SITE ASSESSMENT REPORT
FOR
THE OHIO CAST PRODUCTS SITE
CANTON, STARK COUNTY, OHIO
SITE ID: B5NL

NPL STATUS: NON-NPL

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V
Emergency Response Branch
25089 Center Ridge Road
Westlake, Ohio 44145

Prepared by:

WESTON SOLUTIONS, INC.
6779 Engle Road
Suites I & J
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LIST OF ABBREVIATIONS AND ACRONYMS

<	Less Than
>	Greater Than
%	Percent
µg/l	micrograms per liter
ACM	Asbestos-Containing Material
ACBM	Asbestos-Containing Building Material
ACWM	Asbestos-Containing Waste Material
BGS	Below Ground Surface
CFR	*Code of Federal Regulations*
CO	Carbon Monoxide
HDPE	High-density Polyethylene
LEPC	Local Emergency Planning Committee
LOD	Level of Detection
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
Ohio EPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator
PCB	Polychlorinated Biphenyl
ppm	part per million
RACM	Regulated Asbestos-Containing Material
RCRA	Resource Conservation and Recovery Act
START	Superfund Technical Assessment and Response Team
TCLP	Toxicity Characteristic Leaching Procedure
TDD	Technical Direction Document
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WESTON	Weston Solutions, Inc.
XRF	X-ray Fluorescence

1. INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to assist U.S. EPA On-Scene Coordinators (OSC) Mr. James Justice and Mr. Stephen Wolfe in performing a site assessment at the Ohio Cast Products Site (Site) located in Canton, Stark County, Ohio. Under Technical Direction Document (TDD) number S05-0001-0805-008, U.S. EPA requested WESTON START to collect bulk samples of potentially asbestos-containing building materials (ACBM) within the Site's structures (facility), focusing on the fire-damaged portions of the facility; visually identify suspect asbestos-containing materials (ACM) within the non-fire-damaged portions of the facility; quantify and document the condition and labeling of containers (totes, drums, small containers, cylinders); collect samples of the containers as directed by the OSC; collect soil samples for laboratory analysis of polychlorinated biphenyls (PCB), volatile organic compounds (VOC), and total and Toxicity Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act (RCRA) metals; and collect written and photographic documentation of site conditions and potential threats to human health and the environment. Under the direction of OSCs Mr. James Justice and Mr. Stephen Wolfe, WESTON START conducted site assessment activities on May 22, 2008 and June 30, 2008.

This Site Assessment report is organized into the following sections:

- **Introduction –** A brief description of the objectives and scope of site assessment activities
- **Site Background** – The Site description and history
- **Site Assessment Activities –** The methods and procedures used during the site assessment
- **Analytical Results –** Laboratory results for samples collected during the site assessment
- **Threats to Human Health and the Environment –** Conditions at the Site that may warrant a removal action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) based on the criteria established in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Title 40 of the *Code of Federal Regulations* (CFR) 300.415(b)(2)
- **Conclusions and Recommendations –** A summary of site assessment findings and recommendations for further site activities

Figures, tables, photographic documentation, laboratory analytical reports and data validation reports are presented at the end of the report in appendices A through E.

2. SITE BACKGROUND

2.1 SITE HISTORY

The Ohio Cast Products Site is located at latitude 40.809663 north and longitude 81.343405 west. The Site's address is 2408 13th Street N.E., Canton, Stark County, Ohio 44705 (Appendix A - Figure A-1). The facility has not operated since November 2004, and the City of Canton Fire Department has indicated there is no known owner of record for the Site. The facility was most recently utilized to manufacture malleable iron castings. A list of processes and services formerly performed by the facility included: centrifugal castings, ceramic mold castings, graphite mold castings, plaster mold castings, V process castings, die castings, sand castings, permanent mold castings, electro-chemical machining services, chemical milling, punching, and stamping services.

The western portion of the facility was destroyed by fire on or about February 20, 2008 and continued to smolder for approximately two weeks. The City of Canton Fire Department responded to the fire and discovered numerous unlabeled drums, totes, and other containers in and around the facility. The City of Canton Fire Department reported their discovery to Mr. Don McDonald of the Stark County Local Emergency Planning Committee (LEPC). In the absence of an identifiable responsible party for the abandoned drums and containers, the LEPC referred the Site to the Ohio Environmental Protection Agency (Ohio EPA) who referred the Site to the U.S. EPA Region V Emergency Response Branch in Westlake, Ohio, to perform removal assessment activities.

2.2 ADJACENT PROPERTIES AND WATERWAYS

The Site is situated along the south side of 13th Street N.E. The East Branch Nimishillen Creek flows east to west along the Site's southern property boundary. The East Branch Nimishillen Creek joins the Middle Branch Nimishillen Creek to form Nimishillen Creek approximately 0.5 miles west of the Site. Ohio Air, Inc., borders the Site's western edge and shares a common

access drive from 13th Street N.E. A Conrail railroad is situated approximately 800 feet southeast of the Site.

The southern portion of the property adjacent to the East Branch Nimishillen Creek is covered heavily with woodland and marsh vegetation. A complete visual inspection of the shoreline adjacent to the Site was restricted by vegetative growth. No storm sewer or other outfalls were observed along the portions of the shoreline that could be accessed by WESTON START personnel. The Stark County LEPC indicated to WESTON START that there were no known conduits or outfalls from the Site in direct connection with the East Branch Nimishillen Creek. Surface runoff from the Site is unrestricted from draining into the East Branch Nimishillen Creek.

3. SITE ASSESSMENT ACTIVITIES

3.1 SITE WALK-THROUGH

On May 22, 2008, WESTON START members Mr. Ryan Green and Mr. Andy Kiel met with U.S. EPA OSCs Mr. James Justice and Mr. Stephen Wolfe at the Site. Mr. Don McDonald, of the Stark County LEPC, was also on Site to answer any questions. The Site was a former manufacturer of malleable iron castings, consisting of one large manufacturing building which occupied approximately half of the Site. The building was comprised of office space, a bag house, machine shop, and various sized mill-like buildings for the facility's former die-cast operations. The western portion of the facility was destroyed by fire on or about February 20, 2008. Approximately 20 percent (%) of the facility was damaged by the fire. The Site was abandoned, and most of the equipment associated with the former operations of the facility was not present. Various containers (drums, totes, etc.) were observed inside and outside the facility. The southern undeveloped portion of the Site is relatively flat, with areas of overgrown vegetation, concrete pads and gravel. Black sand was observed on the ground surface in the southeastern portion of the Site. A large outdoor electrical substation that appears to be taken out of service is located in the south central portion of the Site (Appendix A - Figure A-2).

During the site assessment, field personnel noted animal tracks both outside and inside the facility, particularly in the wet sand inside the "bag house" located in the southeast corner of

Area 5 (Appendix A - Figure A-3). Additionally, anecdotal information suggests that trespassers have been accessing the Site to collect scrap metal.

Unrestricted access to the Site could result in an accidental or intentional release of potentially hazardous substances stored in and around the facility. Although the Site is fenced, access is limited but possible in the western fire-damaged portion of the facility.

3.2 CONTAINER INVENTORY

WESTON START personnel performed written and photographic documentation of containers in and around the facility. A significant portion of the drums and totes staged at the Site were unlabeled and in poor condition. WESTON START also documented site conditions during the walkthrough.

A total of 148 drums, 64 totes, one aboveground tank (approximately 500-gallon capacity), three gas cylinders, three process tanks (approximately 100-gallon capacity), one industrial-sized lead-acid battery, 29 small containers, and four pallets of bagged solids and industrial products were documented in 13 areas of the site during the site assessment (Figure A-3). A more in-depth inventory of the containers identified in each of the 13 areas (Areas 1 through 13) is included in Appendix B – Table B-1. Photographs from the site assessment are located in Appendix C.

3.3 CONTAINER SAMPLE COLLECTION METHODOLOGY

During the site walk-through, WESTON START and the OSCs observed 55 containers with product labels indicating flammable or corrosive contents in several areas of the Site. The OSCs directed WESTON START to target these containers for sampling. Table B-2 in Appendix B lists the containers targeted by the OSCs as potentially containing hazardous substances and the areas they were found.

One WESTON START personnel and one OSC donned Level B personal protective equipment for drum sampling. Each drum was opened with a spark-less bung wrench, and the drum head space was monitored with a MultiRAE Plus five-gas monitor. VOC readings on the photo-ionization detector of the MultiRAE Plus ranged from 0.0 units VOCs in the headspace (drums labeled corrosive, aluminum sulfate and sulfuric acid), to 2.2 units VOCs in the headspace (a drum labeled flammable, methyl formate). Additionally, the carbon monoxide (CO) detector of

the MultiRAE Plus returned readings of 575 parts per million (ppm) CO in the headspace of the drum labeled methyl formate, and the lower explosive limit (LEL) detector temporarily deactivated due to out-of-range readings.

Colorimetric pH indicator paper strips were dipped in drums labeled aluminum sulfate, sulfuric acid, and methyl formate. The liquid from a drum labeled sulfuric acid had a pH of 1 standard units (su). The liquid from drums labeled aluminum sulfate had a pH of 5-6 su. The liquid from a drum labeled methyl formate had a pH of 5 su. Liquid from the drum labeled methyl formate was also collected on a disposable cotton swab and gradually brought into the proximity of an open flame. The vapor was observed to ignite, indicating that the liquid is potentially ignitable. Liquid from a 5-gallon container labeled flammable was also collected on a disposable cotton swab and gradually brought into the proximity of an open flame. The vapor was not observed to ignite, but the liquid burned in a blue-tinted flame, indicating that the liquid is potentially combustible.

WESTON START and the OSC utilized a glass drum thief to obtain a liquid sample from one of the drums labeled methyl formate in Area 5 (Figure A-3). The sample was containerized in a four-ounce clear glass jar provided by the laboratory, sealed in a plastic bag, and labeled with site-specific nomenclature (sample OCP-DL-052208-01). A drum labeled sulfuric acid in Area 5 was opened, but collection of a liquid sample was determined to be impractical due to a thick layer of sediment in the bottom of the drum. The liquid from this sulfuric acid drum had a pH of 1 standard units (su). Another drum labeled sulfuric acid in Area 8 was observed on its side and inaccessible for sampling and/or field characterization testing. Drums labeled as aluminum sulfate were located in Areas 8 and 12. Container sample results and a brief description of the sample material and location are provided in Appendix B – Table B-3. All container, soil, water, and asbestos samples collected at the Site by WESTON START on May 22, 2008 and June 30, 2008, were delivered to a representative of the designated laboratory, EA Group of Mentor, Ohio, under chain of custody for laboratory analysis.

3.4 ASBESTOS SURVEY METHODOLOGY

3.4.1 Survey and Sampling of the Fire-Damaged Debris Piles

The collection and laboratory analysis of suspect asbestos bulk samples was focused on the fire-damaged portion of the facility. Bulk samples were collected from materials suspected as Category I Non-friable ACM, Category II Non-Friable ACM, and Regulated ACM (RACM) to determine the presence of ACM within the debris piles. The collection of these bulk samples was limited to only the types of building materials which were suspect ACM. The collection and assessment of suspect ACM were focused on debris on the piles' surface. Heavy equipment was not used to inspect the debris piles. In addition to samples collected from the debris piles, WESTON START collected a limited amount of suspect asbestos bulk samples from building materials along the fringes of the fire-damaged portion of the facility. These bulk samples were collected from materials suspected as Category I Non-friable ACM, Category II Non-Friable ACM, and RACM to determine the presence of ACM within the specific building materials. The collection of these bulk samples was limited to only the types of building materials which were suspect ACM, and included pipe insulation, wall plaster, and an electrical circuit board. Facility basements and pits were not accessible for inspection. In the areas that were accessible for inspection, WESTON START observed that most of the piping inside the facility was not insulated.

Sampling was limited to the collection and laboratory analysis of one suspect ACBM sample per homogeneous area. This sampling limitation is based upon the uncertainty of the actual identification of the suspect ACBM and the quantification and location of suspect ACBM. According to Mr. Don McDonald of the Stark County LEPC, the fire at the Site occurred on or about February 20, 2008 and continued to smolder for approximately two weeks. The extensive fire damage to the building materials made identification of suspect ACBM very difficult, in some cases unfeasible.

A total of thirteen asbestos bulk samples, including a duplicate sample, were collected as part of the site assessment activities. Bulk samples of each visually identified suspect ACBM were placed into a sealable plastic bag and labeled with site-specific nomenclature. Each suspect ACBM sample was assessed to determine friability and probability of friability resultant from

normal demolition practices. Each suspect ACBM sample was classified as a Category I Non-friable ACM, Category II Non-friable ACM, or RACM. The approximate location of each bulk sample is identified in Appendix A – Figure A-4. Asbestos bulk sample results and a brief description of the sample material and location are provided in Appendix B – Table B-4.

Suspect ACM identified within the facility were classified in accordance to one of the following three categories:

- Category I Non-friable ACM is defined as ACM packing, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos.
- Category II Non-friable ACM is defined as any material, excluding Category I non-friable ACM, containing more than 1% asbestos that, when dry, cannot be crumbled, pulverized, or reduced to a powder by hand pressure. An example includes asbestos cement board.
- RACM is defined as a) friable ACM, b) Category I Non-friable ACM that has become friable, c) Category I Non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or d) Category II Non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by Subpart 61.141 of 40 CFR Part 61 (NESHAP Revision; Final Rule).

3.4.2 Survey of the Non-fire-damaged Debris Piles

The remainder of the facility was also inspected for suspect ACBM. Inspection of the suspect ACBM in the non-fire-damaged portion of the facility was limited to visual inspection from ground-level. Subsurface basements and pits were not accessible for inspection.

Suspect ACBM identified in the non-fire-damaged areas of the facility included, but were not limited to, fire brick, wall surface insulation, pipe insulation, and cement asbestos board. All identified suspect ACBM was found in poor condition. WESTON START observed that most of the piping inside the facility was not insulated.

3.4.3 Estimated Volumes of the Fire-damaged Debris Piles and Asbestos-containing Waste Material

Dimensions of the fire-damaged portion of the facility were obtained from an aerial photograph. The fire-damaged portion of the facility includes Areas 2, 3, and 6 (Appendix A – Figure A-5).

The approximate square footage for each area containing asbestos-containing waste material (ACWM) was multiplied by four (the estimated average depth of the fire-damaged debris, in feet) to estimate cubic footage of fire-damaged ACWM for each designated area. The laboratory analytical data of bulk samples collected from suspect ACBM determined if the area was ACWM, or non-ACWM. If one bulk sample tested positive for asbestos, then the entire designated area was classified as ACWM. Conservative estimates regarding the volume of ACWM were made because of the extensive fire damage to the facility, making identification of some building materials and potential sources of ACBM very difficult. Quantity take-offs included the partially intact walls within the fire-damaged area. The estimated volumes of ACWM and non-ACWM include:

- WESTON START estimates that the **total quantity of ACWM debris** within the fire-damaged portion of the Site is approximately **4,414 cubic yards, or 7,063 tons.**
- WESTON START estimates that the **total quantity of non-ACWM** debris within the fire-damaged portion of the Site is approximately **3,427 cubic yards, or 5,484 tons.**

A bulk sample was collected from building debris outside of the fire-damaged portion of the facility on a concrete ramp in Area 10. The approximate quantity of ACWM for Area 10 is estimated at three cubic yards, or 4.8 tons. Since this bulk sample tested positive for asbestos, WESTON START included the volume of clean-up of ACWM for this area in the total quantity of 4,414 cubic yards of ACWM.

3.5 SOIL AND WATER SAMPLE COLLECTION METHODOLOGY

WESTON START was tasked with collecting two surface soil samples (0 to 2 inches below ground surface [bgs]) designated for PCB analysis, two surface soil samples designated for VOC analysis, and four surface soil samples designated for total RCRA metals and TCLP RCRA metals analyses. WESTON START was also tasked with collecting two water samples designated for PCB analysis. The samples were placed in sample containers provided by the laboratory, sealed in plastic bags, labeled with site-specific nomenclature, and placed on ice in a cooler with a trip blank and temperature blank.

3.5.1 PCB Soil and Water Sample Collection

On May 22, 2008, WESTON START collected two soil samples designated for PCB analysis. Two locations were selected based on observations made by the OSCs during the site walk-through. The first location selected by the OSCs was located at the base of the western wall of the "bag house" in Area 5. An elevated transformer was observed mounted at the top of this wall, and oil stains were observed along the surface of the wall suggesting that the transformer had leaked or been drained. The floor of the "bag house" was covered in brown-to-black foundry sand, with an average depth of approximately 3 inches and piles up to 48 inches in depth. WESTON START used a disposable high-density polyethylene (HDPE) trowel to collect oil-stained sand from the surface at the base of the western wall beneath the transformer into a four-ounce clear glass jar (sample OCP-SS-052208-01.)

The second location selected for PCB soil sampling was located three feet north of the northernmost transformer located in the outdoor electrical substation on the southern portion of the Site. The four transformers located at the outdoor electrical substation are clearly labeled with certification stickers indicating that the transformer oils had been tested on August 25, 1982, and certified as containing less than 50 ppm PCBs. The ground surface surrounding the transformers was visibly stained black with oil. Additionally, a drain at the base of the northernmost transformer was observed to be uncapped and a sheet of oil-stained aluminum was situated beneath the drain. PCB soil sample OCP-SS-052208-02 was collected from the visibly oil-stained surface soil north of the transformer pad. The PCB sample results and locations are identified in Appendix A – Figure A-6 and Appendix B – Table B-5. Photographs are included in Appendix C.

On June 30, 2008, WESTON START collected two water samples designated for PCB analysis. These two water samples were collected after the laboratory analytical results of the PCB soil samples were submitted to U.S. EPA for review. Based upon the high concentrations of PCBs in the sand sample collected from the "bag house", U.S. EPA decided to collect water samples from a nearby trench within the building to determine if the PCB-contaminated sand and liquid had affected the trench water. A designated 16-ounce glass jar was lowered into the trench areas to collect the samples. Oil and water were transferred from the 16-ounce sampling jar into one-liter, amber glass jars and labeled with site-specific nomenclature (OCP-WT-063008-01 and

OCP-WT-063008-02). The PCB sample results and locations are identified in Figure A-6 and Table B-5. In addition to collecting the water samples, field personnel also documented additional oil staining along the surface of the wall, on the floor beneath the transformer, and continuing outside of the building.

3.5.2 VOC Soil Sample Collection

WESTON START collected two soil samples designated for VOC analysis at the direction of the OSCs. Both of the VOC soil samples were collected approximately 20 feet north of the two open overhead doorways along the south side of the "bag house" in Area 5. Surface soil sample OCP-SS-052208-03 was collected in the "bag house" north of the western overhead door, and surface soil sample OPC-SS-052208-04 was collected in the "bag house" north of the eastern overhead door. The sample matrix was moist, brown-to-black sand with signs of green lichen growth and numerous small mammalian animal tracks in the wet surface of the sand. Each of the VOC soil samples was collected and containerized in three five-gram Encore dedicated samplers. The VOC sample collection locations are identified in Appendix A – Figure A-7. Photographs of the wet sand in the "bag house" are included in Appendix C.

3.5.3 Total and TCLP RCRA Metals Soil Sample Collection

An Innov-X hand-held x-ray fluorescence (XRF) instrument was used as a screening tool to identify elevated concentrations of metals contamination in the soil at the Site. OSC Justice selected potential hot spots for metals contamination and operated the XRF instrument. A total of 25 XRF readings were collected. The ranges of RCRA metals detected with the XRF unit included arsenic (less than the level of detection [<LOD] to 20 ppm), barium (<LOD), cadmium (<LOD to 68.82 ppm), chromium (<LOD to 13,130.17 ppm), lead (<LOD to 306.69 ppm), mercury (<LOD), selenium (<LOD to 9.72 ppm), and silver (<LOD to 78.99 ppm). The XRF readings for all 25 screening locations are listed in Appendix A – Figure A-8 and Appendix B – Table B-6. U.S. EPA selected four soil sampling locations for laboratory analysis based on these XRF readings. The total and TCLP RCRA metals sample results and locations are identified in Appendix A – Figure A-9 and Appendix B – Table B-7.

A designated HDPE scoop was used to collect the top two-to-three inches of soil from each sampling location. Soil was placed into a designated aluminum tray, and homogenized. Soil

was then placed in glass jars with Teflon®-lined lids. Surface soil samples OCP-SS-052208-05, OCP-SS-052208-06, OCP-SS-052208-07, OCP-SS-052208-08, and OCP-SS-052208-09 were collected for laboratory analysis. Sample OCP-SS-052208-09 is a duplicate of OCP-SS-052208-08.

4. ANALYTICAL RESULTS

Laboratory analytical reports for all container, asbestos, soil and water samples are provided in Appendix D and data validation reports are provided in Appendix E.

4.1 SUMMARY OF CONTAINER SAMPLE ANALYTICAL RESULTS

One liquid sample was collected from a drum labeled methyl formate in Area 5 (Figure A-3). The sample was analyzed for flashpoint in accordance with method SW846-1010M/ASTM D93. Analytical results for the container liquid sample (OCP-DL-052208-01) indicated a flashpoint of less than (<) 45 degrees Fahrenheit (°F). The container sample analytical results are presented in Table B-3.

4.2 SUMMARY OF ASBESTOS ANALYTICAL RESULTS

Thirteen bulk samples were collected as part of the ACM survey. Twelve normal bulk samples were collected from suspect ACBM within the facility and one duplicate sample was collected for quality assurance. Four of the 12 bulk samples and the duplicate sample tested positive (greater than 1 percent [%] asbestos). The percentage of asbestos in these four bulk samples ranged from 10% to 20%. The asbestos sample analytical results are presented in Figure A-4 and Table B-4.

All samples were analyzed in accordance with polarized light microscopy, U.S. EPA Method 600/R-93/116. Point counting analysis (U.S. EPA Method 600/R-93/116 Point Counting – 400 point) for all 12 bulk samples was not conducted on the normal bulk samples because percentages of asbestos were greater than or equal to 10%.

4.3 SUMMARY OF SOIL AND WATER SAMPLE ANALTYICAL RESULTS

4.3.1 Summary of PCB Soil and Water Sample Analytical Results

Both of the PCB surface soil samples collected on May 22, 2008, were analyzed by the laboratory according to method SW846-8081. The surface soil sample (OCP-SS-052208-01) collected along the base of the western wall of the "bag house" in Area 5 beneath the transformer had a concentration of 150,000 milligrams per kilogram (mg/kg) of PCB Aroclor 1260. The surface soil sample (OCP-SS-052208-02) collected north of the transformer pad at the outdoor electrical substation had a concentration of 240 mg/kg of PCB Aroclor 1260. The PCB soil sample analytical results are reported in Figure A-6 and Table B-5.

Both of the PCB water samples collected on June 30, 2008, were analyzed by the laboratory according to method SW846-8081. The surface water sample (OCP-WT-063008-01) collected from the southern end of the trench was analyzed as two separate samples, OCP-WT-063008-01A and OCPWT-063008-01B because water and oil were present in the sample jar. The oil sample (OCP-WT-063008-01A) had a concentration of 1,800 mg/kg of PCB Aroclor 1260. The water sample (OCP-WT-063008-01B) had a concentration of 3,200 micrograms per liter (µg/l) of PCB Aroclor 1260. The surface water sample (OCP-WT-063008-02) collected from the northern end of the trench was analyzed as a single liquid sample and had a concentration of 4 µg/l of PCB Aroclor 1260. The PCB water sample analytical results are reported in Figure A-6 and Table B-5.

4.3.2 Summary of VOC Soil Sample Analytical Results

Both of the VOC surface soil samples collected inside the "bag house" on May 22, 2008, (OCP-SS-052208-03 and OCP-SS-052208-04) were analyzed by the laboratory according to method SW846-8260B. The analytical results for both samples were below the reporting limits (non-detect) of each of the organic compounds in the list of analytes. All of the analytes were also non-detect in the trip blank.

4.3.3 Summary of Metals Soil Sample Analytical Results

Four soil samples and one field duplicate were collected during the site assessment. Soil samples analyzed for total and TCLP RCRA metals included OCP-SS-052208-05, OCP-SS-052208-06,

OCP-SS-052208-07, OCP-SS-052208-08, and OCP-SS-052208-09. Soil sample OCP-SS-052208-09 is a duplicate of sample OCP-SS-052208-08.

Ranges of metal concentrations from the analytical results for the total RCRA metal samples include arsenic (<5.0 to <14.0 mg/kg), barium (11.4 to 204 mg/kg), cadmium (<1.2 to <1.7 mg/kg), chromium (<2.5 to 427 mg/kg), lead (<5.0 to 39.5 mg/kg), mercury (<0.12 to <0.16 mg/kg), selenium (<12 to <34 mg/kg), and silver (<2.5 to <3.4 mg/kg). None of the above soil samples documented total RCRA metal concentrations exceeding the Ohio EPA Voluntary Action Plan (VAP) Generic Direct-Contact Soil Standards (Commercial/Industrial Single Chemical Soil), pursuant to Ohio Administrative Code (OAC) 3745-300-08 (B) and (C).

Ranges of detected metal concentrations from the analytical results for the TCLP RCRA metal samples include barium (0.318 to 0.853 milligrams per liter [mg/l]) and chromium (<0.10 to 1.46 mg/l). All other analytical results for the TCLP RCRA metals were below the applicable reporting limits. None of the above soil samples documented TCLP RCRA metal concentrations exceeding the TCLP regulatory limits.

The soil sample analytical results for total and TCLP RCRA metals are reported in Figures A-9, and Table B-7.

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Factors to be considered in determining the appropriateness of a potential removal action at a site are delineated in the NCP at 40 CFR 300.415(b) (2). A summary of the factors applicable to the Site are presented below.

- **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.**

  Corrosive liquid (pH of 1) was identified in one drum labeled sulfuric acid and corrosive labeling was identified on 20 additional containers in Areas 5, 8, 12, and 13 during the site assessment. The drums were labeled sulfuric acid and aluminum sulfate. Pursuant to 40 CFR 261.22 (a) (1), the material in at least one of the sulfuric acid drums is considered to be hazardous based on the RCRA characteristic of corrosivity, which states: “a solid waste exhibits the characteristic of corrosivity if a representative sample. . . is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5…” One drum labeled

sulfuric acid and suspected of containing corrosive liquid was inaccessible for collection of a liquid sample for laboratory analysis; however, colorimetric pH paper strips were utilized by the field personnel to determine a pH equal to 1 for liquid in another drum labeled sulfuric acid.

Sampling results identified ignitable liquids in one drum labeled methyl formate and flammable labeling was identified on 10 other drums and 23 small containers. The laboratory flashpoint result from this drum sample was reported as below 45 degrees Fahrenheit. Pursuant to 40 CFR 261.21 (a) (1), this material is considered hazardous based on the RCRA characteristic of ignitability, which states: "a solid waste exhibits the characteristic of ignitability if a representative sample of the waste …is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140°F), as determined by the Pensky Martens Closed Cup Tester…" Unlike the majority of the drums staged at the Site, the two drums labeled "methyl formate" are in fair condition, closed, and staged inside the still-standing structure. However, access to these drums is unrestricted.

Samples collected during the site assessment have confirmed the presence of fire-damaged and highly weathered ACBM in the remnants of the structure. Asbestos is a hazardous substance as defined by 40 CFR Section 302.4 of the NCP. Asbestos is of potential concern because chronic inhalation exposure to excessive levels of asbestos fibers suspended in air can result in lung disease such as asbestosis, mesothelioma, and lung cancer. Subacute exposures as short as a few days have been shown to cause mesothelioma. The open, partially razed condition of the western portion of the facility additionally subjects the ACBM in the debris piles to wind and water transport mechanisms, increasing the probability for off-site mobilization of particulate matter through wind and surface water runoff.

During the site assessment, the field personnel noted dense patterns of impressions of animal tracks both outside and inside the facility, particularly in the wet sand inside the "bag house" where analytical results indicated concentrations of 150,000 mg/kg of PCB Aroclor 1260 in the sand. In accordance with the Toxic Substances Control Act (TSCA) regulations promulgated under 40 CFR Part 761.125 (a), "the reporting, disposal, and

precleanup sampling requirements…apply to all spills of PCBs at concentrations of 50 ppm or greater which are subject to decontamination requirements under TSCA". The PCB concentration (150,000 mg/kg) in the sand sample collected inside the "bag house" (OCP-SS-052208-01) exceeded the TSCA regulatory level of 50 ppm. The PCB concentration (240 mg/kg) in the soil sample collected north of the transformer pad at the outdoor electrical substation (OCP-SS-052208-02) also exceeded the TSCA regulatory level. Aroclor 1260 is one of the more persistent PCB congener blends in the environment, and the high molecular percentage of chlorination in Aroclor 1260 makes it one of the most toxic PCB congener blends to human and animal populations.

Unrestricted access to the Site could result in an accidental or intentional release of potentially hazardous substances stored in and around the facility. Although the Site is fenced, access is limited but possible in the western fire-damaged portion of the facility. During the site assessment, field personnel documented the presence of animals within the Site boundaries, and anecdotal information suggests that trespassers have been accessing the Site to collect scrap metal. Access onto the Site could also result in the potential exposure to the transformers and PCB-contaminated soil around the outdoor electrical substation, PCB-contaminated sand in the "bag house", PCB-contaminated water in the trench in Area 5, and all of the totes, drums, cylinders, tanks, and small containers documented at the Site. A significant portion of these hazards are located outdoors along the south side of the facility, within 200 feet of the East Branch Nimishillen Creek. Field personnel on site during the site assessment did not identify any storm water drains or other manmade conduits in direct connection with the Creek. However, surface water runoff and groundwater flow are potential pathways for the migration of potentially hazardous substances released at the Site to the Creek. There is significant visible evidence of oil-stained soil and stressed vegetation around the base of several transformers, process tanks, and drums in the southern portion of the site adjacent to the Creek.

The close proximity of residences and other vulnerable areas immediately surrounding the Site increases the likelihood of a release and/or exposure to potentially hazardous substances stored at the Site. Also, the tanks, totes, and drums are located outside and

inside the buildings with no secondary containment. Overall, the potential for exposure to potentially hazardous substances stored at the Site is high.

- **Actual or potential contamination of drinking water supplies or sensitive ecosystems.**

  The location of the tanks, totes, and drums outside and inside the building with no secondary containment increases the likelihood of a release of hazardous substances stored at the Site. The southern portion of the Site is covered in swamp and wetland vegetation. The East Branch Nimishillen Creek is located adjacent to the Site along the southern property boundary. The significant evidence of oil-stained soil around the base of several transformers, process tanks, and drums suggests that there have been multiple releases of potentially hazardous substances directly onto the ground surface. Soil sampling results indicated PCB concentrations exceeding the TSCA regulatory level in the oil-stained soil north of the outdoor electrical substation and in the sand inside the "bag house". Field personnel on site during the site assessment did not identify any storm water drains or other manmade conduits in direct connection with the Creek. However, surface water runoff and groundwater flow are potential pathways for the migration of potentially hazardous substances released at the Site to the Creek. Overall, the potential for a release and off-site migration of potentially hazardous substances stored at the Site is high.

- **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.**

  During the site assessment, WESTON START observed tanks, totes, drums, cylinders and small containers of material located outside and inside the facility. Liquid waste considered to be hazardous based on the RCRA characteristic of corrosivity was identified in one drum and corrosive labeling was identified on 20 additional containers in Areas 5, 8, 12 and 13 during the site assessment. Liquid waste considered to be hazardous based on the RCRA characteristic of ignitability was identified in one drum and flammable labeling was identified on 10 other drums and 23 small containers during the site assessment. Several of the drums, totes, and small containers were deteriorated and/or leaking. Most of the totes at the Site are empty. Further deterioration of the

containers may allow additional quantities of potentially hazardous substances to be released onto the ground. Unrestricted access to the Site could result in an accidental or intentional release of potentially hazardous substances stored in and around the facility. Although the Site is fenced, access is limited but possible in the western fire-damaged portion of the facility. During the site assessment, field personnel documented the presence of animals within the Site boundaries, and anecdotal information suggests that trespassers have been accessing the Site to collect scrap metal. Access onto the Site could also result in the potential exposure to potentially hazardous substances stored within the totes, drums, cylinders, tanks, and small containers documented at the Site. A significant portion of these hazards are located outdoors along the south side of the facility, within 200 feet of the East Branch Nimishillen Creek. Field personnel on site during the site assessment did not identify any storm water drains or other manmade conduits in direct connection with the Creek. However, surface water runoff and groundwater flow are potential pathways for the migration of potentially hazardous substances released at the Site to the Creek. There is significant visible evidence of oil-stained soil and stressed vegetation around the base of several transformers, process tanks, and drums in the southern portion of the site adjacent to the Creek.

The close proximity of residences and other vulnerable areas immediately surrounding the Site increases the likelihood of a release and/or exposure to potentially hazardous substances stored at the Site. Also, the tanks, totes, and drums are located outside and inside the buildings with no secondary containment.

- **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.**

  Weather conditions could contribute to the further deterioration of the containers, and a subsequent further release of potentially hazardous substances stored in tanks, totes, drums, cylinders, and small containers at the Site. Evidence of oil-stained soil around the base of several transformers, process tanks, and drums suggests that there have been multiple releases of potentially hazardous substances directly onto the ground surface. Precipitation could promote the further migration of released material into the soil, groundwater, and/or the East Branch Nimishillen Creek. Precipitation could also

promote the further release and migration of PCB contamination exceeding the TSCA regulatory level, which was documented in two areas at the Site: in the soil north of the outdoor electrical substation; and leaking from a transformer inside the "bag house" to sand on the floor, a trench filled with water, and the outside environment. Based on the damaged condition and presence of ACBM within these debris piles, the fire-damaged debris at the Site also presents a threat to human health and the environment through migration as windblown particulates or suspended in surface water runoff.

- **Threat of fire or explosion.**

  There is a moderate threat of fire or explosion due to unrestricted access to the Site and the presence of two 55-gallon steel drums labeled methyl formate, nine additional drums labeled flammable, one cylinder labeled flammable, and 23 small containers labeled flammable. Additionally, at least one fire has already occurred at the Site, which destroyed the western portion of the facility on or about February 20, 2008. Approximately 20 percent (%) of the facility was damaged by the fire.

- **The availability of other appropriate federal or state response mechanisms to respond to the release.**

  Ohio EPA has requested assistance from the U.S. EPA Region V Emergency Response Branch in performing a time-critical removal at the Site.

6. CONCLUSIONS AND RECOMMENDATIONS

Concentrations of asbestos which would determine an ACWM removal activity include any detectable asbestos fibers documented in the bulk samples collected from the fire-damaged debris. This determination is based upon previous site investigations in which ACM was documented within the fire damaged debris piles. This determination is also consistent with Subpart 61.141 of 40 CFR Part 61 (NESHAP Revision; Final Rule) definition of ACWM, "…. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing."

As stated previously, the western portion of the facility was destroyed by fire on or about February 20, 2008 and continued to smolder for approximately two weeks. The extensive fire

damage to the building materials made the visual identification of suspect ACBM more difficult. The determination of which areas of fire-damaged debris should be taken off site for disposal as ACWM should be based upon the general location in which the ACBM was identified. The general location in which the ACBM was identified should include the location in which the bulk sample(s) tested positive for asbestos, and the suspect source location(s) of the ACBM.

ACWM and RACM must be taken to a landfill that is operated in accordance with 40 CFR Part 61.154 or to a U.S. EPA-approved site that converts asbestos waste to non-asbestos material in accordance with 40 CFR Part 61.155.

Based upon the limitations of the sample methodologies conducted during site assessment activities, the classification of the debris piles may change during the actual removal of the debris piles. This reclassification will be limited to changing non-ACWM-designated debris to ACWM-designated debris if suspect RACM or Category II Non-friable ACM is discovered during the removal process.

All containers should be removed from the Site for proper disposal, including, but not limited to the 55-gallon steel drums labeled methyl formate, 55-gallon polyethylene drums labeled aluminum sulfate, 55-gallon polyethylene drums labeled sulfuric acid, 55-gallon steel drums labeled flammable, small containers labeled flammable, tanks, totes, and cylinders.

Surface soil and sand contaminated with PCBs at concentrations exceeding TSCA regulatory levels should be removed from the Site for proper disposal. Trench water contaminated with PCBs at concentrations exceeding Ohio EPA Water Quality Standards [Ohio Administrative Code (OAC) 3745-1-40, water quality criteria for water supply use designations, and OAC 3745-1-41, water quality criteria for recreation use designations] should be removed from the Site for proper disposal. Leaking transformers contributing to the PCB contamination of soil, sand, and water at the Site should be removed for proper disposal.

APPENDIX A
FIGURES

APPENDIX B
TABLES

APPENDIX C
PHOTOGRAPHIC DOCUMENTATION

APPENDIX D
LABORATORY ANALYTICAL REPORT

APPENDIX E
DATA VALIDATION REPORT