levels of tetrachloroethylene may cause dizziness, headaches, sleepiness, confusion, nausea, reduced motor skills, liver and kidney cancer, leukemia and death.

43. Exposure to excess levels of trichloroethylene may cause dizziness, headaches, sleepiness, reduced motor skills, facial numbness, liver, lung and kidney damage, cancer and death.

## **VI. CONCLUSIONS OF LAW AND DETERMINATIONS**

44. Based on the Finding of Fact set forth above, and the Administrative Record for the removal actions identified in the Enforcement Action Memorandum (Attachment III), EPA has determined that:

A. The Site is a "facility" as defined in 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 in Section 101(14) of CERCLA, 42 U.S.C. §9601(14).

C. The Respondent is a “person” as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

D. The Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

E. The conditions described in the Findings of Fact above constitute an actual or threatened “release” of a hazardous substance from the Facility as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

F. The actions required by this Settlement Agreement have been determined to be appropriate after consideration of the factors identified in 40 C.F.R. § 300.415(b)(2).

G. The actions required by this Settlement Agreement are necessary to protect the public health, welfare or the environment, are in the public interest and, if carried out in compliance with the terms of this Settlement Agreement, will be consistent with the NCP, as provided in 40 C.F.R. § 300.700(c)(3)(ii).

## **VII. SETTLEMENT AGREEMENT AND ORDER**

45. 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.

**VIII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR  
AND ON-SCENE COORDINATOR**

46. Respondent shall retain one or more primary contractors to perform the Work and shall notify EPA of the name(s) and qualifications of such contractor(s) within twenty-one (21) days of 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 fourteen (14) days prior to commencement of their 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 thirty (30) days of EPA's disapproval. The proposed primary contractor(s) 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 to EPA 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.

47. Within twenty-one (21) 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

thirty (30) days following receipt of EPA's written disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondent.

48. EPA has designated Jeffery Weatherford of the Emergency and Enforcement Response Branch, Superfund Division, Region VII, 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:

U.S. Environmental Protection Agency  
212 Little Bussen Drive  
Fenton, Missouri 63026  
Telephone (636) 326-4720  
e-mail: [weatherford.jeffrey@epa.gov](mailto:weatherford.jeffrey@epa.gov)

49. EPA and Respondent shall have the right, subject to Paragraph 48, to change their respective designated OSC or Project Coordinator. Respondent shall notify EPA at least fourteen (14) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

#### **IX. WORK TO BE PERFORMED**

50. Respondent shall perform all actions necessary to implement response actions as set forth below, and as selected and described in the Enforcement Action Memorandum and Statement of Work. The actions to be implemented include:

A. TCE AST Area: Respondent shall treat the TCE containing soils with in-situ thermal desorption and vapor extraction technologies in accordance with the approved Removal Action Work Plan. Gases collected from the heated soils shall be treated and monitored in an air quality control system prior to release to the atmosphere. Soils shall be treated until the Performance Standard of 24 ppm TCE in soils has been achieved.

B. CBI Building: The following actions will be conducted in accordance with the approved Removal Action Work Plan.

i. Respondent previously conducted an asbestos inspection of the CBI Building and soil immediately adjacent to the east side of the CBI Building, and submitted to EPA an Asbestos Inspection Work Plan ("AIWP") describing the results of the inspection, which EPA has approved. Removal of asbestos-containing materials ("ACM") and debris from the building will take place upon EPA approval of an asbestos removal work plan, QAPP and HASP as described below. The asbestos-containing material shall be shipped off-Site for proper disposal. A copy of the EPA approved AIWP is attached hereto as Attachment IV.

ii. Following the removal of the asbestos-containing material, the CBI Building shall be demolished. As demolition occurs, demolition materials shall be resized and sampled to determine PCB content and then segregated or consolidated, as appropriate, based upon PCB concentrations. Demolition debris shall be characterized and either transported off-Site for disposal or re-used on-Site or off-Site as fill material in accordance with all applicable regulations, this Settlement Agreement, and PCB regulations at 40 C.F.R. Part 761.

iii. Following implementation of the actions described in sub-Paragraphs 51.B.i and ii, Respondent shall characterize the soils beneath the building. The Removal Action Work Plan shall include a sampling and analysis plan and establish the actions that will be required depending upon the concentrations of PCBs and/or other hazardous substances in the soils beneath the CBI Building.

iv. All activities at this area shall be conducted in a manner to minimize off-Site impacts due to fugitive dust emissions and storm water or process water run-off.



v. Notwithstanding any provision to the contrary, EPA shall, at its sole cost and expense, perform all perimeter, upstream, downstream, and other air monitoring that may be necessary in order to satisfy EPA that dust or other particles resulting from any activities at or associated with the Work, including any investigation, remediation, ACM abatement, or demolition of the CBI Building, the TCE AST Area, or Die Cast Area, including but not limited to, dust containing asbestos, PCBs, TCE or other hazardous substances, is not migrating off the Site at levels that present a health or safety risk to areas in close proximity to the Site (hereinafter referred to as "Perimeter Monitoring"). Respondent shall have no responsibility to perform such Perimeter Monitoring or to reimburse EPA or any third party for such monitoring.

vi. Based upon its investigations, EPA has determined that all the debris in the CBI Building including without limitation, general/construction, clothing, office furniture, particle board, scaffolding, tires, drums, containers, vehicular frames, and any other material present in the building, except fixtures attached to the building structure which shall be the responsibility of Respondent, is asbestos containing and or potentially asbestos containing debris. Notwithstanding any provision to the contrary, EPA shall, at its sole cost and expense, remove and dispose of all asbestos containing debris and potentially asbestos containing debris located in the CBI building. Completion of these tasks is a prerequisite to Respondent's responsibilities under this Settlement Agreement.

C. Die Cast Area. Respondent shall conduct the following actions in accordance with the approved Removal Action Work Plan ("RAWP") required by Paragraph 52.A.

i. Respondent shall address PCBs in the Die Cast Area through the excavation and removal to an authorized off-Site and disposal facility and capping in accordance with the Statement of Work ("SOW"). The Performance Standards to be met by Respondent in the Die Cast Area are set forth in the SOW (Attachment II to this Settlement Agreement). ACF has demonstrated to EPA that excavation and off-Site disposal is a more appropriate alternative than the ISTD/VE technology for the Site.

ii. Respondent shall detail in the RAWP specific methods of excavation and sampling to assure the Performance Standards are being achieved. The RAWP shall also include a traffic plan that details how trucks will be staged and routed to provide the least amount of disruption to the surrounding neighborhood and a description of how dust will be controlled and monitored to prevent any unacceptable off-Site exposures.

D. Institutional Controls. It is EPA's intent that the Site not be used in the future for residential, school, or child care purposes, but may be used for athletic purposes. If levels of contamination above levels appropriate for any use scenario remain in any of the three contaminated areas, institutional controls shall be put in place for those areas to restrict future use and activities at the Site. If contaminant levels remain above levels appropriate for any future use at the Site, an environmental covenant shall be developed and placed in the property records to prohibit certain uses of the property. Depending of the levels on contamination that may remain, the environmental covenant may prohibit certain activities such as excavation without prior approval.

51. Removal Action Work Plan and Implementation.

A. Within one hundred twenty (120) days after the Effective Date of this Settlement Agreement, Respondent shall submit to EPA for approval a draft RAWP for

performing the removal actions generally described in Paragraph 50 above. The draft work plan shall include provisions for institutional or engineering controls that may be necessary in any of the areas where contaminants are left in place. The draft work plan shall also provide a description of, and an expeditious schedule for, the actions required by this Settlement Agreement.

B. Quality Assurance Project Plan ("QAPP"). Within one hundred twenty (120) days of the Effective Date of this Settlement Agreement, Respondent shall submit to EPA for review and approval a QAPP. The QAPP shall be prepared in accordance with the SOW and "EPA Requirements for Quality Assurance Project Plans (QA/R-5)," EPA/240/B-01/003, March 2001, and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)," EPA/600/R-98/018, February 1998.

52. Health and Safety Plan ("HSP"). Within one hundred twenty (120) days of the Effective Date of this Settlement Agreement, Respondent shall submit a HSP to EPA for review and approval. The HSP shall ensure the protection of the public health and safety during performance of the Work under this Settlement Agreement. The HSP shall be prepared in accordance with "EPA's Standard Operating Safety Guide," PUB 9285.1-03, PB 92-963414, June 1992. In addition, the HSP 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 HSP shall also include contingency planning. Respondents shall incorporate all changes to the HSP recommended by EPA and shall implement the HSP during the pendency of the removal action.

53. Quality Assurance and Sampling.

A. All sampling and analyses performed by Respondent, its contractors, subcontractors and representatives pursuant to this Settlement Agreement shall conform to all 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, 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 the EPA for QA monitoring. The analysis of EPA's samples shall be at EPA's sole cost and expense. 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 for analysis. Respondent shall notify EPA not less than seven (7) days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. The 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 or Respondent's performance of the Work. Analysis of any split or duplicate samples obtained and analyzed by EPA shall be at EPA's sole cost and expense.

54. Institutional Control Plan. No less than (30) days prior to the estimated date of completion of the removal activities in each of the three areas at the Site being addressed by Respondent under this Settlement Agreement (TCE AST Area, CBI Building Area, and Die Cast Area), Respondent shall submit to EPA for review and approval a draft preliminary Institutional Control ("IC") Plan, as may be necessary and appropriate, for such area that Respondent is addressing in Paragraph 51, that details all land use restrictions that may be necessary following completion of the removal actions to ensure the continued long-term effectiveness of the removal actions. If necessary, as determined by EPA, the preliminary IC Plan will include the development of an environmental covenant that will specify future Site property use limitations and activity restrictions. The IC Plan will not be finalized until EPA has identified the ICs that will be necessary for the Site to protect human health and the environment. The IC Plan will conform to all applicable EPA guidance documents.

55. Post-Removal Site Control. No less than thirty (30) days prior to the estimated date of completion of the removal activities in each of the three areas at the Site being addressed by Respondent under this Settlement Agreement (TCE AST Area, CBI Building Area, and Die Cast Area), Respondent shall submit to EPA for review and approval a preliminary draft Post-Removal Site Control Plan consistent with Section 300.415(1) of the NCP and OSWER Directive No. 9360.2-02, and that details all physical and engineering controls that may be necessary to ensure the continued effectiveness of such removal action to be performed by

Respondent pursuant to Paragraph 51. The Post-Removal Site Control Plan, which shall include the monitoring and maintaining of any Institutional Controls that may be necessary and required at the Site, will not be finalized until EPA has identified the ICs and PRSCs that will be necessary for the Site to protect human health and the environment. Upon EPA approval, Respondent shall implement such controls and shall provide EPA with documentation of all post-removal site control arrangements. Responsibility for conducting and monitoring Post Removal Site Controls and Institutional Controls cannot be transferred to a third-party owner unless approved by EPA.

56. Reporting.

A. Progress Reports. Respondent shall submit periodic written progress reports to EPA on or before the 10th day following the end of the reporting period. Initially, the reporting period shall be monthly, starting with the first full month following EPA's approval of the Removal Action Work Plan. If determined by the OSC in his/her sole discretion, Progress Reports may be reduced in frequency. Submission of periodic progress reports shall continue until termination of this Settlement Agreement, unless otherwise directed in writing by the OSC. The monthly progress reports shall include, at a minimum:

- i. a description of the actions completed during the reporting period;
- ii. a description of actions scheduled for completion during the reporting period which were not completed along with a statement indicating why such actions were not completed and an anticipated completion date;
- iii. any proposed revisions to the project schedule for review and approval by EPA; and

iv. a description of the actions which are scheduled for completion during the next reporting period.

B. Respondent shall submit an electronic copy of all plans, reports or other submissions required by this Settlement Agreement, the Statement of Work or any approved work plan to the OSC designated by EPA pursuant to Paragraph 49 of Section VIII (Designation of Contractor, Project Coordinator and On-Scene Coordinator) of this Settlement Agreement. If Respondent owns or controls property at the Site, 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 of the proposed conveyance, including the name and address of the transferee. If Respondent owns or controls property at the Site, Respondent also agrees to require that its successors comply with the immediately preceding sentence and Sections XI (Site Access) and XII (Access to Information) of this Settlement Agreement.

57. Removal Action Final Report. Within one hundred twenty (120) days after completion of all Work (excluding Paragraphs 54 and 55) 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,” and shall be prepared in compliance with “Superfund Removal Procedures: Removal Response Reporting — POLREPS and OSC Reports” (OSWER Directive No. 9360.3-03, June 1, 1994). 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.”

58. Off-Site Shipments.

Respondent shall comply with all laws of the State to which any Waste Material will be transported for disposal or use as fill material. 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 and hazardous waste from the Site to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

**X. EPA REVIEW OF SUBMISSIONS**

59. After review of any plan, report or other deliverable which is required to be submitted for approval pursuant to this Settlement Agreement, including a resubmission, EPA shall, in writing: (A) approve, in whole or in part, the submission; (B) approve the submission upon specified conditions; (C) disapprove, in whole or in part, the submission, directing that Respondent modify the submission; (D) disapprove, in whole or in part, the submission,



notifying Respondent of the deficiencies and EPA's decision to modify or develop the required deliverable; or (E) any combination of the above.

60. In the event of approval or an undisputed approval upon specified conditions by EPA pursuant to Paragraph 59(A) or (B), Respondent shall proceed to take any action required by the plan, report or other deliverable as approved by EPA.

61. Notice of Disapproval.

A. Upon receipt of a notice of EPA disapproval pursuant to Paragraph 59(C), Respondent shall, within thirty (30) days (or such additional time as specified by EPA in such notice) correct the deficiencies and resubmit the plan, report or other deliverable to EPA for approval. Any stipulated penalty applicable to the submission, as provided in Section XX of this Settlement Agreement, shall accrue during the thirty (30) day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or the required deliverable is modified or developed by EPA due to a material defect as provided in Paragraph 62.B.

B. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 59(C) or (D), Respondent shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Respondent of any liability for stipulated penalties under Section XX of this Settlement Agreement.

62. Resubmissions.

A. In the event a resubmitted plan, report or other deliverable, or portion thereof, is disapproved by EPA, EPA may again require Respondent to correct the deficiencies, in accordance with this Section. The EPA also retains the right to modify or develop the plan, report or other deliverable. Respondent shall implement any such plan, report or deliverable as

modified or developed by EPA, subject only to Respondent's right to invoke the procedures set forth in Section XVIII (Dispute Resolution) of this Settlement Agreement.

B. If upon resubmission, a plan, report or other deliverable is disapproved, modified or developed by EPA due to a material defect, and Respondent does not prevail after invoking the dispute resolution procedures in Section XVIII of this Settlement Agreement, Respondent shall be deemed to have failed to submit such plan, report or deliverable in a timely and adequate manner. In this event, any stipulated penalty applicable to the resubmission shall begin to accrue from the date of Respondent's receipt of EPA's initial disapproval. Any such stipulated penalty shall be payable in accordance with the provisions of Section XX (Stipulated Penalties) of this Settlement Agreement, unless Respondent invokes the procedures set forth in Section XVIII (Dispute Resolution) of this Settlement Agreement and EPA's action is overturned pursuant to that Section. The provisions of Sections XVIII (Dispute Resolution) and XX (Stipulated Penalties) of this Settlement Agreement shall govern the implementation of the Work and accrual and payment of any stipulated penalties during dispute resolution.

63. Subject to final resolution of any dispute initiated under Section XVIII of this Settlement Agreement, all plans, reports and other deliverables required to be submitted to EPA under this Settlement Agreement shall, upon approval, modification or development by EPA, be enforceable under this Settlement Agreement. In the event EPA approves, modifies or develops a portion of a plan, report or other deliverable required to be submitted to EPA under this Settlement Agreement, the approved, modified or developed portion shall be enforceable under this Settlement Agreement.

## **XI. SITE ACCESS**

64. If the Site, or any other property where access is needed to implement the Work

required by this Settlement Agreement, is owned or controlled by Respondent, Respondent shall, commencing on the Effective Date of this Settlement Agreement, provide EPA and its authorized 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. 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 of the Effective Date of this Settlement Agreement, or as otherwise specified in writing by the EPA OSC. Such agreements shall provide access for Respondent and EPA and their authorized representatives for the purpose of conducting any activity related to this Settlement Agreement. Respondent will not be required to pay any owner of the Site or any other party compensation in consideration of access. In the event that any such access agreement is not obtained within this time period or Respondent is denied access during the performance of the Work, Respondent shall notify EPA in writing of the failure to obtain access or the denial of access and describe in writing Respondent's efforts to obtain access or the manner in which ACF was denied access. At no cost to Respondent, EPA may, as it deems appropriate, assist Respondent in obtaining access, or seek access for Respondent, to the extent necessary to effectuate the response actions described herein. If a delay occurs in Respondent meeting any required deadline as a direct result of Respondent's failure to obtain access, despite Respondent's best efforts to obtain access, or as a direct result of a denial of access, any delay that is directly related to securing such access shall be considered a *force majeure* under Section XIX of this Settlement Agreement.

65. Notwithstanding any provision of this Settlement Agreement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under

CERCLA, RCRA and any other applicable statute or regulation.

## **XII. ACCESS TO INFORMATION**

66. Upon request, Respondent shall provide to EPA copies of all non-privileged documents and information within its possession or control or the possession or control of its contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling analyses, chain of custody records, manifests, trucking logs, receipts, reports, correspondence or other documents or information related to the Work. Respondent shall also make available to EPA, for purposes of investigation, information gathering or testimony, its employees, agents or representatives with knowledge of relevant facts concerning the performance of the Work.

67. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA 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, 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.

68. Respondent may assert that certain documents, records and other information are privileged under the attorney work-product privilege, attorney-client privilege or any other privilege or protection from disclosure that is recognized by Federal law. If Respondent asserts such a privilege in lieu of providing documents, Respondent shall provide EPA 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 document, record or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that it is privileged.

69. No claim of confidentiality, asserted under Paragraph 69 of this Section, 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.

### **XIII. RECORD PRESERVATION**

70. Until ten (10) years after Respondent's receipt of EPA's notification pursuant to Section XXXI (Notice of Completion of Work) of this Settlement Agreement, 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 XXXI (Notice of Completion of Work) of this Settlement Agreement, Respondent shall also instruct its contractors and agents to preserve all documents, records or information of whatever kind, nature or description relating to performance of the Work. To the extent Respondent preserves a contractor's and agent's documents, records or information pursuant to this Paragraph, that contractor or agent shall not be required to preserve such documents, records

or information.

71. At the conclusion of this ten (10) year document retention period, Respondent shall notify EPA at least ninety (90) days prior to the destruction of any such record or document, and, upon request by EPA, Respondent shall deliver any such record or document to EPA. 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 in lieu of providing documents, Respondent shall provide EPA 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 document, record or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that it is privileged.

72. Respondent hereby certifies 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 notification of potential liability by EPA and that it has fully complied with any and all EPA 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.

#### **XIV. COMPLIANCE WITH OTHER LAWS**

73. Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable local, state and Federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(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 Removal Action Work Plan, subject to EPA approval.

**XV. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES**

74. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Materials from the Site that 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 EPA Project Coordinator or, in the event of his/her unavailability, the EPA Regional Duty Officer on the twenty-four spill line (913-281-0991) 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 incurred by EPA or its authorized representatives for such response actions not inconsistent with the NCP pursuant to Section XVII (Payment of Response Costs) of this Settlement Agreement.

75. In addition, in the event of any release of a hazardous substance from or at the Site, Respondent shall immediately notify the EPA Project Coordinator and the National Response Center at (800) 424-8802. Respondent shall submit a written report to EPA within seven (7) days after each such 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.*

#### **XVI. AUTHORITY OF ON-SCENE COORDINATOR**

76. The EPA 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.

#### **XVII. PAYMENT OF RESPONSE COSTS**

##### **77. Payments for Future Response Costs.**

A. Upon receipt of a demand from EPA, Respondent shall pay EPA all Future Response Costs, excluding Future Oversight Costs, not inconsistent with the NCP. If Respondent owes Future Response Costs and EPA demands payment from Respondent, EPA will send Respondent a bill requiring payment with an Itemized Cost Summary ("ICS") Report which shall serve as the basis for the payment demand. Each ICS Report for a billing period will include: (i) EPA's payroll costs, including the names of the persons charging time, the pay periods each employee charged time, the number of hours charged per pay period and the payroll amounts for each employee per pay period; (ii) EPA's travel costs, including the names of the persons charging travel and the date of payment of each travel claim; (iii) contract and cooperative agreement costs, including dollar amounts paid, dates paid and invoice numbers for



such payments; (iv) EPA's indirect costs, including the amount computed; and (v) U. S. Department of Justice costs, if any.

B. Respondent shall make all payments required by Paragraph 78 within thirty (30) days of its receipt of each bill requiring payment, except as otherwise provided in Paragraph 80 of this Settlement Agreement. Payments shall be made by cashier's or certified check for the amount of the bill made payable to the "EPA Hazardous Substance Superfund," referencing the name and address of the party making payment, the Site name, and EPA Region and Site /Spill ID Number 07JJ. Respondent shall send each payment to the following address:

U.S. Environmental Protection Agency  
Superfund Payments  
Cincinnati Finance Center  
P.O. Box 979076  
St. Louis, Missouri 63197-9000

C. At the time of any payment, Respondent shall send notice that such payment has been made by e-mail to [acctsreceivable.cinwd@epa.gov](mailto:acctsreceivable.cinwd@epa.gov) and by letter to:

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

D. The total amount to be paid by Respondent pursuant to Paragraph 78 shall be either deposited in the Carter Carburetor Special Account within the EPA Hazardous Substance Superfund 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 Substances Superfund.

78. In the event that the payment for Response Costs is not made within thirty (30) days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. 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 XX of this Settlement Agreement.

79. Respondent may contest payment of any Future Response Costs billed under Paragraph 78, if it alleges that EPA has made a mathematical error or included a cost item that is not within the definition of 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 of receipt of the bill and must be sent to the EPA OSC. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Respondent shall, within the thirty (30)-day period, pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 78. Simultaneously, Respondent shall establish an interest-bearing escrow account in a federally-insured bank and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondent shall send to the EPA OSC a copy of the transmittal letter and check paying the uncontested 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 XVIII (Dispute Resolution) of this Settlement Agreement. If EPA prevails in the dispute, within five (5) days of the resolution of the dispute, Respondent shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 78. 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 78. 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 XVIII (Dispute Resolution) of this Settlement Agreement shall be the exclusive mechanisms for resolving disputes regarding Respondent's obligation to reimburse EPA for its Future Response Costs.

### **XVIII. DISPUTE RESOLUTION**

80. 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 disagreement concerning this Settlement Agreement expeditiously and informally.

81. If Respondent objects to any EPA action taken pursuant to this Settlement Agreement, including billings for Future Response Costs, Respondent shall notify EPA in writing of its objections within ten (10) working days of receipt of notice of such action or billing, unless the objection(s) has/have been resolved informally. Respondent's written objection(s) shall define the dispute and state the basis of Respondent's objection(s). The EPA and Respondent shall then have thirty (30) days from EPA's receipt of Respondent's written objections to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA.

82. 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, Respondent may, within ten (10) days following the end of the Negotiation

Period, request a decision by the Director of EPA Region VII's Superfund Division. The Director's decision shall be in writing and incorporated into and become an enforceable part of this Settlement Agreement. Respondent shall proceed in accordance with the Director's decision regarding the matter in dispute regardless of whether Respondent agrees with the decision. If Respondent does not abide by the Director's decision, EPA reserves the right in its sole discretion to conduct the Work itself, seek reimbursement from Respondent, seek enforcement of the decision, seek stipulated penalties and/or seek any other appropriate relief.

83. Except as provided in Paragraph 94, the existence of a dispute as defined herein and EPA's consideration of such matters as placed in dispute shall not excuse, toll or suspend any compliance obligation or deadline required pursuant to this Settlement Agreement during the pendency of the dispute resolution process, unless mutually agreed upon (except as to a dispute which is resolved in Respondent's favor) or unless otherwise excused, tolled or suspended by EPA Region VII's Superfund Division Director.

84. Except as provided in Paragraph 94, during the dispute resolution process set forth above, EPA reserves the right to take any action authorized by law, specifically including those actions authorized by Sections 104, 106, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9606, 9607 and 9622.

85. Notwithstanding any other provisions of this Settlement Agreement, no action or decision by EPA pursuant hereto shall constitute final agency action giving rise to any rights to judicial review prior to EPA's initiation of judicial action to compel Respondent's compliance with this Settlement Agreement.

#### **XIX. FORCE MAJEURE**

86. Respondent agrees to perform all requirements under 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, its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondent's best efforts to fulfill the obligation and includes delay directly related to securing or maintaining access to the Site. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

87. 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 three (3) working days of when Respondent first knew that the event might cause a delay. Within three (3) working days thereafter, Respondent shall provide to EPA in writing: (A) an explanation and description of the reasons for the delay; (B) the anticipated duration of the delay, including necessary demobilization and re-mobilization; (C) all actions taken or to be taken to prevent or minimize the delay; (D) a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; (E) Respondent's rationale for attributing such delay to a *force majeure* event if it intends to assert such a claim; and (F) a statement as to whether, in the opinion of Respondent, such an event may cause or contribute to an endangerment to public health, welfare or the environment. Respondent shall take all reasonable measures to avoid and minimize the delay. Failure to comply with the above requirements of this Section 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.

88. The EPA shall provide Respondent with a written response to its *force majeure* claim as soon as practicable. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time period 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 of performance for Respondent of any other obligation under this Settlement Agreement. 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 or anticipated 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.

89. If Respondent elects to invoke the dispute resolution procedures set forth in Section XVIII (Dispute Resolution) of this Settlement Agreement, Respondent shall do so within fifteen (15) days after receipt of EPA's written determination.

## **XX. STIPULATED PENALTIES**

90. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 92 and 93 for failure to comply with the requirements of this Settlement Agreement, specified below, unless excused under Sections XIX (Force Majeure) or Section XVIII (Dispute Resolution) of this Settlement Agreement. "Compliance" by Respondent shall include completion of an activity under this Settlement Agreement or a plan approved under this Settlement Agreement in accordance with 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.

91. Stipulated Penalty Amounts - Plans/Reports

A. For failure to submit to EPA any submission (except periodic progress reports), required by this Settlement Agreement:

- i. \$150 per day per violation for the first (1<sup>st</sup>) through seventh (7<sup>th</sup>) days of noncompliance;
- ii. \$250 per day per violation for the eighth (8<sup>th</sup>) through the fourteenth (14<sup>th</sup>) day of noncompliance; and
- iii. \$500 per day per violation for the fifteenth (15<sup>th</sup>) day and each succeeding day of noncompliance thereafter.

B. For failure to submit a periodic progress report required by Paragraph

57.A of this Settlement Agreement:

- i. \$100 per day per violation for to first (1<sup>st</sup>) through tenth (10<sup>th</sup>) days of noncompliance;
- ii. \$200 per day per violation for the eleventh (11<sup>th</sup>) through the twenty-first (21<sup>st</sup>) days of noncompliance; and
- iii. \$400 per day per violation for the twenty-second (22<sup>nd</sup>) day and each succeeding day of noncompliance thereafter.

92. Stipulated Penalty Amounts - Work.

A. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Paragraph 93.B:

- i. \$150 per day per violation for the first (1<sup>st</sup>) through seventh (7<sup>th</sup>) days of noncompliance;
- ii. \$300 per day per violation for the eighth (8<sup>th</sup>) through thirtieth (30<sup>th</sup>) days of noncompliance; and
- iii. \$600 per day per violation for the thirty-first (31<sup>st</sup>) day and each succeeding day of noncompliance thereafter.

B. Compliance Milestones.

- i. Failure to complete any Work in a timely manner as specified in an

EPA-approved work plan;

- ii. Failure to complete any Work required under Section XXX (Additional Removal Actions) of this Settlement Agreement; and
- iii. Failure to remit a timely payment under Section XVII (Payment of Response Costs) of this Settlement Agreement.

C. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 103 of Section XXII (Reservation of Rights by EPA), Respondent shall be liable for a stipulated penalty in the amount of \$1,000,000.

93. 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 correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (A) with respect to a deficient submission under Section IX (Work to be Performed) of this Settlement Agreement, during the period, if any, beginning on the thirty-first (31<sup>st</sup>) day after EPA's receipt of such submission until the date EPA notifies Respondent in writing of any deficiency; (B) with respect to a decision by the EPA Director of EPA Region VII's Superfund Division under Paragraph 83 of Section XVIII (Dispute Resolution) of this Settlement Agreement, during the period, if any, beginning on the fourteenth (14<sup>th</sup>) day after the Negotiation Period begins until the date that the Director provides a final written decision regarding such dispute to Respondent; and (C) with respect to any claim of *force majeure* by Respondent pursuant to Paragraph 88 of Section XIX of this Settlement Agreement, during the period, if any, beginning on the fourteenth (14<sup>th</sup>) day after EPA's receipt of Respondent's written notification of a *force majeure* event until Respondent's receipt of EPA's notification pursuant to Paragraph 89. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

94. 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.

95. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) days of Respondent's receipt from EPA of a written demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVIII (Dispute Resolution) of this Settlement Agreement. All payments to EPA under this Section shall be paid by certified or cashier's check made payable to "EPA Hazardous Substances Superfund," and shall be remitted to:

U.S. Environmental Protection Agency  
Superfund Payments  
Cincinnati Finance Center  
P.O. Box 979076  
St. Louis, Missouri 63197-9000

Each payment shall indicate that the payment is for stipulated penalties and shall reference the EPA Region and Site /Spill ID Number 07JJ, the EPA docket number, and Respondent's name and address. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the EPA OSC.

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

97. Except as provided in Paragraph 94, penalties shall continue to accrue during any dispute resolution period, but need not be paid until fifteen (15) days after the dispute is resolved by agreement or by Respondent's receipt of EPA's Director's decision.

98. 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 96. 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(1) of CERCLA, 42 U.S.C. §§9606(b) and 9622(1), 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 CERCLA Sections 106(b) or 122(1) or punitive damages pursuant to CERCLA Section 107(c)(3) for any violation for which a stipulated penalty is provided herein, 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 Section XXII, Paragraph 103 of this Settlement Agreement. 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.

#### **XXI. COVENANT NOT TO SUE BY EPA**

99. In consideration of the actions that will be performed and the payments made by Respondent under the terms of this Settlement Agreement, and except as otherwise specifically provided for 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, the Willco Property Site, Past Response Costs, Future Oversight Costs, and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date of this Settlement Agreement. This covenant not to sue is conditioned upon the complete

and satisfactory performance by Respondent of its obligations under this Settlement Agreement, including, but not limited to, payment of any Future Response Costs pursuant to Section XVII of this Settlement Agreement or maintaining any post-removal Site controls that may be required at the Site. This covenant not to sue extends only to Respondent, its parent and its successors and assigns and does not extend to any other person.

## **XXII. RESERVATION OF RIGHTS BY EPA**

100. 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.

101. The covenant not to sue set forth in Section XXI of this Settlement Agreement 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. claims based on a failure by Respondent to meet a requirement of this Settlement Agreement;

B. liability for costs not included within the definitions of Past Response Costs, Future Oversight Costs, or 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 hazardous substances outside of the Site; and
- G. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry that are related to the Site.

102. 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. Unless the Work takeover by EPA is in response to a release or a substantial threat of a release of a hazardous substance, EPA shall provide Respondent with prior written notice of its decision to takeover Work. Respondent may invoke the procedures set forth in Section XVIII (Dispute Resolution) of this Settlement Agreement to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondent shall pay pursuant to Section XVII (Payment of Response Costs) of this Settlement Agreement. 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.

### **XXIII. COVENANT NOT TO SUE BY RESPONDENT**

103. Respondent covenants not to sue and agrees not to assert any claim or cause of action against the United States, or its contractors or employees, with respect to the Work, the Willco Property Site, Past Response Costs, Future Oversight Costs, 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 Missouri 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 against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work, the Willco Property Site, Past Response Costs, Future Oversight Costs or Future Response Costs.

104. Nothing in this Settlement 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).

105. Respondent agrees not to assert any claim and to waive all claims or causes of action under CERCLA, including but not limited to claims or causes of action under Section 107(a) or 113 of CERCLA that it may have for response costs relating to the Site against any other person who enters into a settlement with the United States under CERCLA in connection

with the Site. The preceding sentence shall apply only to conditions that existed as of the Effective Date of this Settlement Agreement, and shall not apply to conditions that were created subsequent to the Effective Date of this Settlement Agreement. 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 or has asserted a claim or cause of action relating to the Site against such Respondent.

#### **XXIV. OTHER CLAIMS**

106. By issuance of this Settlement Agreement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any act or omission of Respondent. Neither the United States nor EPA shall be deemed to be 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.

107. Except as provided in Section XXI (Covenant Not to Sue by EPA) of this Settlement Agreement, 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.

108. 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. CONTRIBUTION**

109. Except as provided in Paragraph 105 (waiver of claims), 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 Paragraph 106 (waiver of claims), the Parties expressly reserve 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 that 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, 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).

111. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondents 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 action; provided, however, that nothing in this Paragraph affects the enforceability of the covenants set forth in Section XXI (Covenant Not to Sue by EPA).

112. 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, response costs or response actions associated with the Willco Property Site, Past Response Costs, Future Oversight Costs, and 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, response costs or response actions associated with the Willco Property Site, Past Response Costs, Future Oversight Costs, and Future Response Costs.

113. Respondent shall, with respect to any suit or claim brought by it for matters related to this Settlement Agreement, notify EPA in writing no later than sixty (60) days prior to the initiation of such suit or claim. Respondent 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 such Respondent. In addition, each 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.

## **XXVI. INDEMNIFICATION**

114. Respondent shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action to the extent 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 all costs incurred by the United States, including, but not limited to, attorney's fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors and any person acting on Respondent's behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not 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 its contractors shall be considered an agent of the United States.

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

116. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement or arrangement between Respondent and any person conducting 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 with respect to any and all claims for damages or reimbursement 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.

## **XXVII. INSURANCE**

117. At least seven (7) 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 \$3,000,000 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 Work on behalf of Respondent in furtherance of this Settlement Agreement. If Respondent demonstrates by evidence satisfactory to EPA that any of its contractors or subcontractors 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 needs provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

## **XXVIII. FINANCIAL ASSURANCE**

118. Within thirty (30) days of the Effective Date of this Settlement Agreement, Respondent shall submit for EPA review and approval, pursuant to Section X of this Settlement Agreement, a detailed, written good faith estimate of the cost to perform the Work (excluding Paragraph 54 and 55) at the Site in accordance with this Settlement Agreement. The estimate shall include the estimate of cost of the portion of the Work expected to be performed by Respondent through and including the first calendar year period after the Effective Date

("Annual Estimate").

119. As provided for in Paragraph 122, within thirty (30) days of receiving EPA's written approval of the cost of the Work, Respondent shall establish and continually maintain financial security for the benefit of EPA in one or more of the following forms in the amount of the first year Annual Estimate in order to secure the full and final completion of Work by Respondent. The amount of financial assurance will be on a year-to-year basis in an amount approved by EPA.

- 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 a 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).

120. 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 instruments(s) evidencing such assurances) are inadequate, Respondent shall within thirty (30) days of receipt of written notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 119, above. In addition, if at any time EPA notifies Respondent that the anticipated cost of completing the Work has increased for any yearly period, then, within thirty (30) days of receipt of such written 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.

121. If Respondent seeks to ensure completion of the Work through a guarantee pursuant to Subparagraph 119.E or 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 to EPA 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 to by 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 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 the first year Annual Estimate, or any subsequent year estimate, 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.

122. No later than thirty (30) days prior to each anniversary date of the Effective Date, Respondent shall submit to EPA for review and approval, pursuant to Section X of this Settlement Agreement, an updated good faith estimate of: A) the total cost of remaining Work to be performed by Respondent at the Site; and B) the cost of the portion of the Work to be performed through the next year up to and including the next year's Effective Date ("Annual Estimate"). Within thirty (30) days of receiving EPA's approval of each Annual Estimate, Respondent shall establish and continually maintain financial security for the benefit of EPA in one or more of the forms identified in Paragraph 119, above, in the amount of the approved Annual Estimate, in order to secure the full and final completion of Work by Respondent for the following year. Upon the establishment and approval of each year's financial assurance mechanism, Respondent may terminate the prior year's financial assurance mechanism. Respondent shall continually maintain financial assurance until released by EPA in accordance with this Section. In the event of a dispute, Respondent may seek dispute resolution pursuant to Section XVIII (Dispute Resolution) of this Settlement Agreement. Respondent may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

123. Change of Form of Financial Assurance.

A. If after the Effective Date, Respondent desires to change the form or terms of any financial assurance provided for pursuant to this Section, other than as provided for in Paragraph 122 above, Respondent may petition EPA in writing to request a change in the form or terms of the financial assurance provided hereunder. The submission of such proposed revised or alternative financial assurance shall be as provided in accordance with Paragraph 123.B, following.

B. Respondent shall submit a written proposal for a revised or alternate financial assurance mechanism to EPA for review and approval that shall specify, at a minimum, the updated estimated cost of completing the remaining Work and an updated Annual Estimate, the basis upon which the costs were calculated, and the proposed revised financial assurance, including all proposed instruments or other documents required in order to make the proposed financial assurance legally binding. The proposed revised or alternative financial assurance mechanism must satisfy all requirements set forth or incorporated by reference in this Section. EPA will notify Respondent in writing of its decision to accept or reject a revised or alternative financial assurance mechanism submitted pursuant to this Paragraph. Within forty-five (45) days after receiving EPA's written decision approving the proposed revised or alternative financial assurance mechanism, Respondent shall execute and/or otherwise finalize all instruments or other documents required in order to make the approved financial assurance(s) legally binding in a form substantially identical to the documents submitted to EPA as part of the proposal, and such financial assurances shall thereupon be fully effective, and within seven (7) days thereafter, Respondent shall submit to EPA in accordance with this Settlement Agreement, copies of all executed and/or otherwise finalized instruments or other documents required in order to make the approved financial assurance legally binding. Any decision by EPA to not allow the proposed revised or alternative financial assurance is subject to the dispute resolution provisions in Section XVIII of this Settlement Agreement.

124. Release of Financial Assurance. Respondent shall not release, cancel, or discontinue any financial assurance provided for pursuant to this Section except as provided in this Paragraph or Paragraph 123. If Respondent receives written notice from EPA in accordance with Section XXXI (Notice of Completion of Work) of this Settlement Agreement that the Work



has been fully and finally completed in accordance with the terms of this Settlement Agreement, or if EPA otherwise so notifies Respondent in writing, Respondent may thereafter release, cancel, or discontinue the financial assurance(s) provided pursuant to this Section. In the event of a dispute, Respondent may release, cancel, or discontinue the financial assurance(s) required hereunder only in accordance with the provisions of Section XVIII (Dispute Resolution) of this Settlement Agreement.

#### **XXIX. MODIFICATION**

125. The EPA OSC may make modifications to any plan or schedule 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 EPA OSC's oral direction. Any other requirement of this Settlement Agreement may be modified in writing by mutual agreement of the Parties.

126. If Respondent seeks permission to deviate from any approved work plan or schedule, Respondent's Project Coordinator shall submit a written request to the EPA OSC 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 EPA OSC pursuant to Paragraph 125.

127. No informal advice, guidance, suggestion or comment by the EPA OSC or other EPA representative 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 ACTIONS**

128. Except with respect to the Willco Property Site, if EPA determines that additional

removal actions not included in an approved work plan are necessary to protect public health, welfare or the environment, EPA will notify Respondent in writing of that determination. Unless otherwise stated by EPA, within thirty (30) days of receipt of written notice from EPA that additional removal actions are necessary to protect public health, welfare or the environment, Respondent shall submit to EPA for review and approval a work plan or amended work plan for the additional removal actions. The plan shall conform to the applicable requirements of Section IX (Work to be Performed) of this Settlement Agreement. Upon EPA's approval of the work plan or amended work plan pursuant to Section X (EPA Review of Submissions) of this Settlement Agreement, Respondent shall implement the work plan or amended work plan for additional response actions in accordance with the provisions and schedule contained therein. This Section does not alter or diminish the EPA OSC's authority to make oral modifications to any plan or schedule pursuant to Section XXIX (Modification) of this Settlement Agreement.

#### **XXXI. NOTICE OF COMPLETION OF WORK**

129. When EPA determines, after its approval of the final Removal Action 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 the obligations in Section XIII (Record Preservation), Section XVII (Payment of Response Costs), Section XXII (Reservation of Rights by EPA) and Paragraph 56 (Post Removal Site Control) in Section IX, EPA will provide written notice to Respondent (the timing of which will be subject to Section XVIII (Dispute Resolution)). If EPA determines that any 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 modify the RAWP, if appropriate, in order to correct the deficiencies. Respondent shall implement the modified and approved RAWP and



shall submit a modified Final Removal Action Report in accordance with the EPA notice.

Failure by Respondent to implement the approved modified RAWP shall be a violation of this Settlement Agreement.

#### **XXXII. PUBLIC COMMENT**

130. Final acceptance by EPA of the Past Response Cost and Future Oversight Cost compromise contained in this Settlement Agreement shall be subject to Section 122(i) of CERCLA, 42 U.S.C. § 9622(i), which requires EPA to publish notice of the proposed settlement in the Federal Register, to provide persons who are not parties to the proposed settlement an opportunity to comment, solely, on the cost recovery component of the settlement, and to consider comments filed in determining whether to consent to the proposed settlement. EPA may withhold consent from, or seek to modify, all or part of Section XVII of this Settlement Agreement if comments received disclose facts or considerations that indicate that Section XVII of this Settlement Agreement is inappropriate, improper or inadequate. Otherwise, Section XVII shall become effective when EPA issues notice to Respondent that public comments received, if any, do not require EPA to modify or withdraw from Section XVII of this Settlement Agreement.

#### **XXXIII. SEVERABILITY**

131. If a court or administrative authority issues an order or decision that invalidates any provision of this Settlement Agreement or finds that Respondent has sufficient cause not to comply with one or more provisions of this Settlement Agreement, Respondent shall remain bound to comply with all provisions of this Settlement Agreement not invalidated or determined to be subject to a sufficient cause defense by the court's or administrative authority's order or decision.

**XXXIV.      INTEGRATION/ATTACHMENTS**

132. This Settlement Agreement and its attachments 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 attachments are attached to and incorporated into this Settlement Agreement:

Attachment I - Site Map  
Attachment II - Statement of Work  
Attachment III - Enforcement Action Memorandum  
Attachment IV – Approved Asbestos Inspection Work Plan

**XXXV.      EFFECTIVE DATE**

133. The effective date of this Settlement Agreement shall be the date upon which EPA issues written notice that the public comment period pursuant to Paragraph 130 has closed and that comments received, if any, do not require modification of or EPA withdrawal from this Settlement Agreement.

The undersigned representative(s) of Respondent certifies that he/she is fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the Party he/she represents to this document.

**For ACF Industries, LLC:**

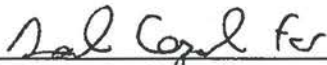
By: 

Title: Vice Pres. Law - General Counsel


Agreed this 29<sup>th</sup> day of May, 2013

IT IS SO AGREED AND ORDERED:

**For the United States Environmental Protection Agency:**

By:   
J. Scott Pemberton  
Senior Assistant Regional Counsel  
Office of Regional Counsel


Agreed this 3 day of June, 2013.

By:   
Karl Brooks  
Regional Administrator

Agreed this 3 day of JUNE, 2013.

**For the Department of Justice**

Agreed this 25<sup>th</sup> day of June, 2013

By:   
Robert G. Dreher  
Acting Assistant Attorney General  
United States Department of Justice  
Environment and Natural Resources Division



**PRELIMINARY**

THIS SURVEY IS PRELIMINARY AND NOT FOR CONSTRUCTION. IT IS THE PROPERTY OF THE SURVEYOR AND NOT TO BE USED FOR ANY OTHER PURPOSE. ANY REUSE OR MODIFICATION OF THIS SURVEY WITHOUT THE WRITTEN PERMISSION OF THE SURVEYOR IS PROHIBITED. THE SURVEYOR ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS IN THIS SURVEY.



**PROPERTY OWNER**  
CITY BLOCK 2386  
ST. LOUIS, MISSOURI 63107

**CLIENT**  
TETRA TECH EM, INC.  
806 HICKMAN DRIVE  
FENTON, MISSOURI 63026

**PROJECT**  
CITY BLOCK 2386  
ST. LOUIS, MISSOURI 63107

**CLIENT**  
TETRA TECH EM, INC.  
806 HICKMAN DRIVE  
FENTON, MISSOURI 63026

**PROPERTY OWNER**  
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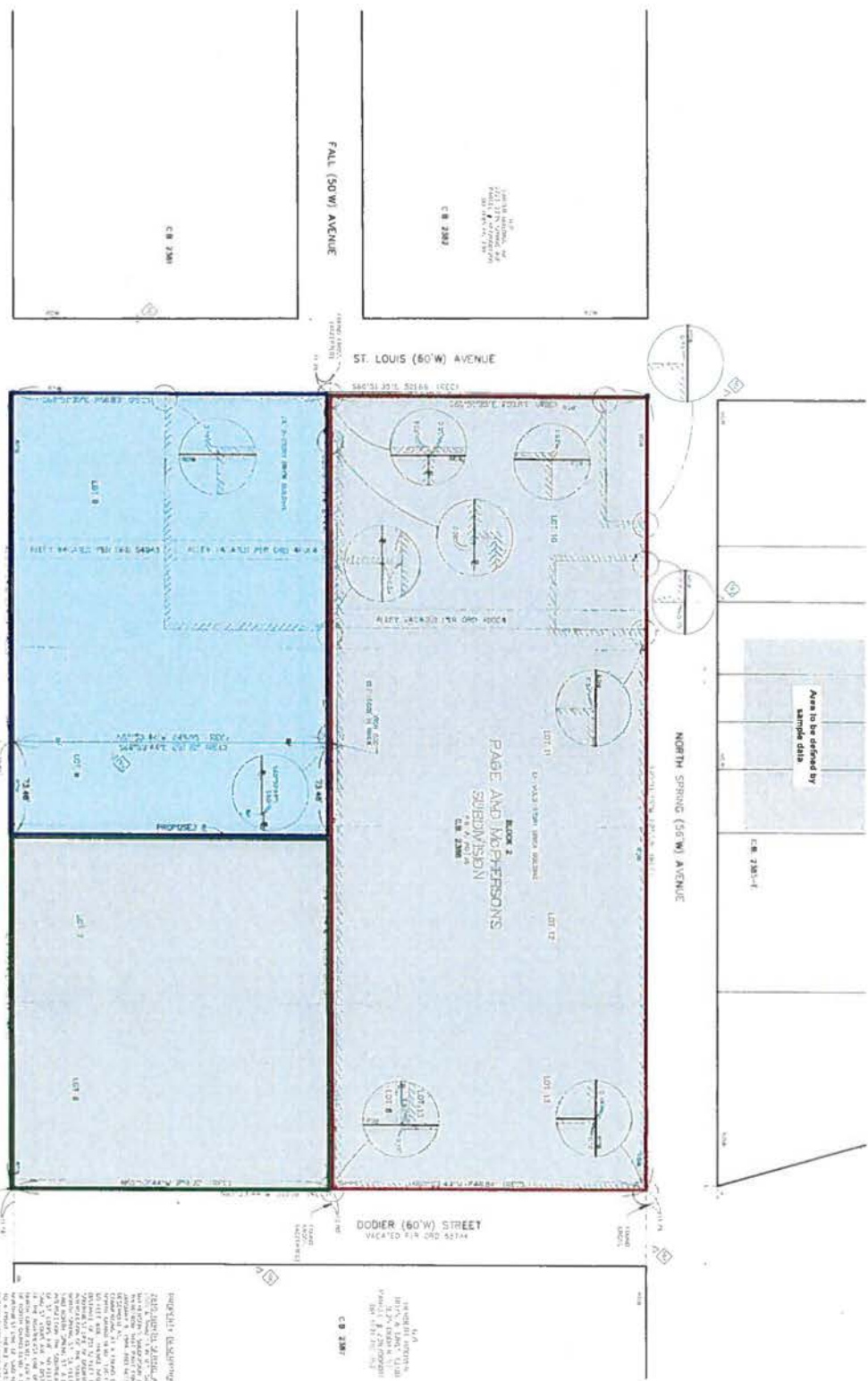
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ST. LOUIS, MISSOURI 63107

**CLIENT**  
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806 HICKMAN DRIVE  
FENTON, MISSOURI 63026

PRELIMINARY

THIS SURVEY WAS MADE IN ACCORDANCE WITH THE SURVEYING ACT OF 1907, AS AMENDED, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, MISSOURI, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, MISSOURI, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, MISSOURI.



- AREAS OF RESPONSIBILITY**
- CARTER BUILDING INC.
  - ACF INDUSTRIES
- PROPOSED PROPERTY OWNERSHIP**
- ST. LOUIS DEVELOPMENT AUTHORITY
  - ST. LOUIS DEVELOPMENT AUTHORITY
  - ST. LOUIS DEVELOPMENT AUTHORITY
- LEGEND**
- ST. LOUIS DEVELOPMENT AUTHORITY
  - ST. LOUIS DEVELOPMENT AUTHORITY
  - ST. LOUIS DEVELOPMENT AUTHORITY

**PROPERTY DESCRIPTION**

THIS SURVEY WAS MADE IN ACCORDANCE WITH THE SURVEYING ACT OF 1907, AS AMENDED, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, MISSOURI, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, MISSOURI, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, MISSOURI.

<b>FILE NAME</b> 10-1-2386-1 <b>DATE</b> 10-1-2386-1	<b>PROJECT</b> CITY BLOCK 2386 ST. LOUIS, MISSOURI 63107	<b>CLIENT</b> TETRA TECH EM, INC. 806 HUMAN DRIVE PENTON, MISSOURI 63774	<b>DATE</b> 10-1-2386-1 <b>TIME</b> 10-1-2386-1	<b>SCALE</b> 1" = 40'	<b>PROJECT NO.</b> 10-1-2386-1
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**PANGA ENGINEERING AND SURVEYING, L.L.C.**  
 2401 NORTH GRAND BOULEVARD  
 SUITE 100  
 ST. LOUIS, MISSOURI 63107  
 (314) 433-1234  
 WWW.PANGAENGINEERING.COM

**SURVEY OF CITY BLOCK 2386**



**ATTACHMENT II**  
**STATEMENT OF WORK**

**I. Introduction and Purpose**

This Statement of Work ("SOW") sets forth the requirements for the implementation of three of the four actions selected in the Enforcement Action Memorandum, signed by the Regional Administrator of Region VII of the U.S. Environmental Protection Agency ("EPA") on March 30, 2011, for the Carter Carburetor Site ("Site"). This SOW is incorporated into and made a part of the Settlement Agreement entered into by ACF Industries, LLC ("Respondent") for the implementation of the three actions to be conducted at the Site. The Willco Property Site (fourth removal action area) will not be addressed by the Respondent in this SOW. Respondent shall follow the Enforcement Action Memorandum, the Settlement Agreement and the approved Removal Action Work Plan, and pertinent guidance documents and subsequent revisions thereto in submitting deliverables for and implementing the three actions for the Site. The purpose of this SOW is to identify the tasks needed for successful completion of removal actions by the Respondent at the Site. As set forth in the approved September 22, 2010 Engineering Evaluation/Cost Analysis ("EE/CA") and in the Enforcement Action Memorandum, the Site has been divided into four separate areas, three of which that will each be addressed in this SOW by the Respondent. The areas are as follows:

- The Trichloroethene Aboveground Storage Tank Area ("TCE AST Area")
- The Carter Building Inc. Building Area ("CBI Building")
- The Former Die Cast Building Area ("Die Cast Area")

This SOW describes how removal actions in the TCE AST Area, the CBI Building, and the Die Cast Area will be conducted. The Willco Property Site will not be the responsibility of the Respondent. The purpose of conducting removal actions at the Site is to achieve the

Performance Standards that were established during the development of the EE/CA. The purpose of the Performance Standards for the Site are:

- to make the Site safe for any reasonable reuse scenario as described in the EE/CA; and
- halt the further migration of contaminants from the Site.

The Performance Standards are the residual levels of contamination that Respondent must achieve in each of the three (3) areas of contamination that will be addressed by Respondent.

## **II. Description of the Selected Removal Actions to be Performed by Respondent**

As described above and in the EE/CA and Enforcement Action Memorandum, the Site has been divided into four distinct contaminated areas. A summary of the three selected actions that Respondent will perform under the Settlement Agreement and Performance Standards to be used in these specific areas are as follows.

A. TCE AST Area. The technology selected to address contaminated soils in the TCE AST Area shall be treatment by In-situ Thermal Desorption and Vapor Extraction ("ISTD/VE"). Respondent shall treat the soils in this area until the Performance Standard of 24 parts per million ("ppm"), as measured by statistically representative sampling, has been achieved.

B. CBI Building.

1. The technology selected for CBI Building is total demolition, followed by off-Site disposal or on-site and/or off-site re-use of PCB impacted building debris and contents that meet the Performance Standards. Respondent will have met the CBI Building Performance Standard when the building is completely and safely demolished and all material has been properly disposed or re-used in accordance with all applicable laws and regulations. If recycling is chosen by Respondent as a disposal option for non-porous scrap metal building debris, scrap

metal shall be below 10 micrograms per square centimeters of PCBs prior to its shipment to a metal recycling facility.

2. Below-Slab Sampling. Following demolition and disposal or re-use of all building debris, Respondents shall implement an approved sampling and analytical plan for soils beneath the former CBI Building to determine the extent of hazardous substance contamination. In order to make this determination, soils beneath the first floor CBI Building slab shall be sampled and analyzed for potential hazardous substances which were reasonably expected to have been used during Site operations based on visual inspection or detection using screening instruments. Respondent shall modify the RAWP to address any soils impacted with such hazardous substances exceeding screening levels as found in the Regional Screening Levels for Chemical Contaminants at Superfund Sites and submit the revised RAWP to EPA for review and approval. If soil analytical values exceed screening levels, Respondent may either use those screening levels as a performance standard or develop a Site specific Streamlined Risk Evaluation (SRE), to establish the appropriate cleanup performance standards. Such a Site specific risk assessment must be reviewed and approved by EPA.

Any soils exceeding 25 ppm PCBs shall be addressed by Respondent in the same manner as the PCB-impacted soils described in Section II.D. subparagraphs 2-4, below. PCB-impacted soils beneath the CBI Building slab containing between 25 ppm and 100 ppm PCBs may be consolidated within the Die Cast Area and addressed with the Die Cast Area soils. All soils beneath the CBI Building slab containing TCE above 24 ppm may be consolidated within the TCE AST Area and treated or removed from the Site and properly disposed.

D. Die Cast Area. The technology selected for the Die Cast Area is excavation and off-Site disposal of soils and concrete containing greater than 100ppm PCBs. Following the

removal, if PCBs remain within the soils at a level greater than 25ppm, a protective cover combined with long-term monitoring will be required, including appropriate deed restrictions or environmental covenants in accordance with the regulations found at 40 CFR Part 761(a).

The Performance Standard for PCB-impacted soil, concrete and other residual waste or porous surfaces in the Die Cast Area is as follows:

1. Removal of all soil, concrete and other residual waste in the top three (3) feet of the Die Cast Areas as defined as the top of the concrete floor of the former Die Cast Buildings to three (3) feet below ground surface (bgs).
2. Removal of all PCB-impacted soils greater than 25 ppm from three (3) feet bgs to ten (10) feet bgs.
3. Removal of all PCB-impacted soils greater than 100 ppm from ten (10) feet bgs to bedrock. Respondent may use as fill in the Die Cast Area, soil from beneath the CBI Building and building materials from the CBI Building as follows:
  - i. All PCB-impacted materials with concentrations less than 100 ppm may be used as fill in the Die Cast Area below ten (10) feet bgs.
  - ii. All PCB-impacted materials with concentrations less than 25 ppm may be used as fill anywhere in the Die Cast Area excavation below three (3) feet bgs.
  - iii. If following excavation, Respondent chooses to construct a utility corridor, it shall protect construction workers from exposure to PCBs, be indicated on a survey of the Site, and recorded as part of the Institutional Controls for the Site.
  - iv. For any soils greater than 1 ppm, but less than 25 ppm PCBs institutional controls in perpetuity will be required to prevent high occupancy uses such as residential, school or day care.
4. If PCBs remain at levels in soil greater than 25 ppm, but less than 100 ppm PCBs, institutional controls in perpetuity, pursuant to 40 CFR 761.61 (a)(8), will be required to prevent high occupancy uses such as residential, school or day care, including engineering controls pursuant to 40 CFR 761.61(a)(7). Such controls shall also prevent, limit and/or monitor certain activities in the Die Cast Area (i.e., excavation) that may affect contaminated soils. Engineering

controls, including a protective cover of concrete, asphalt, or similar material pursuant to 40 CFR 761.61 (a)(7) will be required to cover the entire Die Cast Area.

All institutional and engineering controls shall be maintained by Respondent, and be reviewed for effectiveness and/or inspected by Respondent on a periodic basis in accordance with a schedule established and approved by EPA in the Institutional Control Plan and cannot be transferred to a third-party owner unless approved by EPA.

### **III. Tasks**

A. Task 1 — Removal Action Work Plan ("RAWP"). Respondent shall develop a RAWP to be submitted to EPA for review and approval with individual addendums addressing the three separate response areas described above. The RAWP shall include provisions for engineering controls that may be necessary in any of the areas where contaminants are left in place. The RAWP shall contain a detailed project schedule beginning with on-Site removal actions and ending when all Performance Standards have been achieved. While the overall plan shall describe the entire Site and the Work to be performed in general terms, the addendums to the RAWP shall contain detailed specifications and appropriate engineering drawings as described below:

1. Addendum A — TCE AST Area Work Plan Addendum. The response action selected for this area of the site was ISTD/VE. In the TCE AST Area Work Plan Addendum, Respondent shall:

a. describe the ISTD/VE process in detail, including but not limited to the specific chemical processes that are taking place to effectively treat the contaminants in this area, and the by-products that are produced during the treatment process and what, if any, harmful effects may result from these by-products;

b. provide specific engineering design specifications and appropriate



drawings so that EPA thermal treatment experts and engineers can conduct a thorough and appropriate review to ensure the effectiveness of this technology in meeting the Performance Standards as described in the EE/CA and the Enforcement Action Memorandum for the Site;

- c. describe in detail the sampling method(s) used to determine success in achieving the Performance Standards in this area of the Site; and
- d. describe in detail any and all specific air monitoring that will be needed or otherwise required to ensure safety of Site workers and the public, as well as meet the ARARs. This description should include stack monitoring, perimeter monitoring, personnel monitoring, as appropriate, and include copies of any and all standard methods being used for air monitoring.

2. Addendum B - CBI Building Work Plan Addendum. The selected response action for the CBI Building is demolition and off-site disposal, or on-site or off-site re-use, as appropriate, of PCB-impacted material and demolition debris. In the CBI Building Work Plan Addendum, Respondent shall:

- a. describe in detail the process for demolishing the CBI Building;
- b. describe, in detail, the methods and procedures for segregating waste (including sampling methods) and the ultimate disposition of all waste and debris from the CBI Building to be removed from the Site; and
- c. develop an Asbestos Investigation Work Plan (AIWP) (USEPA approved AIWP attached hereto as Attachment IV) and asbestos abatement plan for the removal and proper disposal for all asbestos (friable and non-friable asbestos) in the CBI Building prior to building demolition.
- d. Post-Demolition Sampling and Analytical Plan. Respondent shall

develop a specific plan that describes how the area beneath the CBI Building will be sampled and the samples will be analyzed in accordance with Section II.B.2 of this SOW. This plan, at a minimum, shall describe and illustrate where and how the samples will be collected. Respondent shall also detail the specific chemical analysis that will be performed on each sample collected, along with any screening instruments that will be used. Sampling and analysis shall be conducted consistent with the requirements of the QAPP developed in accordance with Section III.B.1 of this SOW.

3. Addendum C —Die Cast Area Work Plan Addendum. The response action selected for this area of the Site is excavation and off-Site disposal of soils containing greater than 100 ppm of PCBs. The Die Cast Area Work Plan Addendum, to be developed by Respondent shall include:

a. any and all specific air monitoring that will be needed or otherwise required to ensure safety of site workers and the public, as well as meet ARARs. This description should include personnel monitoring, as appropriate, and shall cite and include copies of any and all standard methods being used for air monitoring.

b. the sampling method(s) used to determine success in achieving the Performance Standards in this area of the Site;

c. provisions for developing and implementing institutional and engineering controls in areas that exceed 1 ppm PCBs in the Die Cast Area. Such provisions shall also provide for the monitoring/ inspection of such controls by Respondent on a periodic basis and reporting to EPA in regard to the effectiveness of the controls in accordance with a schedule established and approved by EPA in the Institutional Control Plan.

B. Task 2 — Quality Assurance Project Plan and Health and Safety Plan



1. Respondent shall prepare a Quality Assurance Project Plan ("QAPP") which describes the activities for collecting, analyzing, reviewing and using environmental data at the Carter Carburetor Site. The QAPP shall be developed in accordance with Paragraph 54 of the Settlement Agreement and define and describe the following:

- a. who will use the data;
  - b. what the projects goals/objectives/questions or issues are;
  - c. what decision(s) will be made from the information obtained;
  - d. how, when and where project information will be acquired or generated;
  - e. what type, quantity, and quality of data are specified;
  - f. how good the data has to be to support the decision to be made;
- and
- g. how the data will be assessed, analyzed and reported.

2. Respondent shall prepare a Health and Safety Plan ("HSP"), in accordance with Paragraph 53 of the Settlement Agreement, which will ensure the protection of public health and safety and worker protection. The HSP must, at a minimum, be compliant with the Occupational Safety and Health Administration (OSHA) regulations found at Title 29 Code of Federal Regulations (29 CFR) Part 1910.120. Respondent shall also include a detailed description of on-Site security measures employed that will keep trespassers out of the Site.

C. Task 3 — Draft Institutional Control Plan. No less than thirty (30) days prior to the estimated date of completion of the removal activities in each of the three areas at the Site being addressed by this Settlement Agreement (TCE AST Area, CBI Building Area, and Die Cast Area), Respondent shall submit to EPA for review and approval, for such area, a draft

Institutional Control (“IC”) Plan consistent with Paragraph 54 of the Settlement Agreement for the three removal areas that details all land use restrictions that may be necessary following completion of the removal actions to ensure the continued long-term effectiveness of the removal actions. If necessary, as determined by EPA, the IC Plan will include the development of an environmental covenant that will specify future Site property use limitations and activity restrictions. The IC Plan will not be finalized until EPA has determined the removal actions in each of the three identified areas have been completed and has identified the ICs that will be necessary for the Site to protect human health and the environment. The IC Plan will be developed and conform to all EPA applicable guidance documents, including:

1. Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites;
2. Institutional Controls: A Guide to Implementing, Monitoring, and Enforcing Institutional Controls at Superfund, Brownfields, Federal Facility, UST and RCRA Corrective Action Cleanups, February 2003;
3. Institutional Controls Bibliography: Institutional Control, Remedy Selection, and Post-Construction Completion Guidance and Policy, OSWER 9355.0110, December 2005;
4. Institutional Controls: A Citizen’s Guide to Understanding Institutional Controls at Superfund, Brownfields, Federal Facilities, Underground Storage Tank, and Resource Conservation and Recovery Act Cleanups, EPA-540-R-04-003, OSWER 9355.0-98, February 2005; and
5. Institutional Controls: A Site Manager’s Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups, EPA 540-F-00-005, OSWER 9355.0-74FS-P, September 2000.

D. Task 4 — Draft Post-Removal Control Plan. No less than thirty (30) days prior to the estimated date of completion of the removal activities in each of the three areas at the Site being addressed by this Settlement Agreement (TCE AST Area, CBI Building Area, and Die Cast Area), Respondent shall submit to EPA for review and approval, for such area, a draft Post-Removal Site Control Plan consistent with Paragraph 55 of the Settlement Agreement that details

all physical and engineering controls that may be necessary to ensure the continued effectiveness of the removal actions consistent with Section 300.415(1) of the NCP and OSWER Directive No. 9360.2-02. The Post-Removal Site Control Plan, which shall include the monitoring and maintaining of any ICs that may be necessary and required at the Site and periodic reporting to EPA, will not be finalized until EPA has determined the removal actions in each of the three identified areas have been completed. Upon EPA approval, Respondents shall implement such controls and shall provide EPA with documentation of all post-removal site control arrangements.

E. Task 5 — Final Action Removal Report. Within one hundred eighty (180) days after completion of all Work required by the Settlement Agreement, Respondent shall submit for EPA review and approval a Final Action Removal Report in accordance with Paragraph 58 of this Settlement Agreement.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7  
901 NORTH 5TH STREET  
KANSAS CITY, KANSAS 66101

MAR 30 2011

**ENFORCEMENT ACTION MEMORANDUM**

**SUBJECT:** Approval and Funding for a Non-Time-Critical Removal Action at the Carter Carburetor Site in St. Louis, Missouri

**FROM:** Jeffrey G. Weatherford, On-Scene Coordinator  
Emergency Response and Removal South Branch *Mary P. Peterson for*

**THRU:** Scott D. Hayes, Chief  
Emergency Response and Removal South Branch *Mary P. Peterson for*

Cecilia Tapia, Director  
Superfund Division *Cecilia Tapia*

**TO:** Karl Brooks  
Regional Administrator

**I. PURPOSE**

The purpose of this Enforcement Action Memorandum is to request and document approval of the proposed removal action described herein for the Carter Carburetor Site (Site) in St. Louis, Missouri. The removal action will involve thermally enhanced extraction of polychlorinated biphenyls (PCB) and trichloroethylene (TCE) in the subsurface soils. This action will also involve the removal of PCBs in two on-site buildings. The selected removal action will support redevelopment of the Site for industrial, commercial, and recreational uses with limited restrictions. The Site property and buildings collectively are referred to as the Facility. The following four distinct on-site contaminated areas were evaluated in the Engineering Evaluation/Cost Analysis (EE/CA) and will require removal action:

- The former TCE Aboveground Storage Tank Area (AST)
- The Carter Building, Inc., Area (CBI Area)
- The Willco Plastics Building Area (Willco Building)
- The former Die Cast Area (Die Cast Area)

2.0





Based upon the November 1993, January and March 1994 investigations, and the December 1995 and January 1996 Integrated Assessment Investigation, EPA determined that unacceptable concentrations of PCB contamination existed on all four floors of the CBI Building and on the first floor of the Willco Building. PCBs had contaminated areas outside the building near electrical substation number 4 and on the roof of the building near electrical substation number 3 as well as surfaces inside the Die Cast Buildings. Sample analytical results exceeded cleanup levels as outlined in the Office of Solid Waste and Emergency Response Directive No. 9355.4-01, Guidance on Remedial Actions for Superfund Sites with PCB Contamination, and the PCB Spill Cleanup Policy set forth in subpart G of 40 CFR part 761.

Two drums of PCB-contaminated oil originally located near electrical substation number 4 were overpacked and relocated to another more secure part of the Site. The Facility is surrounded by commercial and residential areas. The Boys and Girls Club and a ballpark are located across Dodier Street north of the Facility. Two high schools and three elementary schools are located within one-half mile of the Facility. Numerous residences are within the immediate vicinity of the Site. Available information indicated trespassers had entered the die cast portions of the Facility in the past and may have been exposed to contamination.

On March 18, 1996, EPA determined that a time-critical removal action should be performed at the Site in order to reduce the immediate threat to human health and the environment posed by conditions at the Site. The EPA's determination that such action was necessary and a description of the actions that needed to be taken were described in the Removal Action Memorandum, signed by the Regional Administrator of EPA Region 7 on March 18, 1996.

In July 1996, EPA issued a Unilateral Administrative Order for Removal Response Activities (UAO), Docket Number VII-96-F-0026, pursuant to section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. section 9606(a), to ACF. The UAO required ACF to undertake the following actions identified in the March 1996 Removal Action Memorandum.

- Removal and disposal of a PCB electrical equipment and drums of PCB waste.
- Demolition of the two Die Cast Buildings and the warehouse building.
- Characterization, removal, and off-site disposal of all contaminated building material and debris located on the north side of the north Die Cast Building.
- Characterization and off-site disposal of the contents and demolition debris of the two Die Cast Buildings and warehouse.
- Installation of an interim cover and epoxy coating over the Die Cast Buildings' foundation floors following the demolition and removal of the two Die Cast Buildings and warehouse.

In May 1997, ACF began on-site removal actions pursuant to the 1996 UAO. The time-critical removal action required by the UAO primarily focused on the demolition and disposal of PCB- and asbestos-contaminated buildings on the northeastern portion of the Site. These buildings included two Die Cast Buildings and the South Warehouse. The South Warehouse was completely demolished, including the foundations and floor. The Die Cast Buildings were partly demolished; leaving the PCB-contaminated foundation walls and floors of the Die Cast Buildings in place. These foundations were cleaned, coated with epoxy, and covered with limestone aggregate as an interim measure. Also, approximately 1,100 tons of soil were removed from the north parking lot transformer leak area.

In July 1998, EPA conducted an investigation at the Site and collected chip, wipe, and water samples from the Carter Carburetor Manufacturing Building (the CBI Building), the largest remaining Site building, which was and is currently owned by CBI. Results of analyses of the wipe samples collected on the first floor indicated PCB contamination at levels as high as  $247.5 \mu\text{g}/100 \text{ cm}^2$  with an average wipe-sample concentration inside the CBI Building on the first floor of  $61.5 \mu\text{g}/100 \text{ cm}^2$ . The concrete chip sample analytical results from the first floor indicated PCB concentration as high as 858 ppm with an average chip sample concentration of 176 ppm. Results of analyses of two water samples collected from a pit on the first floor indicated PCB contamination at 841 micrograms/Liter ( $\mu\text{g}/\text{L}$ ) and  $490 \mu\text{g}/\text{L}$ . On the second floor, only one wipe-sample analytical result exceeded  $10 \mu\text{g}/100 \text{ cm}^2$  with a concentration of PCBs at  $11.2 \mu\text{g}/100 \text{ cm}^2$ . The third floor sample analytical results indicated PCB concentrations as high as  $38.3 \mu\text{g}/100 \text{ cm}^2$  with an average concentration of  $11.1 \mu\text{g}/100 \text{ cm}^2$ .

In April 2003, ACF contracted with a consulting company to conduct additional environmental sampling at the Site. Several soil boring samples were collected at the Site, the majority of which were collected from beneath the concrete foundation floor of the two former Die Cast Buildings. The analytical results from these soil samples indicated PCB concentrations as high as 11,470 ppm in the sampled subsurface area, primarily beneath the Die Cast Buildings' concrete foundation floors. Based on the results of these soil samples, ACF estimated that 1,750 cubic yards of PCB-contaminated material at concentrations above 10 ppm were present beneath or near the former Die Cast Buildings. In addition to the PCBs, various hydrocarbon and chlorinated solvents have been identified at the Site. Tetrachloroethylene and TCE were identified in subsurface soils at concentrations of 3.46 ppm and 1.05 ppm, respectively.

In September 2005, EPA entered into a settlement agreement with ACF to conduct an EE/CA at the Site to address the remaining on-site environmental contamination. The agreement included the collection of additional data to determine the extent of contamination and an investigation of a former TCE storage tank area for possible subsurface contamination.

In the summer of 2006, ACF, and its contractors conducted environmental assessments for lead-based paint, asbestos, PCBs, and TCE. The results of this investigation confirmed and further delineated PCBs in the CBI Building, lead paint in the CBI Building and the Wilco Building, and lead paint throughout both buildings. In addition, ACF's contractors identified the presence of relatively high levels of TCE in subsurface soils beneath the location of the former TCE storage tank. After review of the 2006 investigation reports, EPA determined that further investigation was needed to define the extent of TCE contamination.



In the summer of 2007, ACF's contractors conducted further investigations to further delineate the extent of the TCE in subsurface soil. In addition, ACF's contractors investigated and cleaned all accessible sewer lines on the Site. The sewer lines had previously been sampled and were shown by EPA to have contained PCB-contaminated debris. This sewer line debris was removed to the extent possible and properly disposed of. After reviewing this data, EPA directed ACF to begin conducting the Streamlined Risk Evaluation (SRE) portion of the EE/CA.

After reviewing the subsurface TCE data and the SRE, the Missouri Department of Health and Senior Services (MDHSS) recommended further assessment of vapor intrusion of TCE. In October 2008, in order to expedite the process, EPA conducted an on-site vapor intrusion study by collecting samples directly beneath building floors and other concrete slabs at the Site. The results of this study determined that TCE vapors were present beneath the on-site buildings and slabs at concentrations of concern. Further vapor intrusion sampling was conducted along the east side of the Boys and Girls Club. Based on the results of these samples and groundwater flow direction, it was determined that the TCE was not significantly impacting the Boys and Girls Club.

## **2. Physical location**

The Site is located in the city of St. Louis, Missouri, and includes the Facility which once occupied one and one-half square city blocks. The Site is bounded on the north by Dodier Street, on the east by North Grand Boulevard, on the south by St. Louis Avenue and on the west by North Spring Avenue, but also includes the former TCE AST area which is located to the west of North Spring Avenue.

## **3. Site characteristics**

The Site is located along Grand Boulevard about two miles north of St. Louis University in an area of small businesses and residences in the northcentral portion of the city of St. Louis. At one time, the Facility consisted of several multi-story, connected, manufacturing and warehouse buildings approximately 480,000 square feet in size, and adjacent lots located in a mixed, urban commercial/residential area. The Site property covers approximately 9 acres including the TCE AST area. The Site is 80 feet in elevation above the Mississippi River and is not within its 100-year flood plain zone. The Mississippi River is approximately two miles east of the Site.

While the residential areas immediately across Grand Boulevard are relatively stable, being occupied by retirees and lower-income homeowners, there are significant numbers of abandoned homes and businesses and vacant lots farther east and in other directions from the Site. The population around the Site is predominantly African-American.

The Boys and Girls Club is directly to the north of the Site across Dodier Street. The Boys and Girls Club facility occupies property which was formerly the site of Sportsman's Park, home of the St. Louis Browns and St. Louis Cardinals baseball teams. The Boys and Girls Club serves as a focal point for neighborhood youth activities.



**4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant**

Although numerous contaminants have been detected at the Site (see table 2.1 of the EE/CA), the primary contaminants of concern are PCBs and TCE and its accompanying breakdown products. Cleanup goals for each area at the Site were established in the SRE and also include regulatory levels for PCBs. The cleanup goals for each of the four areas identified in the EE/CA are described in Section V(A)(1) below and are also summarized in the following table:

Contaminant	Sample Media Type	Removal Action Goal
PCBs	Bulk Concrete (concentrations within concrete)	1 milligram/kilogram (mg/kg) or ppm
PCBs	Segregation and disposal value for Bulk Concrete to TSCA landfill	50 mg/kg or ppm
PCBs	Soil with no restrictions	1 mg/kg or ppm
PCBs	Soil with deed restrictions only	25 mg/kg or ppm
PCBs	Soil with cap and deed restrictions	Greater than 25 mg/kg or ppm
TCE	Soil	59.2 mg/kg or ppm

The Site has been divided into four areas where hazardous substances have been released, as follows:

**Former TCE AST** – This area is across Spring Street immediately west of the CBI Building. This area includes subsurface soils impacted with high levels of TCE. The depth of contamination extends approximately 15 to 20 feet to bedrock. As described above, historical information indicates that releases of TCE have occurred in this area. In the summer of 2006, as part of the EE/CA process, ACF conducted limited subsurface soil sampling in this area to determine if there had been a release of TCE into the soil. Results from this sampling effort were reported in table 11 of the November 2006: "Interim Data Submission Report Round 1 Field Data," and showed concentrations of TCE in subsurface soils as high as 1,240 ppm. These results prompted a second sampling effort to better characterize the extent of TCE contamination in the subsurface. The second sampling effort was conducted during the summer of 2007 and reported in the "Interim Data Submission Report Round 2 Field Data, December 2007." The results of this sampling effort defined the lateral and vertical extent of soil contamination in the TCE AST area and indicated TCE concentrations as high as 13,700 ppm.

**CBI Building** – Also during Rounds 1 and 2 of Field Data collection, ACF conducted an extensive sampling of the CBI Building by collecting concrete cores, brick chips, and wipe samples within the CBI Building. Results of analysis of these samples revealed PCB concentrations as high as 4,140 ppm and PCB contamination greater than 1 ppm throughout the building with higher concentrations on the first and third floors as shown in the EE/CA figures 2-16 through 2-19.

Willco Building – The results from concrete sampling in the Willco Building also indicated PCB contamination in concrete core samples collected from the floor. However, results from these samples showed much lower concentrations with the highest reading at 5.91 ppm. Results from concrete core samples from the Willco Building are shown on figures 2-16 and 2-17 in the EE/CA.

Former Die Cast Area – The Die Cast Area has always been the most contaminated area of the Site and was the primary focus of the time-critical removal action. This area includes subsurface soils impacted with high levels of PCBs. The contaminated soils are covered with a concrete slab (the foundations of the former Die Cast Buildings) and one to two feet of gravel. Subsurface samples collected by EPA and ACF have consistently exceeded regulatory and risk-based levels with PCB concentrations as high as 270,000 ppm in the subsurface soils beneath the foundation floors of the Die Cast Buildings. Concentrations exceeding Removal Action Goals have been identified in the soil down to the limestone bedrock at a depth of approximately 20 feet. Results of PCB samples are shown on figure 2-3 of the EE/CA.

PCBs and TCE are each CERCLA hazardous substances because they are defined as hazardous substances in 40 CFR part 302.4.

**5. National Priorities Listing (NPL) status**

The Site is not currently on or proposed for listing on the NPL.

**6. Maps, pictures, and other graphic representations**

A map of the Site location and an aerial photo showing the four primary cleanup areas are included in the attached EE/CA.

**B. Other Actions to Date**

**1. Previous actions**

As described in Section II(A)(1) above, the Carter Carburetor Corporation conducted a cleanup action as a result of a release of TCE into underground utility vaults in 1986.

Hubert Thompson conducted a removal of PCB electrical equipment and soil in a transformer storage area as well as concrete and soil in the pump room of the CBI Building.

ACF conducted a time-critical removal action which involved the demolition, removal, and off-site disposal of the two Die Cast Buildings and the South Warehouse. This action also included the removal of drums of PCB waste, contaminated soil, and PCB-contaminated debris.



## **2. Current actions**

Currently, there are no ongoing removal or remedial actions.

### **C. State and Local Authorities' Roles**

#### **1. State and local actions to date**

MDNR has been involved primarily in a technical advisory role. MDNR has participated in potentially responsible party technical discussions and has provided review and comments on technical documents.

MDHSS has also participated in technical discussions and coordinated with EPA's toxicologist on review and approval of the SRE.

The St. Louis Development Corporation's LRA is the primary environmental agency for the city of St. Louis and owner of record for a portion of the Site. LRA has been EPA's primary local contact and has assisted in coordinating with the various city agencies when appropriate.

#### **2. Potential for continued state/local response**

EPA expects state involvement to continue or increase during this removal action. The LRA will likely continue to be EPA's primary technical contact for the city of St. Louis.

### **III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES**

At any release, regardless of whether the Site is included on the NPL, where the lead agency makes the determination, based on factors in 40 CFR part 300.415(b)(2) that there is a threat to public health or welfare of the United States or the environment, the lead agency may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release. The factors in 40 CFR part 300.415(b)(2) which apply to this Site are:

***300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants.***

Actual exposures may be occurring due to trespassers accessing the Site. Despite efforts by the owner to restrict access to the CBI Building, there is evidence that trespassing continues to occur. Area residents have expressed concern about potential exposures for homeless people who may be accessing the building. Also, there has been and there is a threat of release of PCBs and asbestos from the CBI Building.

Section 4.0 (Exposure Assessment) of the SRE addresses potential exposures relative to a future use scenario. The SRE describes potential future receptors as:

- Construction workers
- Industrial commercial workers
- Future adolescent recreational visitors

The exposure scenarios identified in the SRE include the following:

**Future Industrial or Commercial Workers** – If the CBI Building is developed for commercial or industrial use, future industrial or commercial workers could be exposed to dust containing PCBs or by direct contact with the PCB-contaminated concrete floors and walls inside the CBI Building. PCB levels in the concrete exceed the regulatory levels of 1 ppm on all floors of the CBI Building, with the highest levels on the first and third floors. Wipe sampling results were as high as 52  $\mu\text{g}/100\text{ cm}^2$  which exceeds the regulatory threshold of 10  $\mu\text{g}/100\text{ cm}^2$ . Workers in the building may also be exposed to TCE vapors which could enter the building through vapor intrusion. EPA collected subslab vapor samples beneath the CBI Building which showed vapor readings as high as 66,000 parts per billion vapor. However, due to the condition of the building (i.e., no windows or heating, ventilating, and air conditioning system), EPA did not collect actual indoor air samples.

**Future Construction Worker** – As outlined in the SRE, a construction worker could be exposed to PCB-contaminated soil and TCE-contaminated soil through excavation activities which expose the contaminants. They also could be exposed to TCE vapors while standing in an excavation. The Removal Action Goal for TCE in soil for a construction worker is 52.9 ppm.

**Future Adolescent Child** – Under this exposure scenario, a future adolescent child could be exposed to PCB-contaminated soil near the surface in the Die Cast Area and TCE in the TCE AST area which is unearthed through construction activities. A construction worker could also be exposed to these contaminants. The lowest Removal Action Goal in soil for a recreational adolescent was calculated at 1.1 ppm for PCBs in soil. However, the TSCA regulatory cleanup level is 1 ppm. Since the TSCA cleanup level of 1 ppm PCBs is lower than the calculated goal, it is considered more protective and has been selected as the Removal Action Goal for the Site.

***300.415(b)(2)(iv) – High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.***

Both EPA and ACF have identified highly contaminated PCB soils beneath the former Die Cast Buildings. These PCBs have been detected to bedrock and are mixed with solvents such as TCE and petroleum hydrocarbons. Contaminants remaining in the soil could migrate downward to groundwater and upward through vapor intrusion to off-site receptors.

PCBs are a mixture of chemicals which are no longer produced in the United States. Historically, PCBs were used as coolants and lubricants in transformers, capacitors, and other



electrical equipment because they do not burn easily and they have good insulating properties. Other products made before 1977 which may contain PCBs include fluorescent lighting fixtures and hydraulic oils. The manufacture of PCBs ceased in the United States in 1977 due to evidence that they build up in the environment and can cause harmful health effects to humans and animals.

Health effects that have been associated with exposure to PCBs include acne-like skin conditions in adults, and neurobehavioral and immunological changes in children. PCBs are known to cause cancer in animals, and are considered probable human carcinogens.

TCE is a nonflammable, colorless liquid which is commonly used in industry as a solvent for the degreasing of metal parts. Human health effects associated with short-term exposures to TCE include headaches, dizziness, nausea, and nervous system effects such as poor coordination. Human health effects associated with long-term exposures to TCE include liver and kidney damage, impaired immune system function, and may also include cancer. TCE is considered a probable human carcinogen.

#### **IV. ENDANGERMENT DETERMINATION**

Actual or threatened release of a hazardous substance at this Site, if not addressed by implementing the response action selected in this Enforcement Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

#### **V. PROPOSED ACTIONS**

##### **A. Proposed Action Description**

As described above and in the EE/CA, the Site has been divided into four distinct contaminated areas and the proposed action in each area is described as follows:

The TCE AST Area – The proposed action for this area is In Situ Thermal Desorption and Vapor Extraction (ISTD/VE). The ISTD/VE Alternative utilizes simultaneous application of thermal conduction heating and vacuum extraction to treat contaminated soil in place. The applied heat volatilizes organic contaminants within the soil, enabling them to be carried in the vapor stream toward heater-vacuum wells. Gases emerging from the heated soil are collected through the vacuum wells and conveyed to an Air Quality Control (AQC) system for treatment. The AQC system performance is gauged by a Continuous Emissions Monitoring system, vapor sampling, and testing of the final off-gas. Confirmation sampling of system performance is conducted after the operation is complete.

The ISTD/VE Alternative will satisfy applicable or relevant and appropriate requirements (ARARs) for the Site. Provisions for control of vapor releases are designed into the system, including a vapor barrier-constructed on the ground surface, allowing for the capture of all vapors generated during the application of heat to the impacted soils. The ISTD/VE technology will be applied to the TCE AST Area until the Removal Action Goal of 59.2 ppm TCE is achieved.

Following implementation of the ISTD/VE technology, institutional controls will be put into place. The controls will include filing of a deed restriction/environmental covenant with the property recorder specifying certain property restrictions, and notifying the city of St. Louis' Building Division of restrictions on development/environmental covenants in place at the Site.

The CBI Building – The proposed removal action for the CBI Building is demolition and off-site disposal. Prior to demolishing the building, an asbestos inspection and abatement action will be completed to remove asbestos-containing materials from the building. Following completion of the asbestos abatement, the CBI Building will be demolished and building materials segregated based on PCB concentrations. Although attached to the Willco Building, controlled demolition of the CBI Building, starting at the top floor and working down, is feasible, and with suitable precautions and shoring, the Willco Building will remain standing for future use. The Building Demolition and Disposal Alternative will achieve removal goals by removing the impacted building materials from the Site. Dismantled building materials will be transported to an appropriate disposal Facility. Based on existing analytical data, building materials could be disposed of at either a TSCA or sanitary landfill, depending upon the PCB concentrations present in the materials. If PCB concentrations exceed 50 ppm, the materials must be disposed of in a TSCA-approved landfill.

To minimize or prevent any off-site impacts during demolition, standard dust control and storm water management practices will be employed. It is anticipated that the detailed work plan for the demolition of the building will specify the type of dust control and storm water management practices to be utilized during the demolition process. Dust control may include misting, enclosure, etc., with appropriate testing to ensure fugitive dust emissions are prevented.

Following completion of the building demolition, surface soils beneath the building will be tested for PCB levels. Based on existing Site data, PCB levels beneath the building are expected to be low. However, if PCB levels are between 1 and 25 ppm, institutional controls will be required. If PCB levels are greater than 25 ppm, a protective cover will be required in addition to institutional controls. Institutional controls to be put in place include changing the zoning of the Site to prevent future use of the Site for residential or child day care/school purposes, filing of a deed restriction/environmental covenant with the property recorder specifying certain property restrictions, and notifying the city of St. Louis' Building Division of restrictions on development and environmental covenants in place at the Site.

The Willco Building – Because the PCB contamination in the Willco Building is relatively low, a thorough cleaning will be conducted in an attempt to reduce the PCB levels to below 1 ppm. In addition, an asbestos abatement action will be completed for the Willco Building. If the cleaning fails to achieve the 1 ppm goal for PCBs, the Partial Removal alternative will be implemented. The Partial Removal alternative would provide for the removal of PCBs in excess of removal action goals and involves the removal and replacement of certain sections of the first and second floor slabs (approximately 10 percent of the first floor slab and 2 percent of the second floor slab, based on the sampling conducted to date).



After completion of asbestos remediation, removal and replacement of impacted concrete slabs could begin. Shoring would be required for the removal of the second floor slab. Each section of floor slab to be removed and replaced would require shoring prior to and during saw cutting, during the removal of the slab, and during the placement and curing of the replacement slab. In addition, all water and dust generated during the saw-cutting process would need to be captured, characterized, and disposed of in an appropriate manner.

Removal and replacement of the PCB-impacted floor slabs would reduce the toxicity and risk of exposure to PCBs by removing the PCBs from the Site. The alternative complies with ARARs because concrete with PCBs above the removal action goals would no longer be present, thereby achieving the long-term goal of overall protection of human health and the environment. Short-term exposures would need to be mitigated during the development of the work plan to ensure that concrete dust and dust-laden water is not released to the environment and is contained to prevent exposure of workers performing the removal.

The selected response action includes institutional controls to prevent future use of the Willco Building for residential or child day care/school purposes.

The Die Cast Area – The ISTD/VE utilizes simultaneous application of thermal conduction heating and vacuum to treat contaminated soil and concrete without excavation. The applied heat volatilizes organic contaminants within the soil and concrete, enabling them to be carried in the vapor stream toward heater-vacuum wells. PCBs are destroyed, leaving behind inert materials. The vapors and gases extracted through the vacuum extraction wells are collected above ground and sampled to ensure no fugitive emissions occur. Confirmation sampling of system performance is conducted after the operation is complete. The ISTD/VE proposed action would satisfy ARARs for the Site. Provisions for control of vapor releases are designed into the system, including a vapor barrier constructed on the ground surface, allowing for the capture of all vapors generated during the application of heat to the impacted soils.

The removal action goal for this alternative is 1 ppm PCBs for soils and concrete, although this level may not be practically achievable through ISTD/VE for deep soils near the bedrock surface. If the soils are impacted above the 1 ppm level and this level cannot be achieved through treatment, deed restrictions in the form of environmental covenants shall be put in place with the property recorder specifying certain property restrictions. Following treatment, if PCBs remain within the soils at a level greater than 25 ppm, a protective cover combined with long-term monitoring (including groundwater monitoring) will be required. In addition, deed restrictions in the form of an environmental covenant will be required in accordance with the PCB cleanup regulations at 40 CFR part 761(a).

In addition to treatment of the impacted soils and concrete, institutional controls to be put in place include changing the zoning of the Site to prevent future use of the Site for residential or child day care/school purposes, filing of a deed restriction in the form of an environmental covenant with the property recorder specifying certain property restrictions, and notifying the city of St. Louis' Building Division of restrictions on development/environmental covenants in place at the Site.



The ISTD/VE Alternative would achieve the overall protection of human health and environment primarily by destroying the contaminants, with a fraction of the contaminants removed from the soil, collected at the surface, and disposed of at a permitted facility. This alternative satisfies all ARARs, and is effective in both the short and long term.

The ISTD/VE Alternative is technically feasible, although a pilot test will be conducted to confirm the effectiveness of the technology at the Site. The degree of effectiveness will be determined by evaluating the ability to achieve the Removal Action Goal of 1 ppm PCBs, the cost of treatment, and the implementability. The in situ nature of the process eliminates logistical complexities and minimizes exposures to nearby populations during implementation. All needed goods and services are available to perform this alternative.

In the event that the ISTD/VE Alternative pilot test concludes that the technology is not effective at the Site, excavation and off-site disposal (as described in the EE/CA) shall be implemented in this area of the Site. In this event, the Removal Action Goal for soil would remain at the 1 ppm PCBs level.

**B. Contribution to remedial performance**

The Site is not on the NPL.

**C. EE/CA**

Alternatives to the proposed removal actions were considered and discussed in the EE/CA. The proposed actions were chosen based on a comparative analysis of effectiveness, implementability, and cost.

**D. ARARs**

Pursuant to 40 CFR 300.415(j), removal actions will, to the extent practicable considering the exigencies of the situation, attain ARARs. The federal and state ARARs for the Site are discussed in Section 3.1.2 of the EE/CA. Table 3.1 and Table 3.2 of the EE/CA provides a list of federal and state ARARs for the Site, respectively, and are attached for reference.

**VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

The CBI Building has become deteriorated over time. Trespassers continue to enter the building despite the owner's attempts to restrict access. If action is delayed, the condition of the building is expected to continue to deteriorate resulting in increased risk to trespassers, increased threat of releases of hazardous substances to the environment, including the potential for off-site migration of contaminants. Delayed action would also delay redevelopment of the property for future uses.

## VII. OUTSTANDING POLICY ISSUES

None.

## VIII. ENFORCEMENT

See the attached Confidential Enforcement Addendum for this Site. For NCP consistency purposes, it is not a part of this Enforcement Action Memorandum.

## IX. RECOMMENDATION

This decision document represents the selected removal action for the contaminated soils and buildings at the Site. The removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the Site meet NCP section 300.415(b) criteria for a removal action and I recommend your approval of the proposed removal action.

Approved:

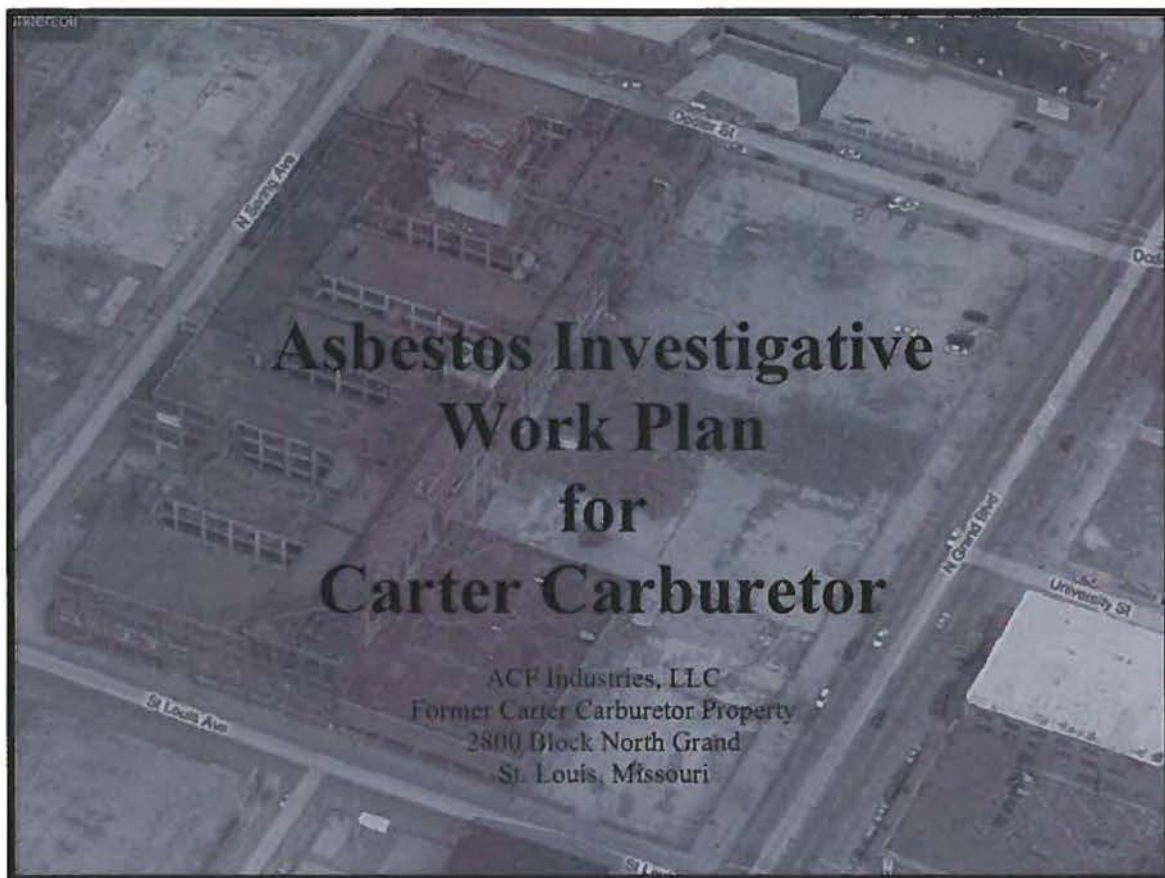
  
Karl Brooks, Regional Administrator

3/30/11  
Date

### Attachments:

1. Site Location Map
2. Site Layout
3. Table 3.1 – Action and Chemical Specific Requirements
4. Table 3.2 – Action Specific Requirements
5. Confidential Enforcement Addendum





Prepared by:



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**September 2012**

*AMEC Environment & Infrastructure, Inc. Project No. 3250055164*



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Figure 2      Former Carter Carburetor Soil Sampling Area Map

## **TABLES**

- Table 1      Carter Carburetor Confirmation Sampling Summary

## **ATTACHMENTS**

- Attachment 1    Asbestos Survey Report (August 3, 2006)



## LIST OF ACRONYMS AND ABBREVIATIONS

ACBM	Asbestos-containing Building Material
ACF	American Car and Foundry, Industries
ACM	Asbestos-containing Material
AIHA	American Industrial Hygiene Association
AIWP	Asbestos Investigative Report
AMEC	AMEC Environment & Infrastructure, Inc.
AOC	Administrative Order on Consent
ASA	Administrative Settlement Agreement
ASTM	American Society for Testing and Materials
bgs	Below ground surface
CBI	Carter Building, Inc.
CFR	Code of Federal Regulations
CGI	Combustible Gas Indicator
CIH	Certified Industrial Hygienist
COC	Chain of Custody
CPR	Cardiopulmonary Resuscitation
DOT	Department of Transportation
DS	Dispersion Staining
EE/CA	Engineering Evaluation/Cost Analysis
EPA	United States Environmental Protection Agency
FSM	Field Site Manager
FSP	Field Sampling Plan
HASP	Health and Safety Plan
HSM	Health and Safety Manager
HSP	Health and Safety Plan
LRA	Land Reutilization Authority
MACTEC	MACTEC Engineering and Consulting, Inc.
MS/MSD	Matrix Spike/Matrix Spike Duplicates
NESHAP	National Emission Standards of Hazardous Air Pollutants
NFGO	National Functional Guidelines for Organic Review
NIOSH	National Institute for Occupational Safety and Health
NVLAP	National Voluntary Accreditation Program
OSHA	Occupational Safety & Health Administration
PCBs	Polychlorinated biphenyls
PDF	Portable Data Format
PID	Photo Ionization Detector
PLM	Polarized Light Microscopy
PPE	Personal Protective Equipment
ppm	Parts per million
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
REC	Percent Recovery
RPD	Relative Percent Difference
SC	Site Characterization
SCE	Site Characterization Evaluation

## LIST OF ACRONYMS AND ABBREVIATIONS

SHSS	Site Health and Safety Supervisor
Site	2800 Block North Grand, St. Louis, Missouri
SOPs	Standard Operating Procedures
SVOCs	Semi-Volatile Organic Compounds
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
TSI	Thermal System Insulation
WBGT	Wet Bulb Globe Temperature

## **1.0 INTRODUCTION**

This Asbestos Investigative Work Plan (AIWP) for the Carter Carburetor site located in the 2800 block of North Grand Avenue in St. Louis, Missouri ("Site") was prepared to fulfill the obligations of ACF Industries LLC (ACF) to the United States Environmental Protection Agency (EPA) in order to meet the terms of the forthcoming Administrative Settlement Agreement (ASA). The AIWP objective is to describe the field inspection operation used to verify the location and quantity of Asbestos Containing Material (ACM) currently at the site compared to "Asbestos Survey Report" prepared by Crystal Environmental Group, Inc. dated August 3, 2006.

### **1.1 Work Plan Purpose and Approach**

The purpose of the AIWP is to describe the field investigation activities and methodology used to verify the location and quantity of ACM currently at the site. This information, in conjunction with data provided in "Asbestos Survey Report" prepared by Crystal Environmental Group, Inc. dated August 3, 2006, will be used to support remediation decisions.

Upon EPA approval of the AIWP and completion of the Site investigation, a draft final AIWP field summary report will be prepared. The AIWP field summary report will present and evaluate the information gathered during the Site inspections.

## **1.2 Work Plan Organization**

The remainder of this AIWP is organized into eight main sections which describe the Site background, sampling rationale, and planned activities as listed below.

- **Section 2.0 - Site Description:** Provides information about the Site's characteristics and location;
- **Section 3.0 - Site History:** Describes the history of the Site, and known activities occurring at the Site;
- **Section 4.0 – Project Organization:** Identifies key project personnel and project responsibilities and a table of participants with contact information.
- **Section 5.0 – Field Procedures:** Explains the rationale and proposed data collection activities to be performed during the AIWP implementation. The Site-Specific Sampling Guidance for each activity and the Health and Safety Plan (HASP) is referenced and detailed.
- **Section 6.0 – Field Quality Control Procedures:** This section outlines the field QA/QC procedures, including equipment decontamination, QC samples, field documentation, and chain of custody.
- **Section 7.0 - Schedule:** Outlines the schedule for performance of all project tasks and related activities and the expected duration of each; and,
- **Section 8.0 - References:** Includes references for source materials used to prepare the AIWP.



## **2.0 SITE DESCRIPTION**

The following section of the AIWP presents background information pertaining to the environmental setting for the Site.

### **2.1 Site Location**

The Carter Carburetor Site is located at 2800-2840 North Spring Street (Figure 1) in the north-central portion of the City of St. Louis, in a mixed residential and commercial neighborhood. The Site is located on the west side of Grand Boulevard and is bounded by St. Louis Avenue to the south, Dodier Street to the north, and North Spring Avenue to the west. The western half of the site is occupied by the former Carter Carburetor building, a four story building, with a two-story addition (the WILLCO Plastics Building) located at the southeast corner of the former Carter Carburetor building. The east half of the Site is partially paved, with concrete floor remaining in place after the demolition of the former warehouse and die cast buildings. Sidewalks border the Site on all four sides.

Surrounding property use includes residential and commercial properties on the east side of Grand Boulevard, commercial and vacant properties south of St. Louis Avenue, vacant property on the west side of Spring Avenue, and the Herbert Hoover Boys and Girls Club (HHBGC) on the north side of Dodier Street. The Site is 80 feet in elevation above the Mississippi River which is located approximately 6,800 feet to the east. The Site is not within a 100 year flood plain zone.

### **2.2 Site Operations**

The former ACF Carter Carburetor facility manufactured carburetors and other components for gasoline and diesel powered equipment. The Site includes the 4 story manufacturing Carter Building Inc. (CBI Building) building, a former automotive garage, a former warehouse, and the former north/south die cast buildings. The CBI building is a four-story, concrete, brick and fire resistive structure on a slab measuring approximately 147,000 square feet of ground floor area. Former manufacturing processes within these buildings utilized various hydraulic/lubricating oils, fuels, paints, cleaning solvents, and dielectric fluid as part of their ongoing operations. Underground storage tanks (USTs), aboveground storage tanks (ASTs), and drums were

typically used to store chemical products/residues inside and outside of the buildings. ACF ceased operations in 1984 at the Site and deeded the Site to the City of St. Louis in 1985

## **2.3 Environmental Setting**

An evaluation of the environmental setting at the Site was prepared during the development of the Engineering Evaluation/Cost Analysis (EE/CA) in September 2010 to better understand the framework for migration of any potential constituent releases and the potential effects on human health and the environment.

### **2.3.1 General Setting**

The Site is located in an urban setting. The surrounding area is a mix of residential and commercial neighborhoods composed of medium to low income dwellings, small and large businesses. The population of the City of St. Louis is approximately 350,000. Surface water from the Site drains to storm sewers that discharge into the Metropolitan St. Louis Sewer District (MSD). Geological and hydrogeological information was acquired through an evaluation of the soil boring logs and groundwater elevation measurements that were conducted at the Site. Results are summarized below.

### **2.3.2 Geologic Setting**

Subsurface geologic units in the area of the Site include a silt-rich loess layer, a clay-rich loess layer, and one layer of residual soil overlying St. Louis Limestone or the Cherokee Group (Lutzen and Rockaway, 1971).

The bedrock geology in the city of St. Louis consists of essentially flat-lying sedimentary formations, mostly limestone and dolomite (Lutzen and Rockaway, 1971). Geologic formations exposed in St. Louis County, which lies adjacent to and west of the city, range in age from Ordovician to middle Pennsylvanian.

The uppermost bedrock encountered in the area of the Site is the undifferentiated Pleasanton, Marmaton, and Cherokee Groups of Pennsylvanian age. Shales, siltstones, sandstones, coal beds, and thin limestone beds are the dominant lithology of these three groups. Regionally, the Pennsylvanian-age groups have a total thickness ranging from 10 to 300 feet. During the April



2003 investigation, bedrock was encountered at 24 feet bgs.

Underlying the Pennsylvanian strata is Mississippian-age limestone. The Ste. Genevieve Formation (0 to 160 feet thick), St. Louis Limestone (0 to 180 feet thick), Salem Formation (0 to 180 feet thick), and Warsaw Formation (0 to 110 feet thick) are all limestone and compose the upper portion of the Mississippian-age bedrock.

### **2.3.3 Hydrogeology**

Water supplies in the St. Louis area are obtained from the Mississippi, Missouri, and Meramec Rivers. Approximately 82 percent of the water supply is pumped from the Mississippi River, whereas approximately 12 percent is pumped from the Missouri River and Meramec River combined (Miller et al., 1974). Aquifers exist in both the bedrock and unconsolidated deposits along the Mississippi and Missouri Rivers. These aquifers account for approximately 3 percent of the water supply (Miller et al., 1974).

### **2.3.4 Surface Water Hydrology**

General surface water drainage at the Site is by overland flow to storm sewer intakes located across the Site or to open drainage ditches that drain to storm sewers. The storm sewers discharge into the MSD sewer system at several locations.

### 3.0 SITE HISTORY

Site information presented in this section was taken from EPA's Administrative Settlement Agreement and Order on Consent for Removal Action (CERCLA-07-2005-0372), Former MACTEC and AMEC Reports, EPA documents prepared for the former Carter Carburetor site, the final EE/CA and historical data.

#### 3.1 Site History

The Site includes one and one half square city blocks in the city of St. Louis, Missouri. The Site is bounded on the north by Dodier Street, on the east by Grand Blvd, on the south by St. Louis Avenue and on the west by North Spring Avenue and Hyams Street. At one time, the Site consisted of several multistory, connected, manufacturing and warehouse buildings, approximately 480,000 square feet in size, and adjacent lots located in a mixed, urban commercial/residential area. The Site property covers approximately 10 acres.

ACF Industries, Incorporated owned the property from the 1930's until April 26, 1985, when the Site property and buildings (also referred to herein as the "Facility") were deeded to the Land Reutilization Authority of the City of St. Louis, Missouri ("LRA"). During ACF's ownership, the Facility was operated by Carter Carburetor Corporation and Carter Automotive Products, both subsidiaries of ACF, who manufactured carburetors for use in gasoline and diesel powered equipment. When ACF closed the Facility in 1984, the manufacturing lines were dismantled and most of the equipment was shipped to new locations or sold.

On April 26, 1985, LRA deeded the Facility to Hubert and Sharon Thompson (the "Thompsons"). On January 9, 1986, the Thompsons sold the northern portion of the Facility to Edward Pivrotto and his wife (the "Pivrottos"). The Pivrottos subsequently failed to pay the real estate taxes on the portion of the Facility they owned, resulting in a Sheriff's sale on August 20-22, 1991. Because no substantive bids were received at the sale, the property reverted to LRA by operation of law. Thus on February 2, 1992, LRA became the owner of the northeastern portion of the Facility previously owned by the Pivrottos. The LRA currently owns the property upon which the Die Cast buildings were located, the south warehouse facility and an adjacent north parking lot.

On June 20, 1989, Carter Building, Inc. ("CBI"), a Delaware Corporation, (no relationship to ACF Industries, LLC, Carter Carburetor Corporation, or Carter Automotive Products) entered into a lease and option to purchase agreement with Hubert and Sharon Thompson. On June 28, 1990, CBI provided notice to the Thompsons that CBI was exercising its right to purchase the portion of the Facility owned by the Thompsons. Following the filing of a suit for breach of contract and for specific performance and a subsequent foreclosure proceeding, CBI received a Trustee's deed (Under Foreclosure) for a portion of the Facility from the Missouri Title Company, John E. O'Brien, Successor Trustee, in October 1991.

Although numerous chemicals were used in the plant's manufacturing process, the primary environmental contaminants that remain at the site include polychlorinated biphenyls (PCBs), trichloroethylene (TCE), and asbestos-containing material (ACM).

## 4.0 PROJECT ORGANIZATION

Responsibilities and contact information for key personnel involved in the inspection and sampling project are listed below.

### Project Management

Gene Watson	Project Manager	<a href="mailto:gene.watson@amec.com">gene.watson@amec.com</a>	636-200-5122
Bill Hladick	Construction Manager	<a href="mailto:william.hladick@amec.com">william.hladick@amec.com</a>	618-346-9120

### Project Reviewer

Jennifer Schneider	Licensed Asbestos Designer	<a href="mailto:jennifer.schneider@amec.com">jennifer.schneider@amec.com</a>	618-346-9120
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### L&A Field Inspection Team

Micheal Hunt	Inspection PM	<a href="mailto:mlhunt@lafser.com">mlhunt@lafser.com</a>	314-420-1828
Roger Riemann	Sr. Scientist/HSO	<a href="mailto:rriemann@sbcglobal.net">rriemann@sbcglobal.net</a>	314-402-3872
Daniel Broeckling	Environmental Inspector	<a href="mailto:debroeckling@lafser.com">debroeckling@lafser.com</a>	314-724-0058
Susan Luksza	Environmental Scientist	<a href="mailto:smluksza@lafser.com">smluksza@lafser.com</a>	314-853-5016
Jennifer Schneider	Principal QC	<a href="mailto:jennifer.schneider@amec.com">jennifer.schneider@amec.com</a>	618-346-9120

### Asbestos PCM Laboratory

Precision Analysis Inc.  
22 Orvieto Court  
Florissant, MO 63031  
Phone: 314-838-5052

### Asbestos CARB 435 Laboratory

EMSL Analytical  
2001 East 52nd Street  
Indianapolis, IN, 46205  
Phone: 317- 803-2997



#### **4.1 Agency Oversight**

The EPA Project Officer (or designee) will provide oversight of all field activities associated with this project. EPA oversight personnel will have the ability to inspect all field and sampling activities, determine the appropriateness of the recorded data, and ensure that all activities comply with standard practices and meet the project objectives. Before any oversight is conducted, the health and safety coordinator will brief the EPA oversight personnel to ensure safe practices are maintained throughout the field effort.

#### **4.2 Special Training Certificates**

All asbestos inspectors who work on the project will have met the Occupational Safety and Health Administration (OSHA) training requirements defined in Title 29 Code of Federal Regulations (29 CFR) Part 1910.120(e) for working on hazardous waste sites. The minimum requirements include: (1) 40 hours of formal off-site instruction; (2) a minimum of 3 days of actual on-site field experience under the supervision of a trained and experienced field supervisor; and, (3) 8 hours of annual refresher training, as required.

All personnel working on the project must read and abide by the stipulations and guidelines set forth in AMEC's USEPA approved Health and Safety Plan (HASP). The HASP provides written instructions for health and safety training requirements, personal protective equipment (PPE) requirements, a spill containment program, and health-hazard monitoring procedures and techniques. At least one member of every field inspection team will maintain current certification in the American Red Cross "Multimedia First Aid" and "Cardiopulmonary Resuscitation (CPR) Modular" or equivalent.

Copies of personnel's health and safety training records including course completion certifications for the initial and refresher health and safety training, specialized Asbestos Hazard Emergency Response Act training, most recent drug screening results, and first aid and CPR training, are maintained in office files for all field team members.

Before field work begins for the AIWP project, all personnel are required to undergo site-specific training that thoroughly covers the following areas:



- Implementation of the AIWP
- Names of personnel and alternates responsible for health and safety at a project site
- Health and safety hazards present on site, including heat, physical stressors, insects, ticks, and other potential biological hazards
- Health risks
- Selection of the appropriate personal protection levels
- Correct use of PPE
- Work practices to minimize risks from hazards
- Safe use of engineering controls and equipment on site
- Medical surveillance requirements, including recognition of symptoms and signs that might indicate overexposure to hazardous substances, physical stressors (heat, cold), and other potential hazards
- Contents of the HASP
- Community relations

## **5.0 FIELD PROCEDURES**

### **5.1 Introduction**

The purpose of collecting additional data at the Site is to determine the appropriate removal action for the Site. This section of the AIWP describes the field activities to be implemented for the inspection and sampling project and includes the following tasks:

- Mobilizing and demobilizing
- Scheduling inspections with property owners
- Collecting indoor and outdoor suspect ACBMs and soil samples
- Decontaminating equipment and personnel
- Containing and disposing of investigation-derived waste

This section specifies all the samples that will be collected, the analytical methods and required analytical turnaround times. Health and safety protocols and requirements will apply to all field activities and are summarized below. Information on quality control is provided in section 6.0 of this Work Plan.

### **5.2 Building Inspection, Sample Collection and Recording Procedures**

#### **5.2.1 Indoor Inspection**

AMEC's certified Missouri Asbestos Inspectors will visually inspect the building for confirmation of suspect ACM per the initial asbestos inspection report performed by Crystal Environmental Group, Inc., dated August 3, 2006, as well as identify any additional suspect ACM materials that were not represented in the initial inspection report.

#### **5.2.2 Indoor Sampling**

Sampling techniques will follow National Emission Standards for Hazardous Air Pollutants (NESHAP) sampling guidelines. AMEC will sample to evaluate and confirm previous positive and negative ACM results, as well as sample to quantify ACM in additional suspect areas.

AMEC will perform following activities within the CBI building:

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- Collect samples of suspect ACM of each material type of the previous sample positive asbestos locations for each homogenous zone to confirm the previous ACM results;
- Collect a minimum of three samples of suspect ACM of each material type of the previous sample negative asbestos locations for each homogenous zone or floor to confirm the previous ACM results;
- Collect a representative amount of samples of suspect ACM of miscellaneous building debris to identify and quantify ACM;
- Evaluate and confirm possible ACM in trowel/spray applied acoustic plaster surfaces on the fourth floor ceiling;
- Sample and quantify the CBI roof area that was not previously sampled in 2006 for ACM; Collect ten asbestos soil samples outside the CBI building (Grand Avenue side). Refer to Figure 2 for the proposed soil sampling locations (approximate 50' x 375' total area; sampling in 50' grids using CARB 435 analysis); and,
- Photograph indoor sample location and indoor sample with field ID. Reference photograph number on building site plans with indoor sample location and ID.

The bulk sampling of suspect ACM will be conducted in accordance with USEPA guidelines. In order to confirm the absence of asbestos from a homogeneous area, three samples from the homogeneous area must be collected and found to contain less than 1% asbestos. Only one sample from a previously sampled homogeneous area with results greater than 1% asbestos is required to confirm the material as ACM.

Immediately upon collection of a sample, the sample location will be labeled with a unique sample identification number (consistent with the 2006 ACM Survey Report) which will contain the building level, height of sample, homogeneous area description, and serial number. For example, the first sample collected from a high pressure steam line 6.5 feet above the finished floor elevation of the basement will be labeled B-FF+6.5-HPS-01, where B = basement, FF+6.5 = 6.5 feet above the finished floor, HPS = high pressure steam line, and 01 stands for the first sample from that homogeneous area. Each bulk sample location will, upon collection of the bulk sample, be labeled with a 3-inch yellow Polyken duct tape label or 3-inch patch of rewettable lag cloth rated for high temperature application, with primary adhesive applied to the sample location prior to affixing the label. The label shall be marked with the sample identification number using a permanent ink black



marking pen, with the letters a minimum of 1-inch high. Samples collected from the interior of equipment shall be labeled in a similar manner, on the exterior of the equipment, with the location of the sample point clearly indicated on the label. Photographs will be taken of each sample location as necessary.

A written log of sample locations, including column line grid indicators, sample identification number, photographs and any other information necessary to identify the sample location and material, shall also be kept by the sampling team.

The bulk samples will be submitted to a National Voluntary Laboratory Accreditation Program (NVLAP) and American Industrial Hygiene Association (AIHA) accredited laboratory for analysis of asbestos content by polarized light microscopy (PLM). Sampling consists of collecting bulk material samples of suspect asbestos containing surfacing materials, Thermal System Insulation (TSI) and Miscellaneous Materials. The bulk material samples will be analyzed using polarized light microscopy (PLM) with dispersion staining (DS) in accordance with the EPA method EPA/600/R-93/116. This method is recommended by the USEPA to determine the presence or absence of asbestos. If one bulk sample within a homogeneous area is found to contain asbestos greater than 1% by PLM, all three samples from that homogeneous zone will be assumed to contain asbestos and the remaining samples if applicable from that area will not be analyzed. All three samples will be analyzed in those cases where the bulk samples are not found to contain greater than 1% asbestos.

The field team will visually inspect the building for the locations, quantities and condition of asbestos. The field team members will only enter the areas if the field team decides it is safe to enter. Team members will only access overhead spaces with their head and torso and will remain standing on ladders.

The second team member will document results and will record the pertinent information in the field logbook, as described above. As much as is possible in a non-destructive manner, the visual inspection will include checking under other types of insulation (such as blown-in or fiberglass insulation) for asbestos and verifying and determining quantities and conditions.

Any attic spaces, tunnels, chases and vaults will be considered reasonably accessible if they can be reached by stairs, hanging stairs, or a non-conductive stepladder (either from the interior or exterior of the building). As detailed in the HASP, decontamination zones will be established

during the project, such as at the base of ladders used to access attic spaces or outside of area entrances. These areas will be covered with two layers of polyethylene sheeting during sampling in the attic or crawl space. After personal and equipment decontamination are complete and polyethylene sheeting removed, decontamination areas will be cleaned of debris and residue using appropriate HEPA vacuuming or wet cleaning procedures.

As described in the HASP, the field team will not be required to access any attics, crawl spaces, or other areas if there is an unacceptable safety hazard, including biological hazards. However, damaged or friable suspect asbestos-containing materials observed during the inspection will be noted with their locations identified in the field logbook, and a photograph will be taken. This information may be used in interpreting sampling results and planning future remediation efforts.

The field team may choose to photo-document specific conditions in the building during the AIWP inspection for future reference.

### **5.2.3 Outdoor Inspection**

A fifty (50) feet wide parcel approximately three hundred seventy-five (375) feet long along the eastern side of the building will be inspected for ACM in surface soils.

### **5.2.4 Outdoor Soil Sampling**

After the visual inspection of soils has been conducted, the field team will collect soil samples from the east side of the main building as shown in Figure 2. Soil sampling will include the following steps:

- Identify sample aliquot locations
- Collect sample aliquots and assess the sample aliquots for visible asbestos
- Record locations on field sketch
- Photograph field sample location and soil sample with field ID. Transpose photograph number on field sketch with GPS location on notes/sketch.

#### **5.2.4.1 Identify Sampling Locations**

The sampling area which is approximately 50' wide by 375' long will be divided into 7 equal rectangles. One soil sample will be taken from each of the sample rectangles, plus an additional



4 samples will be taken at random locations within the same rectangles. Each rectangle will be further divided into 9 equal squares, with each square given a unique number 1 through 9. A random number generator will be used to identify one square where a sample will be taken.

#### **5.2.4.2 Collect Soil Samples**

Stainless steel scoops will be used to collect approximately 2.0 kilograms of soil sample from 0 to 6 inch soil interval at each location. If a small metal shovel is required to assist with sampling to 6 inches, the shovel will be thoroughly cleaned and decontaminated after each sample using procedures outlined in Section 6.1. The 2.0 kg of soil will be placed in one re-closable plastic bag and mixed. During sample collection and mixing, the field team will attempt to shield the soil samples from the wind to avoid potentially losing lighter fractions of the soil to the ambient air. At the conclusion of sampling, the stainless steel scoop and bowl will be thoroughly cleaned and decontaminated using procedures outlined in Section 6.0.

The initial re-closable plastic bag will be placed inside a second bag as a precaution. A sample label will be affixed to the outside of the inner re-closable bag as well as the sample ID number written on the outside of the inner bag. The outer re-closable plastic bag will also be labeled and marked similarly using the pre-printed sample ID numbers. Soil samples will be labeled with a unique sample identification number. Samples will remain under chain-of-custody procedures as described in Section 6.5.

#### **5.2.5 Photography**

The field team will have a camera for photo-documenting all indoor and outdoor field sampling activities at the property. All photographs will be recorded in the field logbook with photograph number, GPS location where applicable and photo description with sample ID. All photographs will be taken using digital cameras and will be saved into the project database. All photographs will then become part of the electronic record for the project.

## **6.0 FIELD QUALITY CONTROL PROCEDURES**

Section 6.0 describes the methods and procedures for decontamination, quality assurance samples, field documentation, handling investigation-derived wastes, and maintaining chains-of-custody of samples and records.

### **6.1 Equipment and Personnel Decontamination**

Stainless steel scoops and bowls will be used for soil sampling; therefore, decontamination of the equipment that is in touch with the soil will be necessary. If a small metal shovel is required to assist with sampling to 6 inches in hard, compacted soils, the shovel will be thoroughly cleaned and decontaminated. Decontamination will occur in the location where the sample was collected and will include spraying the equipment with distilled water followed by drying with paper towels. The water will be allowed to fall on the ground surface within the area just sampled and the paper towels will be placed in a labeled asbestos waste bag.

Visible soil on hands or clothing will be removed by washing with soap and water. Additional personnel decontamination procedures, including requirements for decontamination zones, are described in the HASP. PPE will include disposable gloves, disposable protective outerwear, work boots, disposable boot covers, and respirators. The respirators will be cleaned and decontaminated as discussed in the HASP.

### **6.2 Quality Assurance Samples**

Internal Sampling Duplicates - Duplicate samples will be collected at a frequency of one sample per 20 samples or a rate of 5 percent. Field duplicate samples will be collected by locating a second sampling template adjacent to every original sample location within the building. Each duplicate location will be sampled using the procedures described in 5.2.2. Data for field duplicates will be used to evaluate the potential variability in asbestos concentrations in the building. These data will not be used to evaluate precision in sampling or analytical techniques.

Soil Field Duplicates - Soil field duplicate samples will be collected at a frequency of one sample per 5 soil samples. Field duplicate samples will be collected as samples co-located in the same exterior area, but will be collected from an adjacent location. Data for soil field duplicates will be



used to evaluate the potential variability in asbestos concentrations. These data will not be used to evaluate precision in sampling or analytical techniques.

### **6.3 Field Documentation**

Before the field activities begin, all members of the AMEC field team will receive the same training on implementation of this Work Plan.

Any additional information that is not recorded on field forms will be recorded in the field logbooks or on field sketches. Each field team will maintain a field logbook for recording the date and time of the property inspection, the number and type of samples collected at the property including sample ID numbers and any other pertinent information. The field logbook will also be used to record additional observations of the field team that relate to potential remedial action at a property, such as locations, quantities and types of suspect asbestos-containing material and any access limitations. The field logbooks will be scanned into a portable data format (PDF) and stored as part of the electronic record for each property.

Information will also be recorded on the individual field sketches. Property maps consisting of aerial photographs will be provided for reference; field sketches will be made on the previous asbestos report figures to update them and show the locations of any observed asbestos locations. The field sketches will be scanned into a PDF format and stored as part of the electronic record for the property.

Interior building drawings will be used to locate sampling locations. Results will be compared to the previous asbestos investigation analyses performed by Crystal Environmental Group, Inc. dated August 3, 2006, to determine the current location, quantity and condition of asbestos. Any changes in asbestos locations, including new asbestos found, will be added to the drawings to document findings for future abatement activities.

### **6.4 Containment and Disposal of Investigation-Derived Waste**

Investigation-derived waste will include used wet wipes, wet paper towels, disposable gloves, used respirator cartridges, used plastic tubing, disposable protective outerwear, plastic floor coverings, and other minimal waste. It is possible, but not likely, that these investigation-derived waste materials may contain some asbestos. Therefore, all investigation-derived waste will be

double-bagged in appropriate asbestos bags, labeled with asbestos labels, and properly disposed of at an approved landfill. Non-sampling waste generated by the field teams, such as food containers and waste paper, will be separately bagged and properly disposed of as solid waste.

### **6.5 *Record Keeping and Chain of Custody***

At the end of each day, or more often if required, the AMEC field teams will return to their office to transfer the internal bulk, soil, and QC samples and copies of the appropriate logbook pages. Digital photographs will also be downloaded daily .

## **7.0 SCHEDULE**

The AIWP inspection and sampling field work will begin in September 2012, and will require approximately 4 weeks to complete. AMEC will prepare a draft final AIWP field summary report approximately 15 days after the completion of the field work.



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# FIGURES



Figure 1: Site Layout Map





Figure 2: Soil Sampling Area Map

# TABLES



Table 1: Carter Carburetor Confirmation Sampling Summary

Description	1st Floor		2nd Floor		3rd Floor		4th Floor		Roof		Pump Room		Boiler Room		Soil
	Positive Confirmation	Negative Confirmation	Positive Confirmation	Negative Confirmation	Positive Confirmation	Negative Confirmation	Positive Confirmation	Negative Confirmation	Positive Confirmation	Negative Confirmation	Positive Confirmation	Negative Confirmation	Positive Confirmation	Negative Confirmation	New
Drywall	1	6	1	3			1	3		3					
Plaster Wall	3						1	3							
Plaster Ceiling								3							
Floor Tile and/or Mastic															
Felt Paper Under Carpet							1								
Ceiling Tile		3		3		3	1	3							
Ceiling Tile Mastic		3		3											
Pipe Insulation										3	3		3		
Pipe Insulation Debris		3		3		3	1	3			3		3		
Mudded Fittings											3				
Duct Wrap										3			3		
Ceiling Insulation							1		1	3					
Boiler Insulation										3					
Wall Insulation															
Door Caulking															
Window Glazing Compound															
Roofing Debris							1								
Roofing and/or Mastic									1	15					
Roof Flashing									1						
Transite Panels															
Mastic Pucks on Walls							1								
Misc. Building Debris		5		10		3		9				5		5	
Soil															10
TOTAL	4	20	1	22	0	9	8	24	3	30	9	5	9	5	10

# ATTACHMENTS

Asbestos Survey Report  
Former Carter Carburetor Building  
St. Louis, Missouri

August 3, 2006

Prepared for:

**MACTEC ENGINEERING AND CONSULTING, INC.**  
St. Louis, Missouri

Project No. 4-1039

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APPENDIX B Credentials of Inspection Personnel and Laboratory

APPENDIX C Sample Log Sheets

APPENDIX D Sample Location Drawing and ACM Location Drawing

APPENDIX E Photographs

ASBESTOS SURVEY REPORT  
FORMER CARTER CARBURETOR BUILDING  
ST. LOUIS, MISSOURI

1 INTRODUCTION

This report summarizes the results of a limited asbestos survey performed by Crystal Environmental Group, Inc. (Crystal) at the Former Carter Carburetor Building located at 2805 North Grand in St. Louis, Missouri. The areas included in the survey were the pump room, the boiler room, the first level through the fourth level, and the roof level including the mechanical rooms as detailed in drawings provided by Mactec Engineering & Consulting, Inc. (MACTEC). During this survey, Crystal collected samples from interior and exterior building materials suspected to be asbestos-containing materials (ACM). Intrusive examinations of building walls and ceiling materials were conducted only to the extent that would not disturb the current building condition.

The purpose of this survey report is to provide MACTEC with information regarding the presence of interior and exterior ACM at the facility so these materials can be properly dealt with during future renovation or demolition projects. In accordance with instructions received from Mr. Eugene Watson of MACTEC, Crystal obtained bulk samples and forwarded the samples to Reservoirs Environmental, Inc., a NVLAP and AIHA approved laboratory to perform laboratory analysis. Bulk samples were analyzed to evaluate whether these materials contain asbestos. Bulk sample analysis results from this survey are presented in Appendix A.

Crystal has also provided anticipated cost ranges associated with asbestos removal operations that may be necessary prior to renovations or demolition operations at the facility.

2 SURVEY PROTOCOL

This chapter describes the practices and procedures used to collect the data presented in this report. Guidance documents and regulations referred to during sampling are listed below.

USEPA. 1985. Guidance for Controlling Asbestos-Containing Materials in Buildings.  
USEPA 560/5-85-024. June.

USEPA. 1987. Asbestos-Containing Materials in Schools, 40 CFR 763, Subparts E and F.

USEPA. National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 61, Subpart M

Missouri Department of Natural Resources. 10 CSR 10-6.250

City of St. Louis Division of Air Pollution Control. Procedures for Asbestos Emission Control

Samples were collected by a team of asbestos specialists from Crystal who are accredited by the U.S. Environmental Protection Agency (USEPA) as asbestos building inspectors under the Asbestos Hazard Emergency Response Act Program and have also been licensed by the Missouri Department of Natural Resources as asbestos inspectors. The team members are also currently trained as required for Hazardous Waste Site Operations. Refer to Appendix B for credentials of inspection personnel.

The procedures listed below were used to obtain samples and document sampling activities.

1. Samples were obtained using a clean knife or specially made sampling tube, to cut or scrape off a small piece of the material. Full penetration of all layers of the material was accomplished.
2. Each sample was placed in a clean air-tight container. Each container was labeled with the sample number.
3. The location of each sample was marked on a building floor plan.
4. Each sampling location was sprayed with an encapsulant to reduce the potential for future fiber release.
5. Sampling tools were cleaned prior to collection of the next sample.

Precautions were taken during sampling operations to limit asbestos fiber release to the air. At the completion of the sampling program, the containerized materials were delivered to Reservoirs Environmental, Inc. laboratory for analysis. Materials and Cost Estimating Matrix sheets presented in Appendix C provide field sample numbers, homogeneous material numbers, homogeneous material descriptions, approximate quantities of identified ACM, and sample locations. Photographs taken during the survey are presented in Appendix E.



### 3 LABORATORY ANALYSIS

Bulk samples were analyzed by polarized-light microscopy (PLM) using dispersion staining techniques in accordance with the EPA Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116)(Section 9.1).

The analytical method consists of PLM using dispersion staining techniques. The method is applicable for detecting asbestos concentrations greater than one percent by area when fibers are greater than five microns in length. Asbestos types defined in this method are chrysotile, amosite, crocidolite, anthophyllite, actinolite, and tremolite. Appendix A contains the laboratory analysis results for this project.

Reservoirs Environmental, Inc. laboratory is accredited by the National Institute of Standards and Technology as part of the National Voluntary Laboratory Accreditation Program. The credentials and accreditations of the laboratory and its personnel are included in Appendix B.

USEPA regulations state, by definition, that materials with less than one percent asbestos are not regulated. However, any regulated asbestos-containing materials (RACM) with an asbestos content greater than 0 but less than 10 percent must be point counted to establish that the material is less than one percent, or assumed to be RACM by the owner. Homogeneous Material Numbers DC-36, SR-47, WP-51, GC-55, D-84, FT-86, MF-144, WC-160, WC-163, WC-166, FT-174, FT-181, FT-187, FT-190, FT-248, D-266, D-267, D-268, CI-272, DM-278, P-286, FT-292, AP-299, P-301, FT-309, D-316, D-324, P-333, D-369, WG-372, PI-375, PI-405, PF-406, PI-412, RF-001, RF-007, and RF-019 fall into the point counting criteria range however, Crystal recommends that MACTEC and

the owner assume the materials discussed above to be ACM, based on previous experience with similar materials.

### 4 ASBESTOS CONTENT TEST RESULTS

A total of 451 bulk samples were collected from 196 different types of building materials. 107 of the homogeneous materials sampled from the building's interior were identified as containing greater than one percent asbestos, or were assumed to be ACM. These materials are listed in Appendix C.

The bulk sample locations and the locations of identified ACM are included in the drawings in Appendix D. Appropriate locations of asbestos-containing pipe insulation are shown on the drawings included in Appendix D for the pump room, boiler room, first, second, third, and fourth floors, and the roof levels including mechanical areas. Additional locations of presumed ACM may



be present due their location within walls ceilings and column furring/encasements. Additional comments on identified ACM's appear below.

#### 4.1 Pump Room

The pump room was found to contain approximately 100 linear feet of TSI. In general, all of the original pump room piping systems were covered with ACM insulation. A large portion of the original piping and mechanical systems has been removed from the room. It is apparent that at least some of the removal operations were not conducted in accordance with regulations and there is damaged TSI in various locations throughout the room.

#### 4.2 Boiler Room

The Boiler Room was found to contain approximately 40 linear feet of piping insulation and 60 square feet TSI on the boilers. In general, all of the original boiler, header pipes, and associated piping systems located in the pump room are covered with ACM insulation. At the time of the inspection large portions of the TSI were delaminating from the piping systems which would have caused significant ACM fiber release episodes in the area, which should be considered for a response action. During the inspection it was noted that there were apparent trench or sump areas beneath the floor level which could not be accessed due to liquid accumulation. The extent of ACM piping systems in these areas is not known at this time and should be reviewed during any renovation or demolition activities. During the inspection this room was partially blocked by debris, truck tires, etc. that had been dumped into the room from an upper level at the east end of the room. This debris restricted access to the entire east end of the room and the boilers. Crystal was also unable to access the interior of the boilers for sampling of any potential suspect materials. These areas should be assumed to contain ACM and should be sampled once the room and the boilers have been made safe to access.

#### 4.3 First Floor

The first floor was found to contain 1,400 square feet of various ACM floor tile and/or mastic. 178 lineal feet of TSI was located on pipe and pipe risers throughout the first floor.

Approximately 920 square feet of ACM duct wrap and/or mastic was located on the first floor. 15 mudded fittings were found to be ACM. There was approximately 560 square feet of drywall containing asbestos. There were doors with caulking found to be ACM. All window glazing was found to contain asbestos, approximately 30,257 square feet.

#### 4.4 Second Floor

The second floor was found to contain 30,601 square feet of various ACM floor tile and/or mastic. 64 lineal feet of TSI was located on pipe and pipe risers and approximately 100 cubic feet of ACM debris was located throughout the second floor. 12 mudded fittings were found to be ACM. Approximately 500 square feet of drywall was ACM as well. 240 square feet of ACM duct insulation was located on the second floor. Approximately 37,237 square feet of ACM window glazing compound was located on the second floor. Additionally, it should be noted that an estimated 161,250 square feet of floor area was noted to contain excessive amounts of pigeon droppings.

#### 4.5 Third Floor

The third floor was found to contain 308 square feet of various ACM floor tile and/or mastic. 174 lineal feet of TSI was located on pipe and pipe risers throughout the third floor. 22 mudded fittings were found to contain asbestos. Additionally, approximately 36,237 square feet of ACM window glazing compound was located on the third floor. Additionally, it should be noted that an estimated 135,000 square feet of floor area contained excessive amounts of pigeon droppings.

#### 4.6 Fourth Floor

The fourth floor was found to contain 15,120 square feet of various ACM floor tile and/or mastic. 719 lineal feet of TSI was located on pipe and pipe risers throughout the fourth floor. Approximately 150 square feet of ACM ceiling tile and/or mastic was located on the fourth floor as well as 150 square feet of ceiling insulation. There were 13 mudded fittings found to be ACM. About 120 square feet of ACM was located in insulation covering ducting on the fourth floor. ACM containing adhesive pucks covered 700 square feet of the wall surface. 750 square feet of felt paper located underneath floor tile was found to be ACM. 3,200 cubic feet of roofing debris also



contained asbestos. 19,500 square feet of ACM plaster was located on the fourth floor, as well. 3,494 square feet of drywall. Approximately 38,767 square feet of ACM window glazing was located on the fourth floor. Additionally, it should be noted that approximately 112,500 square feet of floor area contained excessive amounts of pigeon droppings.

#### 4.7 Roof Levels and Roof Level Mechanical Areas

The various roof levels of the building were found to have 600 square feet of ACM roofing materials and 4,825 lineal feet of ACM roof flashing and/or mastic. The roof level mechanical systems were observed to have 1,400 lineal feet of ACM piping TSI and 13 mudded fittings. One air handling unit was observed to have 100 square feet of transite and 300 square feet of TSI, ceiling insulation. Additionally, there are two cooling towers which have transite exteriors totaling approximately 2500 square feet. The second floor roof of the southeast addition to the building was covered with an intact rubber roofing membrane at the time of the inspection and therefore was not sampled by Crystal to maintain its integrity. This roof area should be sampled prior to any renovation or demolition activities at the site.

#### 4.8 Pump Room

The Pump Room was found to contain approximately 600 lineal feet of TSI piping insulation and 6 mudded fittings. Additionally, there was approximately 100 cubic feet of piping insulation debris located on the floor and within floor trenches.

#### 4.8 Boiler Room

The Boiler Room was found to contain approximately 700 lineal feet of TSI piping insulation and mudded fittings. There was approximately 1,200 cubic feet of piping insulation debris located on the floor. At the time of the inspection floor trenches were filled with water and the extent of ACM piping insulation and/or debris could not be ascertained. Additionally, the roof of the Boiler Room is constructed from approximately 2,400 square feet of transite panels.

### 5 REGULATORY REQUIREMENTS

This chapter provides information pertaining to the regulatory requirements for asbestos removal.

Currently, two federal regulations are applicable when dealing with asbestos in non-school buildings. These regulations are the National Emission Standard for Hazardous Air Pollutants

(NESHAP) and the Occupational Safety and Health Act (OSHA). If asbestos removal is to be undertaken at these locations, the removal will have to be performed in accordance with these regulations and applicable state or local regulations. The basic requirements of each of the federal, state, and local regulations that apply to the situation at this store are outlined below in Sections 5.1, 5.2, and 5.3.

### 5.1 USEPA Regulatory Requirements

The USEPA enforces the NESHAP regulations, which are presented in 40 CFR 61 Subpart M. NESHAP regulations require that there be no visible emissions of asbestos during demolition or renovation of facilities where more than 260 linear feet, 160 square feet, or 35 cubic feet of previously unmeasurable ACM are to be disturbed. NESHAP regulations specify that each owner or operator of a building scheduled for demolition or renovation notify the USEPA at least 10 days prior to that demolition or renovation.

The NESHAP regulations also specify removal methods that are to be followed during removal of ACM from a building. NESHAP regulations also specify waste disposal requirements for ACM.

### 5.2 OSHA Regulatory Requirements

OSHA regulations pertaining to asbestos in the workplace and for asbestos removal work, are presented in 29 CFR 1926.1101. This regulation describes health and safety precautions that must be taken during asbestos removal projects to protect the workers performing the removal. The standard specifies requirements for personal protective equipment, engineering controls, work practices, air monitoring, medical monitoring, and record keeping. This regulation also describes requirements for all employers who require their employees to work with or around asbestos. these regulations.

### 5.3 State and Local Regulatory Requirements

Currently, the State of Missouri's Department of Natural Resources enforces the state regulations for asbestos demolition, renovation, and waste disposal found in 10 CSR, 10-6.250. The State of Missouri has requirements for licensing of individuals and companies performing



asbestos-related work in the state including landfills, contractors, supervisors, workers, inspectors, and project designers. At this time, there are specific regulations in addition to OSHA and NESHAP that apply to work performed in the City of St. Louis. A copy of the current "State Asbestos Rules" and City of St. Louis requirements are presented in Appendix G.

## 6 ANTICIPATED COST

Based on asbestos abatement industry averages in the St. Louis area and conversations with local abatement contractors familiar with the building, Crystal estimates that the cost range for removing the ACM prior to renovations on the pump room, boiler room, first, second, third, fourth, and the roof levels including mechanical areas and cooling towers, would be between \$1,442,318.00 and \$1,951,208.00, assuming that a total demolition is planned. A breakdown of removal cost ranges, including a 20-percent contingency, is presented in Tables 1 through 8.

The prices estimated above are subject to a number of variables such as changes in site conditions, accessibility of materials, the actual scope of renovations or demolition activities and how that scope could affect the ACM, and other factors. Also, because the survey performed was not a complete, exhaustive, intrusive survey, abatement costs would be higher if other ACM are encountered inside walls, columns, barriers, above ceilings, or below floors. Finally, the cost ranges estimated above do not include asbestos consulting services such as project design and administration, on-site project management, and air sampling. It should be noted that the design phase of any abatement project for this building should include costs for MACTEC to conduct an exhaustive review of any available original and as-built drawings of mechanical systems, especially in the boiler room, pump room, and mechanical areas.

## 7 CONCLUDING CONSIDERATIONS

ACM has been identified at the Former Carter Carburetor Building located in St. Louis, Missouri. Asbestos regulations, summarized in Sections 5.1, 5.2, and 5.3 require the removal of friable asbestos, and non-friable asbestos that becomes friable when damaged, from a building being demolished or renovated. Removal is to be performed before any wrecking or dismantling that would break up the materials or preclude access to the materials for subsequent removal.

Several floor tile and/or mastic materials, and -- types of ceiling tile and/or mastic sampled by Crystal at this facility fall into the point counting criteria as defined by the USEPA. PLM analysis is limited relative to the range of size and concentration of asbestos fibers that it can detect. Based on past sample analysis of similar materials, Crystal recommends that MACTEC assume this material to be ACM.

Should MACTEC decide to proceed with asbestos abatement at the facility, Crystal is prepared to assist in this effort. Crystal personnel have experience in preparing project specifications and work plans, performing air monitoring, providing on-site project management, and coordinating with regulatory agencies.

## 8 LIMITATIONS OF STUDY

This report has been prepared for the use of MACTEC in evaluating the possible presence of asbestos at the former Carter Carburetor building located in St. Louis, Missouri. This report has been prepared in accordance with generally accepted asbestos consulting practices; no other warranty, expressed or implied, is made to the information presented in this report. This report has not been prepared for use by parties other than those named or for uses other than those stated above. It may not contain sufficient information for the purposes of other parties or for other uses.

During the field survey, Crystal's inspectors lifted the carpet at select locations to look for suspect flooring materials. The information gathered during these observations was used to estimate the quantities of the identified ACM in this report. Because of these limitations, this information should be reviewed during the initial stages of any renovation or demolition activities in the areas where the carpeted floors will be affected. In addition, multiple layers of flooring were observed in several locations. The exact extent (and impact on abatement cost) of areas with multiple layers of flooring should also be evaluated during initial stages of any renovation or demolition activities. Detailed mechanical drawings of existing plumbing; heating, ventilating, and air conditioning; and steam lines were not available at the time of the survey. Condition and extent of these systems may vary from those observed by our inspector.

The information and analysis contained herein are based on data obtained from site reconnaissance and material sampling. The study assumes homogeneity of materials between sampling locations and, therefore, does not reflect variations in materials that may actually be present.

The quantities that appear on the sample log sheets included in Appendix C are only approximate and are subject to the limitations of rough field measurements.

If there is a substantial lapse of time between the submission of this report and the start of response actions at the subject facility, or if conditions change due to deterioration, construction, or abatement operations at the facility, Crystal urges that this report be reviewed to determine the applicability of the results of this study considering the changed conditions and time lapse.

