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March 6, 2012  
Project Number 0058-373-01

Ms. Ann Kolata  
City of South Bend  
Department of Community and Economic Development  
227 W. Jefferson Blvd.  
South Bend, IN 46601

**Re: Environmental Completion Report  
Former Studebaker Foundry  
1100 Prairie Avenue  
South Bend, Indiana**

Dear Ann:

Weaver Boos Consultants, LLC (Weaver Boos) has completed this Environmental Completion Report for the referenced site for your review, comment, and approval. A copy has been forwarded to Mr. Doug Stuart of Hull and Associates for his review and comment, as well. Once comments are received, the draft report will be finalized. Note, due to the overall size of the backup documentation, several appendices are provided electronically on one flash drive. The flash drive also includes a copy of this report.

We appreciate this opportunity to be of service and are looking forward to working with you on this project. If you should have any questions or comments concerning this report, please do not hesitate to contact our office.

Sincerely,

**Weaver Boos Consultants, LLC**



Edward B. Stefanek  
Senior Project Manager

Attachments: One hard copy and one electronic copy of the Environmental Completion Report for Project Number 0058-373-01

cc: Mr. Doug Stuart, Hull & Associates, Inc.

March 6, 2012  
Project Number 0058-373-01

**Environmental Completion Report  
South Bend Cleanup RLF Program  
Former Studebaker Foundry  
1100 Prairie Avenue  
South Bend, Indiana**

Prepared for:

**The City of South Bend Redevelopment Commission**

227 W. Jefferson Blvd #1200  
South Bend, IN 46601

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CHICAGO, ILLINOIS  
NAPERVILLE, ILLINOIS  
SPRINGFIELD, ILLINOIS  
SOUTH BEND, INDIANA  
COLUMBUS, OHIO  
FORT WORTH, TEXAS  
SUNSET HILLS, MISSOURI  
DENVER, COLORADO  
GRAND RAPIDS, MICHIGAN  
CLERMONT, FLORIDA

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**GEO-ENVIRONMENTAL ENGINEERS  
AND SCIENTISTS**



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## 1.0 INTRODUCTION

The City of South Bend Redevelopment Commission (the City) has applied for a loan and subgrant from the South Bend Cleanup Revolving Loan Fund Program to fund the environmental portions of the demolition of the former Studebaker Foundry located at 1100 Prairie Avenue, South Bend, Indiana (the Site). The USEPA Brownfield Program funds the South Bend Cleanup Revolving Loan Fund (Fund) to carry out cleanup activities and redevelopment projects at brownfield sites. The City of South Bend in turn provides loans and subgrants from this Fund to eligible property owners of these brownfield sites to identify and mitigate environmental impediments to economic redevelopment.

Prior to the demolition project, several potential environmental conditions were identified at the Site including soil and groundwater impacts, underground storage tanks (USTs), and significant amounts of asbestos-containing materials (ACMs) that required abatement prior to demolition. The funding was used to address these conditions where encountered during demolition, which commenced on January 10, 2011 and was completed on February 10, 2012. **Figures 1 and 2** illustrate the Site location and layout. At the request of the Property owner, the City of South Bend Redevelopment Commission, Weaver Boos Consultants, LLC (Weaver Boos) has prepared this final Environmental Completion Report (ECR) that summarizes the activities associated with environmental conditions identified during the course of the demolition project.

Presently, the Site, and adjoining properties to the north and east have been enrolled into the Indiana Voluntary Remediation Program (VRP) under the 1996 VRP Guidance. The VRP numbers are 6020803 (soils) and 6030904 (groundwater). Weaver Boos prepared a Remediation Work Plan (RWP), dated April 27, 2010, to address the potential environmental conditions encountered at the Site (as a subset of VRP #6020803) during the demolition project.

One objective of the project was to remediate any soils that may be encountered during demolition which are impacted above the IDEM 1996 Tier II nonresidential default cleanup standards for volatile organic compounds (VOCs), semi-VOCs, total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and extended range organics (ERO), cyanide, thallium, nickel, copper, antimony, and RCRA 8 heavy metals to below the nonresidential default standards.

## 1.1 Site Background Information

The Site is the former Studebaker Foundry located at 1100 Prairie Avenue in South Bend, Indiana (see **Figures 1 and 2** for site location and layout). The 19.2 acre tract was most recently occupied by a plumbing supply company, Underground Pipe and Valve (UP&V), and used for piping materials storage (for road, sewer, and building construction). The Property was completely vacated by the Fall of 2010. The current Property owner is the City of South Bend Redevelopment Commission. The owner's contact person is Ms. Ann Kolata, Senior Redevelopment Specialist, City of South Bend Department of Community and Economic Development, 227 West Jefferson Blvd., South Bend, Indiana 46601 (telephone number: 574-235-9374).

UP&V occupied the Property from 1981 to 2010. The Site is zoned general industrial. This zoning district is reserved for development of manufacturing and processing facilities.

Prior to UP&V, the Site was used for warehouse storage by Prairie Company, Palmer Shoe Manufacturing, and Michiana Warehouse Company. From 1924-1969 the Site was used as an engine foundry (Studebaker Company, 1924-1964, and Cummins Engine Company, 1964-1969). From 1891-1917 the Site was occupied by the Studebaker Brothers Manufacturing Company Lumber Yard.

One building, approximately 568,000 square feet, occupied the Site. The building was constructed with brick masonry and concrete floors, although a portion of the flooring was comprised of wood block. Approximately 80% of the building was characterized as being in dilapidated condition. Within this portion of the building were several large piles of debris including scrap wood and metal, trash, chemical containers, empty drums, and miscellaneous parts. Surrounding the building to the north were areas used by UP&V as employee parking and material staging areas; these areas were covered with a crushed stone ground surface. The remainder of the Property was overgrown by weeds and brush. An abandoned dry stormwater retention basin was present at the southwest corner of the Site.

During 2010, the dry stormwater retention basin was redesigned and converted into a stormwater retention basin for Cotter Street, as part an Indiana Department of Transportation (INDOT) street reconstruction project.



The Site is bordered to the north and east by vacant grass-covered undeveloped land. These adjoining properties and the Site were formerly part of the Studebaker automotive manufacturing complex. Multiple manufacturing buildings occupied the properties to the east and north but have been demolished by the City to promote redevelopment. To the south of the Site is Cotter Street followed by light industrial properties occupied by warehouse/offices (Martins Super Markets and Ferguson Enterprises). Bordering the Site to the west is Prairie Avenue followed by First Response and Omni Source metal recycling.

## **1.2 Previous Environmental Investigation**

### **1.2.1 Phase I Environmental Site Assessment**

In January 2001 and June 2009 a Phase I Environmental Site Assessment (ESA) was completed by Hull and Associates, Inc. for the Site. A number of recognized environmental conditions (RECs) were identified. A REC is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

**Figure 3** shows the location of the RECs. The RECs include:

- B1 - One 500-gallon UST reportedly stored gasoline, located north of the west portion of the building;
- B2 - One 10,000-gallon UST reportedly stored fuel oil, located north of the east portion of the main building;
- B3 - Three 10,000-gallon core oil tanks located north of the east portion of the main building;
- B4 - A pit with steel-plate cover located northwest of the former pump house;
- B5 - Former rails located on the east and north portions of the Site;

- B6 - Two outfalls from the direction of the facility to the reservoir located on the southwest portion of the Site;
- B7 – Half buried metal structure located in the east wall of reservoir;
- B8 - Numerous pits located inside the foundry filled with wood and metal debris;
- B9 – Bins with sand and potential historic coke pits; and
- B10 - Four historic ASTs located at the south end of the building.

In addition, there were numerous locations in the building where potential ACMs were identified. Also identified during the Phase I ESA were numerous drums and 5-gallon pails stored within the building. Some of the containers were observed to be leaking. Also several areas of the building including below-grade tunnels were not inspected due to safety concerns associated with the dilapidated condition of the building.

### **1.2.2 Phase II Environmental Site Assessment**

As a result of the findings from the 2001 Phase I ESA, Hull & Associates, Inc. completed a Phase II ESA on the site in December 2001 and an asbestos survey in December 2003. Numerous soil and groundwater samples were collected across the Site to further assess the RECs identified during the Phase I ESA.

#### **1.2.2.1 Soil Investigation**

As part of the Phase II ESA, multiple soil samples were collected from across the Site and tested for potential COCs including total petroleum hydrocarbon (TPH), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and heavy metals including lead. The samples were collected at a depth ranging between 0-4 feet. Several COCs were detected including several heavy metals and SVOCs. No COCs were detected at concentrations that exceeded the IDEM 1996 nonresidential cleanup criteria.

#### **1.2.2.2 Groundwater Investigation**

As part of the Phase II ESA, groundwater samples were collected from monitoring wells that were installed on the Site. Chlorinated VOCs and heavy metals (lead) were detected at concentrations that exceeded IDEM 1996 residential and nonresidential cleanup criteria. The groundwater was encountered at a depth of approximately 20 feet below the ground surface. Because of its depth, the impacted groundwater was not a factor during the demolition project.

### 1.2.2.3 Asbestos Containing Materials

Several asbestos containing materials (ACMs) were identified in the building as part of the survey completed by Hull & Associates, Inc. in 2003. The materials included transite panels, floor tile and mastic, and thermal system insulation around pipes, ovens, heaters, chimney stacks and tank boilers. Most of this material was delaminated from its substrate. This material was removed prior to demolition. The roofing material also contained asbestos but was classified as Category I nonfriable material and was not removed prior to demolition.

Estimated quantities of ACM include:

- 12,000 linear feet of piping insulation and fittings;
- 476,000 square feet of roofing material;
- 7,000 square feet of transite panels;
- 8,000 square feet of oven duct panels;
- 300 square feet of thermal insulation around white heater in boiler room;
- 700 square feet of ACM in chimney stacks;
- 150 square feet of ACM surrounding water tanks in boiler room;
- 1,100 square feet of ACM surrounding tanks on catwalk in boiler room;
- 4,000 square feet of vinyl floor tile/mastic.

### 1.2.3 **Voluntary Remediation Program**

Based on the results of the Phase II ESA that was completed, the Site, and the adjoining properties to the north and east, were enrolled into the Indiana Voluntary Remediation Program (VRP) under the 1996 VRP Guidance. The VRP numbers are 6020803 (soils) and 6030904 (groundwater). The VRP Applicant is the City of South Bend Redevelopment Commission.

### 1.3 **Supporting Documentation**

Site documentation which was utilized in preparing this ECR is listed below. (Additional references used in compiling this ECR are listed in **Section 4.0**.)

DLZ Indiana. “Project Manual, Studebaker Area A Demolition Phase IV, Bid Package B, City of South Bend, Board of Public Works”, June 2010.

Hull & Associates, Inc. “Phase I Environmental Site Assessment for the Area A Properties, South Bend, Indiana, Hull Document Number SBI002.100.001,” January 2001.

Hull & Associates, Inc. “Initial Phase II Environmental Site Assessment for the Area A Properties, South Bend, Indiana, Hull Document Number SBI002.200.0012,” January 2002.

Hull & Associates, Inc. ”Asbestos Survey for the Underground Pipe and Valve Building, South Bend, Indiana, Hull Document Number SBI014.100.0005,” December 2003.

Hull & Associates, Inc., “Phase I Environmental Site Assessment of the Studebaker Foundry/Underground Pipe & Valve Property, South Bend Indiana, Hull Document Number SBI050.400.0009,” July 2009.

Hull & Associates, Inc., “Remediation Work Plan for the Voluntary Remediation Program for the Area A Properties, VRP Site # 6020803 (Soil), South Bend, Indiana, Hull Document Number SBI017.200.0010,” April 2004.

Hull & Associates, Inc. Quality Assurance Project Plan Revision 1 for USEPA Region 5 Hazardous Substances and Petroleum Brownfields Assessment Grant, South bend, Indiana, prepared for the City of South Bend, March 2006 and amended April 23, 2009.

Weaver Boos Consultants, LLC., “Soil Characterization of Former Studebaker Foundry Reservoir, South Bend, Indiana, WB Project Number 0058-375-01”, March 4, 2010.

#### **1.4 Remedial Action Objectives**

The project included the removal and disposal of nonhazardous and hazardous solid and liquid waste encountered within the demolition limits. The horizontal demolition limits are defined as shown on **Figure 4**. The area of the former stormwater retention pond was excluded from the demolition project due to the Cotter Street Reconstruction Project. Stormwater from the street now discharges into the stormwater retention pond, which was redesigned as part of the street reconstruction project. The vertical demolition limit was the vertical extent of the building components (footings, tunnels) which were removed in their entirety. Items identified within the demolition limits that required removal and recycling/disposal included wood block flooring, railroad ties and ballast, contaminated concrete, underground storage tanks and pits, lead-based paint, and foundry waste.

Known or suspected environmental conditions prior to demolition are identified on **Figure 3**. One objective of this demolition project was to remove and/or remediate impacted soils associated with the recognized environmental conditions to below 1996 VRP Tier II nonresidential cleanup levels for applicable COCs including VOCs, semi-VOCs, TPH (GRO and

ERO), PCBs, cyanide, arsenic, lead, selenium, silver, cadmium, chromium, mercury, barium, cyanide, copper, antimony, nickel, and thallium. Impacted soil above 1996 VRP Tier II nonresidential cleanup levels were removed and disposed of at a designated landfill (nonhazardous soil was disposed of at Earthmovers Landfill located in Elkhart, Indiana, hazardous soil was disposed of at Wayne Disposal Landfill located in Bellville, Michigan).

To determine whether soil removal was required, screening soil samples were collected and analytically tested. In some cases, waste characterization samples were collected and analytically tested (foundry sand) (see **Figure 4**). The number of samples collected and test methods used were dictated by the environmental conditions identified and were in accordance with Chapter 3 of the Indiana RISC Technical Guide and the Quality Assurance Project Plan (QAPP) provided in the RWP.

In addition, confirmatory sampling was conducted across the entire Site as shown on **Figure 5**. Discrete samples were collected from the surface and subsurface soils at each sample location (approximately one sample point for every  $\frac{1}{4}$  acre). Each sample was tested for TPH (GRO and ERO), VOCs, semi-VOCs, arsenic, barium, cadmium, chromium (total), selenium, silver, mercury, lead, copper, nickel, antimony, and thallium. One of every four surface and four subsurface confirmatory samples (approximately one sample point per one acre) were also tested for total and free cyanide. Total chromium concentrations detected in confirmatory samples were compared to the 1996 Tier II nonresidential cleanup concentration for hexavalent chromium. If this standard was exceeded then the confirmatory sample was also analyzed for hexavalent chromium and the results were then compared to the applicable standard.

In instances where the sample results indicate concentrations that exceeded 1996 Tier II nonresidential cleanup concentrations, the soil was removed and disposed of at a designated off-site landfill. Otherwise, the soil either remained or was reused elsewhere on-site within the VRP project site boundary.

In instances where impacted soil was removed, additional confirmatory soil samples were collected from the sidewalls and floor of the excavation in accordance with Chapter 6 of the RISC Technical Guide to verify that the impacted soil was removed. The number of samples collected and test methods used were dictated by the environmental conditions identified. Once the impacted soil was removed, the resultant excavation was backfilled.



## 1.5 Remedial Actions Undertaken

Based on the evaluation of potential soil remedial alternatives, excavation, removal, and off-site landfill disposal was the selected soil remedial alternative for implementation at this site. Impacted soil above 1996 VRP Tier II Nonresidential Cleanup Criteria was to be removed and disposed of at a designated landfill.

Remedial activities commenced on-site in January 2011 with asbestos abatement activities. Once the asbestos removed, demolition began of the foundry. By the end of the demolition project, the following materials were removed.

- 950 cubic yards of asbestos-containing materials
- 3,857 lamps
- 41 HID lamps
- 5 mercury switches
- 12,636 lbs of PCB ballasts
- 2,900 gallons of liquid waste (paints, sealers, oils, solvents, etc.) from various containers ranging in size from 1-gallon to 55-gallon drums.
- 5,030 tons of foundry sand (identified in the tunnels and on main floor of foundry) (see **Section 2.2.1.3** for additional information)
- 300 tons of PCB-contaminated concrete (see **Section 2.2.1.2** for additional information). 145 tons of concrete ( $\leq 50$  ppm) was disposed of at a Subtitle D landfill (Earthmovers Landfill operated by Waste Management in Elkhart, Indiana). 155 tons of concrete ( $> 50$  ppm) was disposed of at a hazardous waste disposal facility (Wayne Disposal Landfill operated by Environmental Quality in Bellville, Michigan).
- 1,335 tons of PCB-contaminated soil (see **Section 2.2.1.2 and 2.2.2.1** for additional information). 170 tons of soil ( $\leq 50$  ppm) was disposed of at a Earthmovers Landfill. 1,160 tons of soil ( $> 50$  ppm) was disposed of at a Wayne Disposal Landfill.
- Twelve underground storage tanks (USTs) (see **Section 2.2.1.1** for additional information)
- 54,025 gallons of liquid waste (primarily water) from the underground storage tanks

- 148 tons of lead-contaminated soil and petroleum-contaminated soil (see **Sections 2.2.1.1 and 2.2.2.2** for additional information).

Supporting documentation (landfill approvals, characterizations, manifests, etc.) that describes the various waste streams and their disposal destinations are provided in **Appendix A**.

During demolition activities, 96 test pits were excavated across the Site as shown in **Figure 5**. Soil samples were collected from a depth of 0-2 feet, 4-5 feet, and beneath the tunnels and tested in accordance with the confirmatory sampling plan outlined in the RWP submitted to the USEPA and IDEM. Additional soil and waste characterization sampling and analysis were completed for areas of environmental concern (**Figure 4**) identified during demolition.

## 2.0 CONFIRMATION SOIL SAMPLING

### 2.1 Potential Sources of Soil Contamination/Pre-Demolition

As outlined in the RWP, several recognized environmental conditions (see **Figure 3**) were identified prior to demolition activities including:

- B1 - One 500-gallon UST reportedly stored gasoline, located north of the west portion of the building;
- B2 - One 10,000-gallon UST reportedly stored fuel oil, located north of the east portion of the main building;
- B3 - Three 10,000-gallon core oil tanks located north of the east portion of the main building;
- B4 - A pit with steel-plate cover located northwest of the former pump house;
- B5 - Former rails located on the east and north portions of the Site;
- B6 - Two outfalls from the direction of the facility to the reservoir located on the southwest portion of the Site;
- B7 – Half buried metal structure located in the east wall of reservoir;
- B8 - Numerous pits located inside the foundry filled with wood and metal debris;
- B9 – Bins with sand and potential historic coke pits; and
- B10 - Four historic ASTs located at the south end of the building.

During a Phase II ESA completed by Hull, and a soil characterization of the retention basin by Weaver Boos, detectable concentrations of heavy metals (primarily arsenic and lead) and PAHs (primarily benzo(a) pyrene) were identified in the surface and subsurface soils. In addition, heavy metals (lead, arsenic, and chromium) and trichloroethene were identified in the groundwater.

#### 2.1.1 Confirmation Soil Sampling/Pre-Demolition

A total of 32 soil samples were collected from the site and submitted for laboratory analysis during the Phase II ESA conducted by Hull in 2002 and the reservoir characterization completed by Weaver Boos in 2010. The samples were analyzed for various constituents including volatile organic compounds, total petroleum hydrocarbons, semivolatile organic compounds, arsenic,

barium, cadmium, chromium, lead, and mercury. The results were compared to the IDEM 1996 Tier II Nonresidential Cleanup Criteria and current RISC policy industrial default closure levels. Several constituents were detected including trace levels of acetone, toluene, xylenes, TPH and several SVOCs and heavy metals. However, none of the concentrations detected exceeded the 1996 VRP Tier II Nonresidential Cleanup Criteria. Arsenic, lead, and benzo(a)pyrene were detected in several samples at concentrations that exceed current RISC policy industrial default closure levels (but not 1996 Tier II Nonresidential Cleanup Criteria). Additional information regarding these investigations can be found in the RWP.

## **2.2 Confirmatory Soil Sampling/During Demolition**

### **2.2.1 Identified Locations of Environmental Concern**

Several areas of environmental concern (see **Figure 4**) were identified across the Site during demolition activities. These areas of concern included:

- Twelve Underground Storage Tanks/Two Vaults/One Potential Dry Well
- Two Transformer Rooms/PCB Concrete and Soil Impacts
- Foundry Sand
- Rail Spurs
- Coke Pits/Sand Bins
- Lead-impacted and PCB-impacted Soil

Grab samples were collected and analytically tested from or beneath all potential environmental conditions identified during demolition to assess whether remediation was warranted in each area. If impacted soil (i.e., COCs greater than 1996 Tier II Nonresidential Criteria) was identified and removed, additional confirmatory soil samples were collected from the sidewalls and floor of the excavation to verify that the impacted soil has been removed. The number of samples collected and test methods used were dictated by the environmental conditions identified and shall be in accordance with Chapter 6 and 8 of the Indiana RISC Technical Guide and the QAPP submitted earlier in the RWP. A copy of all of the analytical laboratory reports along with Level IV Data Packages are provided in **Appendix C**.

The demolition contractor was responsible for surveying, using global positioning satellite (GPS) methods, the location of all areas of environmental concern discovered during the demolition project. A copy of the surveyed areas of environmental concern is provided in **Appendix B**.

#### 2.2.1.1 Underground Storage Tanks/Vaults/Dry Well

Twelve underground storage tanks (USTs), two vaults, and one potential dry well were removed from the Site. Each tank was comprised of bare steel. Closure documentation associated with the USTs is provided in **Appendix A**. The general location of the USTs are illustrated in **Figure 6**. The specific location and size of each tank at each general location is illustrated in **Figures 6.1, Figure 6.2, 6.3, and 6.4**. Tank #9 and Tank #10 were removed from a nearby site, not within the boundaries of foundry. Tanks 1, 3, 6, 7, 8, 13, and 14 were empty. Tank 2 contained approximately 1500 gallons of core oil. Tanks 4 and 5 contained approximately 50,000 gallons of primarily water. Tank 8 contained approximately 600 gallons of water. Tanks 11 and 12 contained water.

Soil samples were collected from the excavated fill, sidewalls, and floor of each tank excavation. Samples were submitted to an analytical laboratory for analysis. Analytical parameters included TPH-ERO, TPH-GRO, barium, cadmium, chromium, lead, nickel, zinc, PCBs, PNAs, and VOCs. Results are tabulated on **Table 1** and compared to the 1996 VRP Tier II nonresidential requirements. Although detections were identified, the concentrations did not exceed the 1996 VRP Tier II nonresidential requirements. A limited amount of excavated soil was removed beneath Tank #8 and disposed of at a Subtitle D landfill. The soil was stained and confined to within 1-2 feet of the tank shell. After the soil was removed, sidewall and floor samples were collected to verify cleanup (see **Table 1**)

Two vaults were identified at the southeast corner of the foundry (see **Figure 6 and Figure 6.4**). These twin vaults were open on top. One vault contained water which was subsequently discharged into the city sewer once an industrial discharge permit was obtained. The second vault, which was adjacent to the first, contained foundry sand. Both vaults had a concrete floor. Upon removal of the vaults, Weaver Boos screened the underlying soils. There were no visual indications of impact. The soils were analyzed in accordance with the RWP. Although detections were identified, the concentrations did not exceed the 1996 VRP Tier II nonresidential requirements (see **Table 1**).



One potential drywell was identified as shown in **Figures 6 and 6.3**. The dry well was empty. The underlying soils were screened. There were no visual indications of impact. Although detections were identified, the concentrations did not exceed the 1996 VRP Tier II nonresidential requirements (see **Table 1**).

#### 2.2.1.2 Transformer Rooms

The concrete floor of two empty transformer rooms (TRAB and TRC) (see **Figures 4 and 7**) was screened for polychlorinated biphenyls (PCBs) as part of the demolition contract. Results indicated elevated PCBs within the concrete at both locations. Weaver Boos subsequently collected additional concrete samples from both floors to further characterize the PCB impacts. A summary of those results are provided in the May 5, 2011 Self-Implementing PCB Remediation Work Plan submitted to the USEPA and IDEM. A copy of this notification is provided in **Appendix A**. In summary, the results indicated that the concrete required removal and disposal at either a hazardous waste disposal facility or Subtitle D landfill. Recycling was prohibited. The work plan also included soil sampling beneath the concrete after it is removed. The sampling was conducted in accordance with Subpart O of 40 CFR 761. The USEPA subsequently approved the work plan on June 20, 2011. A PCB Cleanup Completion Report is forthcoming to both the USEPA and IDEM. PCB-contaminated concrete disposal documentation is provided in **Appendix A**.

#### Transformer Room AB (In Tunnel – 15 feet below grade)

Once the concrete was removed, eleven nine-point composite soil samples were collected on November 23, 2011 beneath the entire transformer room in accordance with the compositing requirements outlined in Subpart O of 40 CFR 761 (see **Figure 7.1A**). The results indicated PCB concentrations above 1996 VRP Tier II nonresidential cleanup criteria. However, at six locations contained the PCB concentrations were below the federal low occupancy cleanup criteria of 25 ppm (40 CFR Part 761.61) (see **Table 2**). No additional excavation occurred at these locations due to the location of the impacted soil (greater than 15 feet below surface grade) and subsequent low potential for PCB exposure.

On December 6, 2011, an additional three feet of PCB-impacted soil was removed at the other five sample locations and disposed at a hazardous waste facility (Wayne Disposal Landfill in Belleville, Michigan). Depth below the ground surface was 18 feet. Composite samples were collected and tested for PCBs. Results indicated that three areas still contained PCB

concentrations above 25 ppm (see **Figure 7.1B**). On December 12, 2011, after another three feet of soil was removed (depth below ground surface is now 21 feet) from the three impacted areas (TRAB-6, TRAB-10, and TRAB-11), additional composite floor samples were collected and tested (see **Figure 7.1C**). In addition, composited sidewall samples were collected and tested for PCBs. Results indicated only one area (TRAB-11) remained impacted at PCB concentrations greater than 25 ppm (see **Figure 7.1D**). Another one foot of soil was removed. Another composited sample was collected on December 19, 2011. The sample was noticeably saturated with groundwater. The PCB concentration was below 25 ppm. No further excavation or sampling was completed. PCB-contaminated soil disposal documentation is provided in **Appendix A**. Analytical results are tabulated in **Table 2**.

#### Transformer Room C (at grade)

Once the concrete was removed, forty-five discrete soil samples were collected on October 11, 2011 beneath the entire transformer room in accordance with the 1.5 meter grid spacing requirements outlined in Subpart O of 40 CFR 761 (see **Figure 7.2A**). The results indicated PCB concentrations above 1996 VRP Tier II nonresidential cleanup criteria at most locations (see **Table 3A**).

On November 23, 2011, after an additional 3-4 feet of PCB-impacted soil was removed beneath the perimeter of the transformer room and disposed at a hazardous waste facility (Wayne Disposal Landfill in Belleville, Michigan), nine-point composite samples were collected and tested for PCBs (see **Figure 7.2 B**). Results indicated three areas still contained PCB concentrations above 1996 VRP Tier II nonresidential cleanup criteria. On December 6, 2011, after another 3-4 feet of soil was removed (depth below ground surface is now 8 feet) from the three impacted areas (TRC-1, TRC-4, and TRC-5) (see **Figure 7.2 C**). Results indicated that these same areas plus the area of TRC-9 contained PCB concentrations above 1996 VRP Tier II nonresidential cleanup criteria. Another 4-8 feet of impacted soil was removed and samples were recollected on December 12, 2012 from TRC-1, TRC-4, TRC-5, and TRC-9 (see **Figure 7.2 D**). Composited sidewall samples (TRC-SW-1, SW-2, SW-3, and SW-4) were also collected. The results indicated that PCB-impacted soil above 25 ppm (federal low occupancy PCB cleanup level) remained at TRC-SW-1, TRC-SW-4, and floor sample TRC-4. Additional excavation occurred at TRC-4 down to 16 feet and outward from the two sidewall samples. The impacted areas were resampled on December 19, 2011 (see **Figure 7.2 E**). Once excavation was

complete, the PCB concentrations were below 1996 VRP Tier II nonresidential cleanup criteria. All sample results are tabulated on **Tables 3A, 3B, and 3C**.

During the site-wide confirmation sampling (September 22, 2011), elevated PCB concentrations above 1996 VRP Tier II nonresidential cleanup criteria were detected at Test Pit (TP) 44 (see **Section 2.2.2.1**), which is adjacent to the Transformer Room C (see **Figure 7.2 F**). On October 11, 2011, a series of soil probes were located around the near TP-44, west of the transformer room. Discrete samples were collected and tested for PCBs to determine the extent of PCB soil impact outside the transformer room. The results are tabulated on **Table 3C**. Results indicate PCB soil impacts above 1996 closure criteria near the western perimeter of the transformer room. This impacted soil was removed and disposed off-site. Soil samples were collected following excavation (see **Figure 7.2 G**) to verify that soil cleanup was completed. Composite samples were collected on December 15, 2011 from the sidewalls and floor of an excavation ranging from 3-16 feet in depth. Results indicate PCB contamination below the 1996 VRP Tier II nonresidential cleanup criteria.

All PCB-contaminated soil disposal documentation is provided in **Appendix A**. The USEPA and IDEM were notified in October 2011 regarding the additional PCB impacts outside the western transformer room and also near one test pit.

#### 2.2.1.3 Foundry Sand

Concentrated areas of foundry sand were identified both below and above grade within the foundry building. The areas were identified above concrete slabs. The location of the foundry sand is identified on **Figure 8**. To characterize the foundry sand, samples were collected. Visually, the samples varied in color and consistency. Most of the foundry sand contained debris that would otherwise render the material unsuitable for reuse on-site. The sample locations are shown on **Figure 8.1A**. The samples were tested for various parameters as listed on **Table 5**. Of the fourteen samples collected, only two contained constituent concentrations (PNAs) above 1996 VRP Tier II nonresidential requirements. The foundry sand was removed and disposed of a Subtitle D landfill in Elkhart, Indiana (Earthmover's Landfill operated by Waste Management). Due to the confining nature of the foundry sand within the building, the analytical waste characterization results, our field observations of the underlying soil, and/or results of the Site-Wide confirmation sampling and testing (see **Section 2.2.2**), no additional screening of the

underlying soil was completed below the foundry sand areas. Disposal documentation is provided in **Appendix A**.

#### 2.2.1.4 Coke Pits and Sand Bins

Several compartments of sand were observed inside the eastern wall of the foundry. Adjacent to the sand bins were empty pits used to store foundry coke (see **Figures 9 and 9.1**). Three of the sand bins still contained sand. The sand could be described as fine light brown fine sand. The sand was not stained nor did it contain other indications of impact. Nine samples were collected from the three sand bins and tested for TPH-ERO, TPH-GRO, several heavy metals, PNAs, SVOCs, and VOCs. The sample results (see **Table 6**) were consistent with sand not yet processed by the foundry. There were no indications of impact excluding trace concentrations of PNAs far below both 1996 and current closure criteria. Heavy metal detections could be considered typical of background concentrations and again were below 1996 and current closure criteria. The sand was subsequently reused on-site as backfill.

Two soil samples (TP-97 and TP-98) were collected from beneath the empty coke pits for screening purposes and tested for similar constituents to that of the sand. The sample results are also shown in **Table 6**. There no indications of visual impact in the soil. The soil samples contained only trace concentration of PNAs and low concentrations of heavy metals far below 1996 closure criteria. No additional remedial actions were completed.

#### 2.2.1.5 Rail Spurs

Multiple rail spurs were identified across the Site as shown on **Figure 10**. Several soil samples were collected from a depth of 0-2 feet and/or 4-5 feet at the locations shown on **Figure 10.1A**. The samples were tested for TPH-GRO, TPH-ERO, several heavy metals, PNAs, SVOCs, and VOCs. The results of the analytical testing are tabulated in **Table 7**. Although detectable concentration of several various heavy metals, PNAs, and acetone were identified the samples collected, the concentrations detected did not exceed 1996 VRP Tier II nonresidential closure standards with one exception. The soil sample collected from TP-4 at a depth of 0-2 feet contained a lead concentration of 1,400 mg/kg. For more information regarding the remedial activities that occurred related to TP-4 see **Section 2.2.2.2**.

### 2.2.2 Site-Wide Confirmatory Sampling

As previously mentioned in **Section 1.4**, confirmatory sampling was conducted site-wide as shown on **Figure 5** and as proposed in the RWP. Discrete samples were collected from the surface soils (< 2 ft bgs) and subsurface soils (> 4 ft bgs) at each sample location. In the case of the samples collected beneath the tunnels, those samples were collected at an approximately depth of 15 feet bgs. Soil samples were collected from a soil pit created by an excavator.

Each sample was tested for TPH (GRO and ERO), VOCs, semi-VOCs, arsenic, barium, cadmium, chromium (total), selenium, silver, mercury, lead, nickel, antimony, thallium, and copper. One of every four confirmatory surface and four subsurface soil samples was tested for total and free cyanide. Total chromium concentrations detected in confirmatory samples were compared to the 1996 Tier II nonresidential cleanup concentration for hexavalent chromium. If this standard was exceeded then the confirmatory sample was also analyzed for hexavalent chromium and compared to the applicable standard. Due to the PCB concerns revealed during the characterization of the transformer room floor slabs, the analytical laboratory was also instructed to screen each sample for potential PCBs peaks in the chromatogram. The laboratory methodology is provided in **Appendix A**. If PCBs were suspect, the sample was tested for PCBs. A total of nine site-wide confirmatory samples (TP-44 0-2ft, TP-44 4-5ft, TP-45 0-2ft, TP-54 0-2 ft, TP-55 4-5 ft, TP-60 4-5 ft, TP-71 0-2 ft, TP-71 4-5ft, TP-46 0-2 ft) were tested for PCBs.

If the samples results indicate concentrations that exceed 1996 Tier II Nonresidential Cleanup Criteria, the soil was removed and disposed of at a designated off-site landfill (see **Section 2.2.2.1 and 2.2.2.2**). Additional soil verification samples were collected and tested to verify the impacted soil has been removed. Otherwise, the soil either remained or was reused elsewhere on-site within the VRP project site boundary.

Sampling methodologies and protocol are provided in the QAPP provided in the RWP .

The demolition contractor was responsible for surveying, using global positioning satellite (GPS) methods, the location of all confirmatory sample locations.

Of over 180 confirmatory samples collected, only four areas contained constituent concentration above 1996 Tier II VRP nonresidential requirements (see **Table 7**). Two areas were associated with PCBs and two areas were associated with lead.



#### 2.2.2.1 PCB-contaminated Soil

During the site-wide confirmation sampling (September 22, 2011), elevated PCB concentrations above 1996 VRP Tier II nonresidential cleanup criteria were detected at Test Pit (TP) 44, which is adjacent to the transformer room (see **Figure 7.2 F**). On October 11, 2011, a series of soil probes were located around the near TP-44, west of the transformer room. Samples were collected and tested for PCBs, to determine the extent of PCB soil impact outside the transformer room. The results are tabulated on **Table 3A**. Results indicate PCB soil impacts above 1996 closure criteria near the western perimeter of the transformer room. This impacted soil was removed and disposed off-site. Soil samples were collected (see **Figure 7.2 G**) to verify that soil cleanup was completed. Composite samples were collected on December 15, 2011 from the sidewalls and floor of an excavation ranging from 3-16 feet in depth. Results indicate PCB contamination below the 1996 VRP Tier II nonresidential cleanup criteria.

Elevated PCB concentrations above 1996 VRP Tier II nonresidential cleanup criteria were detected at Test Pit 71 (see **Figures 7 and 7.3A**). On October 11, 2011, a series of soil probes were located around TP-71. Samples were collected and tested for PCBs to determine the extent of impact. The results are tabulated on **Table 4**. Results indicated that the PCB impacts were confined to near TP-71. Approximately three feet of PCB-impacted soil was removed and disposed at a hazardous waste landfill. Confirmation samples were collected on November 28, 2011 (see **Figure 7.3B**) from the floor and only two sidewalls of the excavation due to the nearby presence of a tunnel. The results indicated that additional excavation was required at one location (D-3). Samples collected from other locations were below the 1996 VRP Tier II nonresidential cleanup criteria. An additional two feet was removed from that the location of D-3 and resampled on December 6, 2011 (see **Figure 7.3C**). The PCB concentration from the collected sample was less than 1 mg/kg. No further remedial activities were completed.

#### 2.2.2.2 Lead-impacted Soil

During the site-wide confirmation sampling, elevated lead concentrations above 1996 VRP Tier II nonresidential cleanup criteria were detected at Test Pit (TP) 4, which is adjacent to a rail spur and Test Pit 33, which is near an UST tank farm. (see **Figure 11**). The soil sample collected from a depth of 0-2 feet at TP-4 contained a lead concentration of 1,400 mg/kg (TCLP lead was 1.5 mg/l), at 4-5 feet the lead concentration was 220 mg/kg. The soil sample collected at TP-33 from a depth of 0-2 feet contained a lead concentration of 2,900 mg/kg (TCLP lead was < 0.5 mg/l), at 4-5 feet the lead concentration was 6.2 mg/kg. The results are tabulated on **Table 8**.

On June 9, 2011, a limited amount of lead-contaminated soil was removed from both locations and disposed of at Earthmovers Landfill in Elkhart, Indiana. Upon removal, soil verification samples were collected from the excavation (see **Figure 11.1**). The samples were tested for lead (see tabulated result in **Table 9**). Lead was detected in most of the samples but the concentrations were below the 1996 VRP Tier II nonresidential cleanup goals. No further remedial activities were completed. Disposal documentation is provided in **Appendix A**.

### **2.2.3 Quality Assurance Project Plan**

A site-specific QAPP was prepared for implementation at the site during remedial activities. This QAPP is a modified version of an earlier QAPP prepared by Hull & Associates for US EPA Region 5 Hazardous Substances and Petroleum Brownfields Assessment Grants, submitted in March 2006 and approved on May 30, 2006 and later amended on April 23, 2009. The QAPP was prepared in general accordance with the QAPP Requirements presented in the IDEM's RISC Technical Guide and USEPA's requirements for Quality Assurance Project Plans and the USEPA's Quality Assurance Guidance for Conducting Brownfield Site Assessments. The QAPP was provided as part of the RWP. All laboratory data including Level IV data package is provided in **Appendix C**.

### **2.2.4 Site Health and Safety Plan**

A site-specific Health and Safety Plan (HSP) was prepared prior to the commencement of demolition and soil remedial activities and is provided in **Appendix A**. The HSP was provided for the safety of on-site workers involved in performing corrective actions at the site in accordance with the potential hazards identified at the site. The HSP included details covering the physical and chemical hazards at the site as well as precautions and practices to be used in conducting the work. The HSP was prepared in accordance with the requirements set forth in 29 CFR 1910 and 1926 and the Indiana VRP.

### **2.2.5 Final Site Restoration**

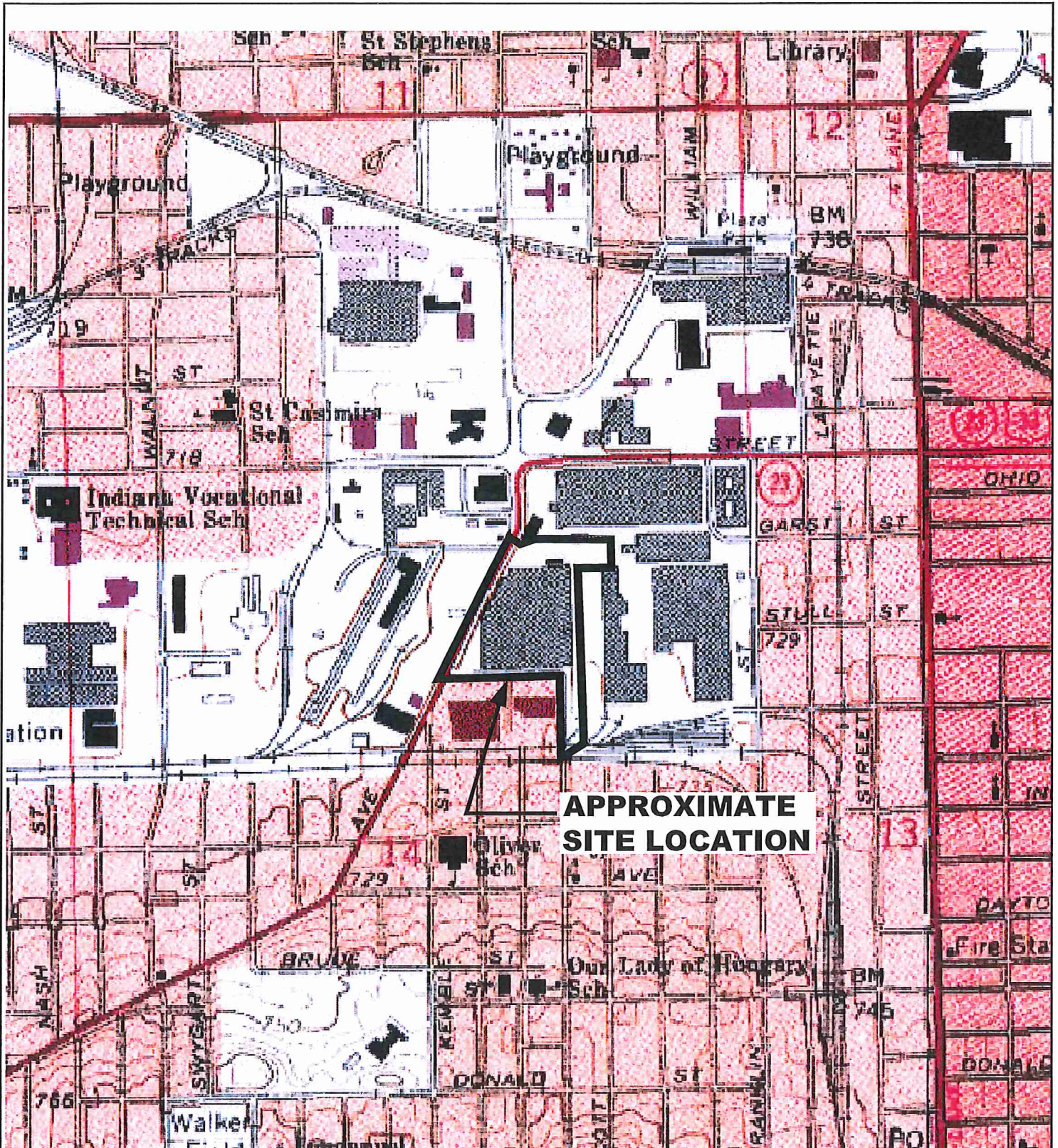
Where impacted soil was removed and disposed off-site, the resultant void was backfilled with suitable on-site fill to near surface grade in accordance with the demolition contract specifications, layered with topsoil, and seeded. The backfill was compacted in accordance with the demolition contract specifications. No excavation was backfilled with imported material.

### 3.0 REFERENCES

- DLZ Indiana. “*Project Manual, Studebaker Area A Demolition Phase IV, Bid Package B, City of South Bend, Board of Public Works*”. June 2010.
- Hull & Associates, Inc., *Phase I Environmental Site Assessment of the Studebaker Area A Properties*, prepared for the City of South Bend Department of Community and Economic Development, December 2000.
- Hull & Associates, Inc., *Report for an Initial Phase II Environmental Site Assessment for the Studebaker Area A Properties*, prepared for the City of South Bend Department of Community and Economic Development, December 2001.
- Hull & Associates, Inc., *Asbestos Survey for the Underground Pipe and Valve Building, 1100 Prairie Avenue, South Bend, Indiana*, prepared for the City of South Bend Department of Community and Economic Development, December 2003.
- Hull & Associates, Inc., *Phase I Environmental Site Assessment of the Studebaker Foundry/Underground Pipe and Valve Property, 1100 Prairie Avenue, South Bend, Indiana*, prepared for the City of South Bend, July 2009.
- Hull & Associates, Inc. *Quality Assurance Project Plan Revision 1 for USEPA Region 5 Hazardous Substances and Petroleum Brownfields Assessment Grant, South bend, Indiana*, prepared for the City of South Bend, March 2006 and amended April 23, 2009.

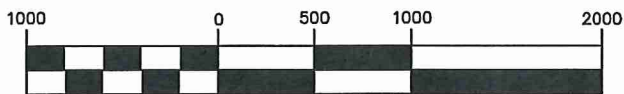
## Figures





**APPROXIMATE  
SITE LOCATION**

APPROXIMATE GRAPHIC SCALE



( IN FEET )  
1 inch = 1000 ft.



**SITE LOCATION MAP**

**FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN**

**Weaver Boos Consultants**  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46828  
(574) 271-3447

DRAWN BY: RMD

DATE: 3/1/2012

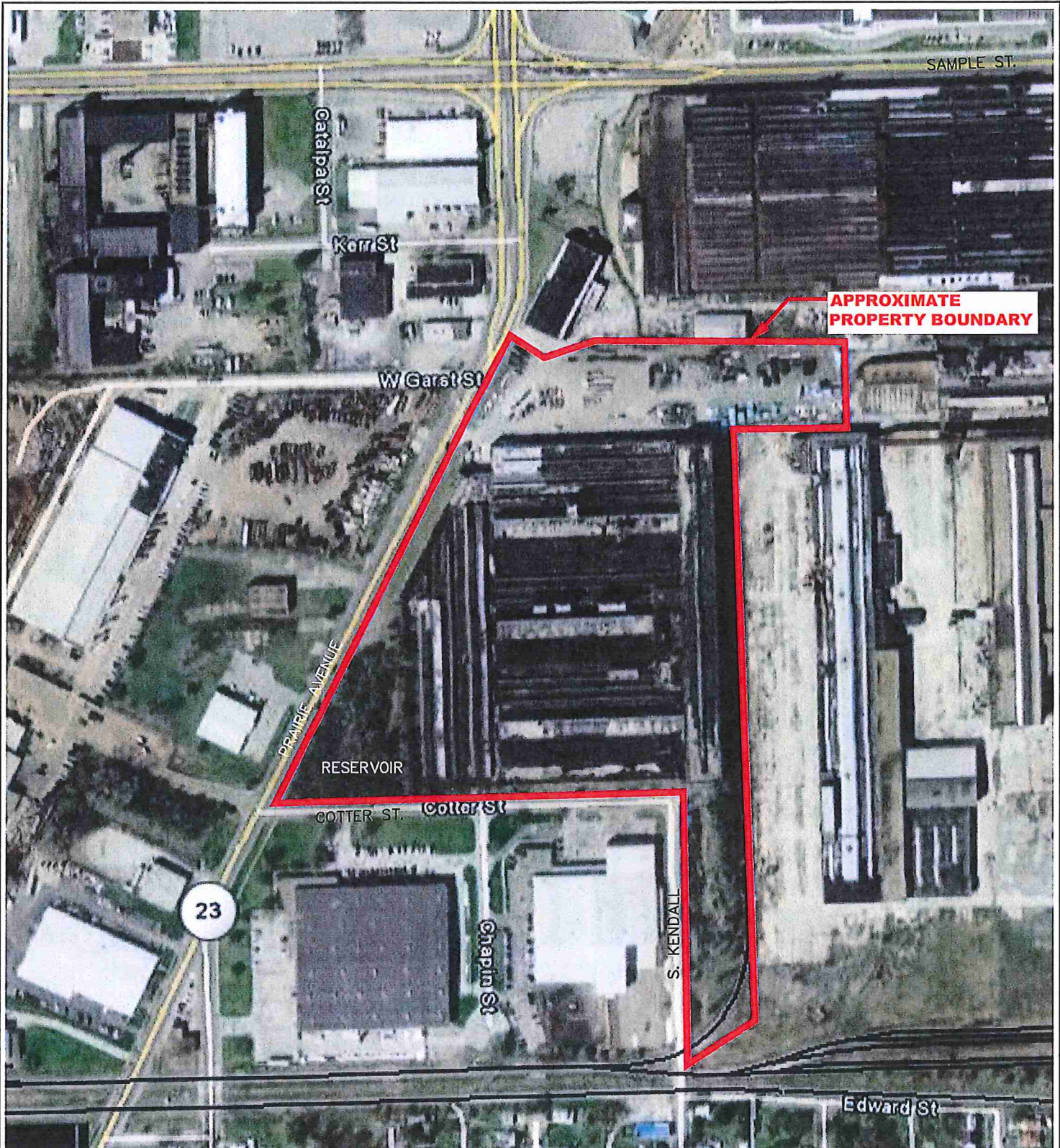
FILE: 0058-373-01

REVIEWED BY: ES

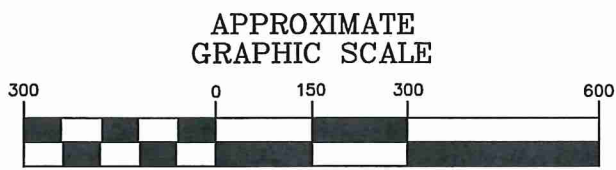
CAD: SITELOC.DWG

**FIGURE 1**



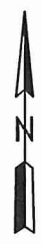


**APPROXIMATE  
PROPERTY BOUNDARY**



APPROXIMATE  
GRAPHIC SCALE

( IN FEET )  
1 inch = 300 ft.



**SITE LAYOUT**

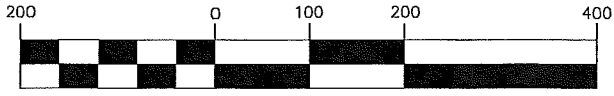
**FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN**

**Weaver Boos Consultants**  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

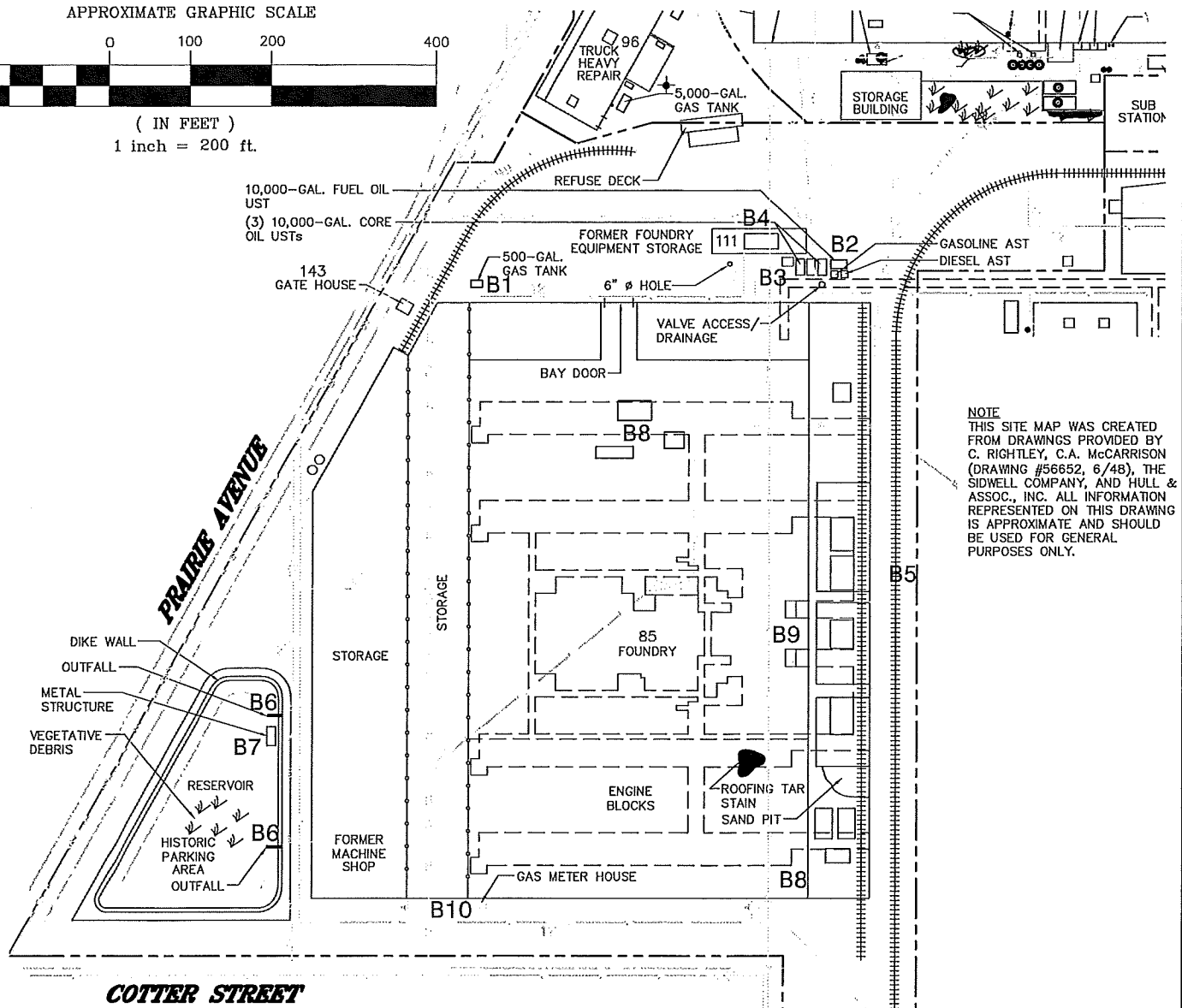
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	<b>FIGURE 2</b>



APPROXIMATE GRAPHIC SCALE



( IN FEET )  
1 inch = 200 ft.



**NOTE**  
THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. McCARRISON (DRAWING #56652, 6/48), THE SIDWELL COMPANY, AND HULL & ASSOC., INC. ALL INFORMATION REPRESENTED ON THIS DRAWING IS APPROXIMATE AND SHOULD BE USED FOR GENERAL PURPOSES ONLY.

UNDERGROUND PIPE & VALVE PROPERTY (PROPERTY B)	
B1	500-GALLON UST REPORTEDLY STORED GAS, LOCATED NORTH OF THE WEST PORTION OF THE MAIN BUILDING
B2	10,000 GALLON UST REPORTEDLY STORED FUEL OIL, LOCATED NORTH OF THE EAST PORTION OF THE MAIN BUILDING
B3	THREE 10,000-GALLON CORE OIL TANKS LOCATED NORTH OF THE EAST PORTION OF THE MAIN BUILDING
B4	A PIT WITH STEEL-PLATE COVER LOCATED NORTHWEST OF THE FORMER PUMP HOUSE
B5	FORMER RAILS LOCATED ON THE EAST AND NORTH PORTIONS OF THE PROPERTY
B6	TWO OUTFALLS FROM THE DIRECTION OF THE FACILITY TO THE RESERVOIR LOCATED ON THE SOUTHWEST PORTION OF THE PROPERTY
B7	HALF-BURRIED METAL STRUCTURE (POTENTIAL TANK) LOCATED IN THE EAST WALL OF THE RESERVOIR
B8	NUMEROUS PITS LOCATED INSIDE THE FOUNDRY FILLED WITH WOOD AND METAL DEBRIS
B9	BINS WITH SAND AND POTENTIAL HISTORIC COKE PITS LOCATED AT THE EASTERN PORTION OF THE U P & V BUILDING
B10	FOUR HISTORIC ASTs LOCATED AT THE SOUTH END OF THE BUILDING

LEGEND:			
	MONITORING WELL		MANHOLE
	POTENTIAL SOIL BORING		ELECTRIC MANHOLE
	DRY WELL		CATCH BASIN
	PROPERTY LINE		FILL PORT
	EXISTING RAILROAD LINES		FIRE HYDRANT
	REMOVED RAILROAD LINES		PUMP HOUSE
	FENCE LINE		ELEVATOR
	TUNNELS		55-GAL. DRUM
	WATER LINE		REMOVED TANKS
	SANITARY SEWER LINE W/ DIRECTION		STAIN
	13,000 VOLT UNDERGROUND ELECTRIC		STRESSED VEGETATION AND BARE SOIL
	TRANSFORMER ROOM W/ PCB CONTAINING FLUID		VEGETATION

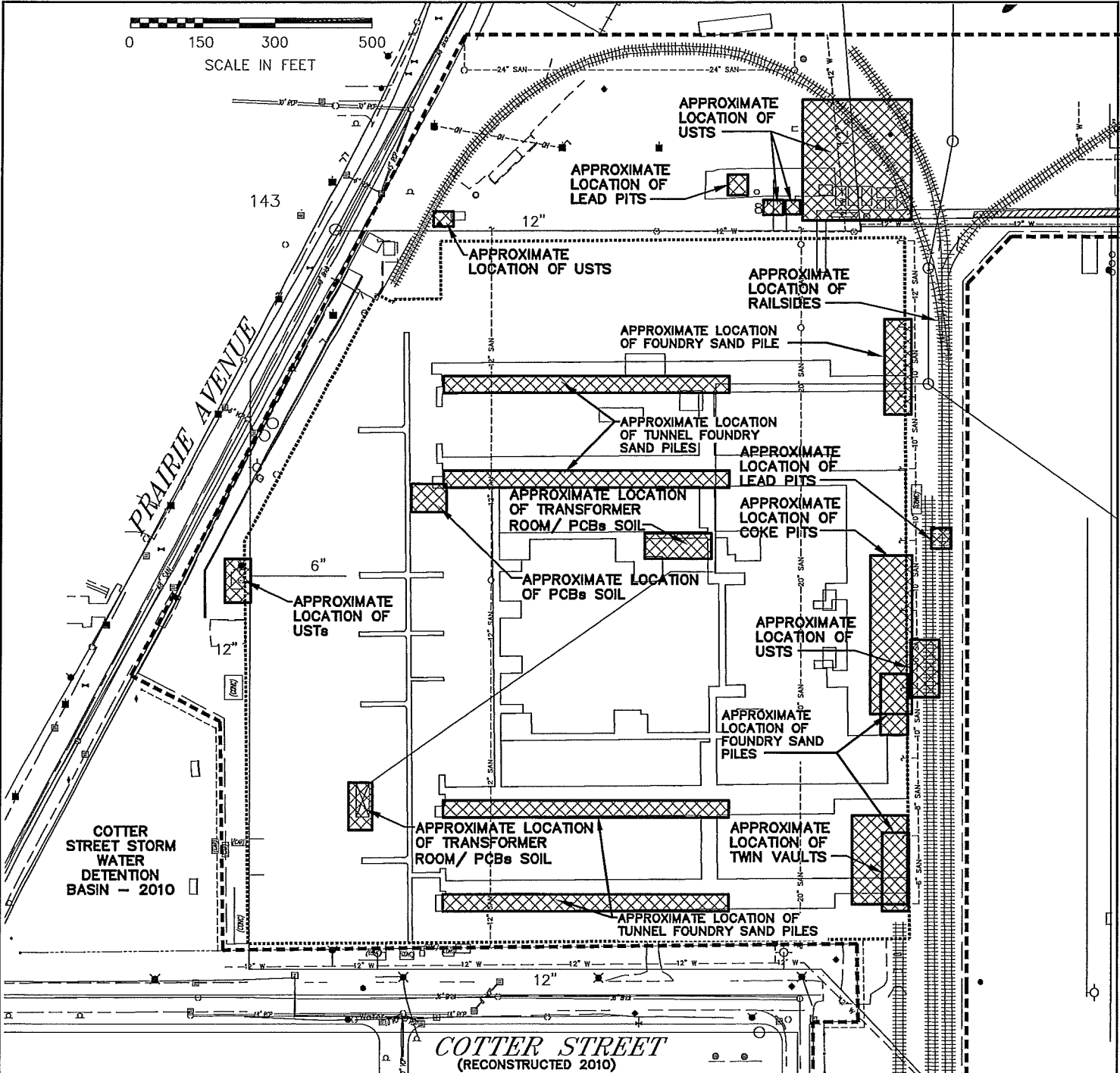
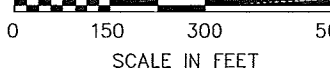
**S. KENDALL**

SOURCE NOTE: FIGURE 2 FROM PHASE II ENVIRONMENTAL REPORT DATED 2002 BY HULL & ASSOC.

**LOCATION OF RECOGNIZED ENVIRONMENTAL CONDITIONS**  
FORMER STUDEBAKER FOUNDRY PRE-2010  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

**Weaver Boos Consultants**  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	<b>FIGURE 3</b>



**LEGEND**

----- DEMOLITION EXCAVATION LIMITS

**LEGEND:**

	MONITORING WELL
	POTENTIAL SOIL BORING
	DRY WELL
	PROPERTY LINE
	EXISTING RAILROAD LINES
	REMOVED RAILROAD LINES
	FENCE LINE
	TUNNELS
	WATER LINE
	SANITARY SEWER LINE W/ DIRECTION
	13,000 VOLT UNDERGROUND ELECTRIC
	TRANSFORMER ROOM W/ PCB CONTAINING FLUID
	MANHOLE
	ELECTRIC MANHOLE
	CATCH BASIN
	FALL PORT
	FIRE HYDRANT
	PUMP HOUSE
	ELEVATOR
	55-GAL. DRUM
	REMOVED TANKS
	STAIR
	STRESSED VEGETATION AND BARE SOIL
	VEGETATION

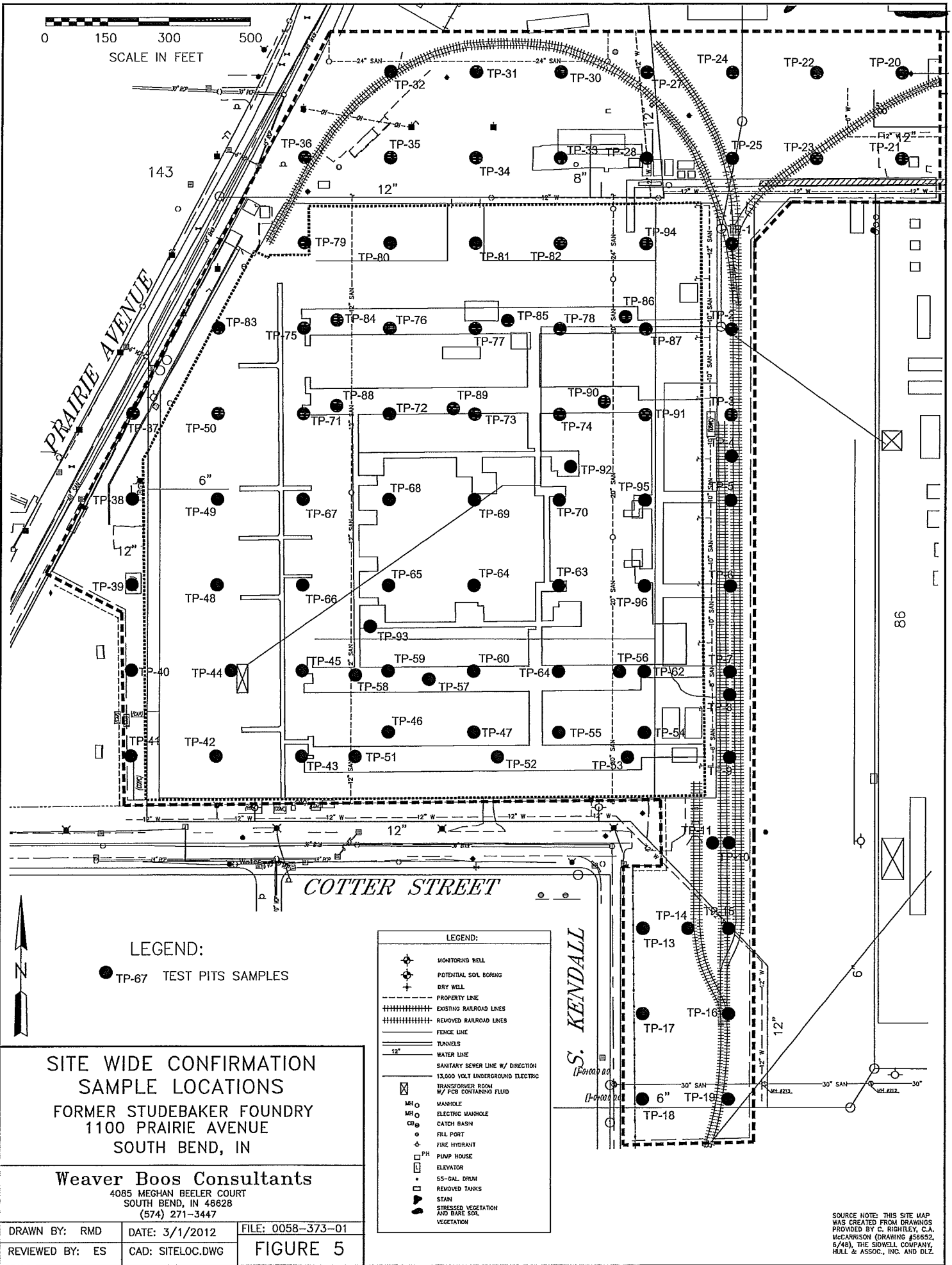
**IDENTIFIED AREAS OF ENVIRONMENTAL CONCERN/ DURING DEMOLITION FORMER STUDEBAKER FOUNDRY DEMOLITION**  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

**Weaver Boos Consultants**  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	<b>FIGURE 4</b>

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0 150 300 500  
SCALE IN FEET

143  
PRAIRIE AVENUE

COTTER STREET

S. KENDALL

LEGEND:  
● TP-67 TEST PITS SAMPLES

LEGEND:

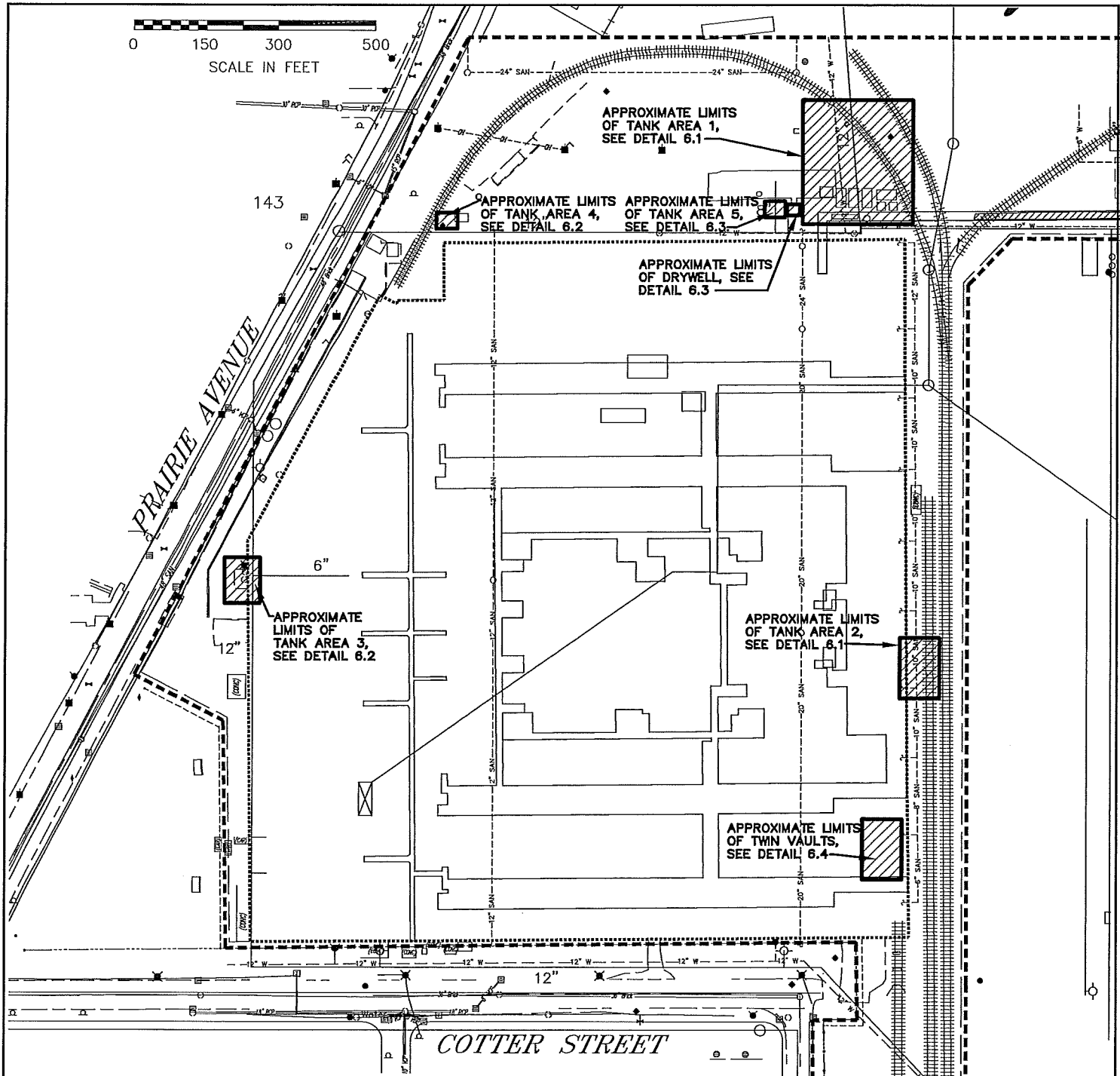
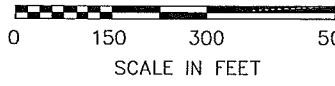
○	MONITORING WELL
⊕	POTENTIAL SOIL BORING
+	DRY WELL
---	PROPERTY LINE
	EXISTING RAILROAD LINES
-----	REMOVED RAILROAD LINES
----	FENCE LINE
==	TUNNELS
---	WATER LINE
---	SANITARY SEWER LINE w/ DIRECTION
---	13,000 VOLT UNDERGROUND ELECTRIC
⊠	TRANSFORMER ROOM w/ PCB CONTAINING FLUID
○	MANHOLE
○	ELECTRIC MANHOLE
○	CATCH BASIN
○	FILL PORT
○	FIRE HYDRANT
○	PUMP HOUSE
□	ELEVATOR
○	55-GAL DRUM
□	REMOVED TANKS
○	STAIN
○	STRESSED VEGETATION AND BARE SOIL
○	VEGETATION

SITE WIDE CONFIRMATION  
SAMPLE LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	FIGURE 5

SOURCE NOTE: THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. MCCARRISON (DRAWING #56652, 5/48), THE SIDWELL COMPANY, HULL & ASSOC., INC. AND DLZ.



LEGEND:

	MONITORING WELL
	POTENTIAL SOIL BORING
	DRY WELL
	PROPERTY LINE
	EXISTING RAILROAD LINES
	REMOVED RAILROAD LINES
	FENCE LINE
	TUNNELS
	WATER LINE
	SANITARY SEWER LINE W/ DIRECTION
	13,000 VOLT UNDERGROUND ELECTRIC
	TRANSFORMER ROOM W/ PCB CONTAINING FLUID
	MANHOLE
	ELECTRIC MANHOLE
	CATCH BASIN
	FILL PORT
	FIRE HYDRANT
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	ELEVATOR
	55-GAL. DRUM
	REMOVED TANKS
	STAIN
	STRESSED VEGETATION AND BARE SOIL
	VEGETATION

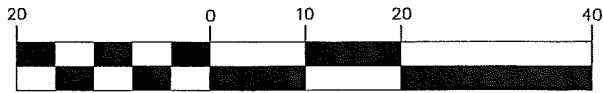
OVERALL SITE MAP  
UNDERGROUND STORAGE TANKS  
& VAULTS LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	FIGURE 6

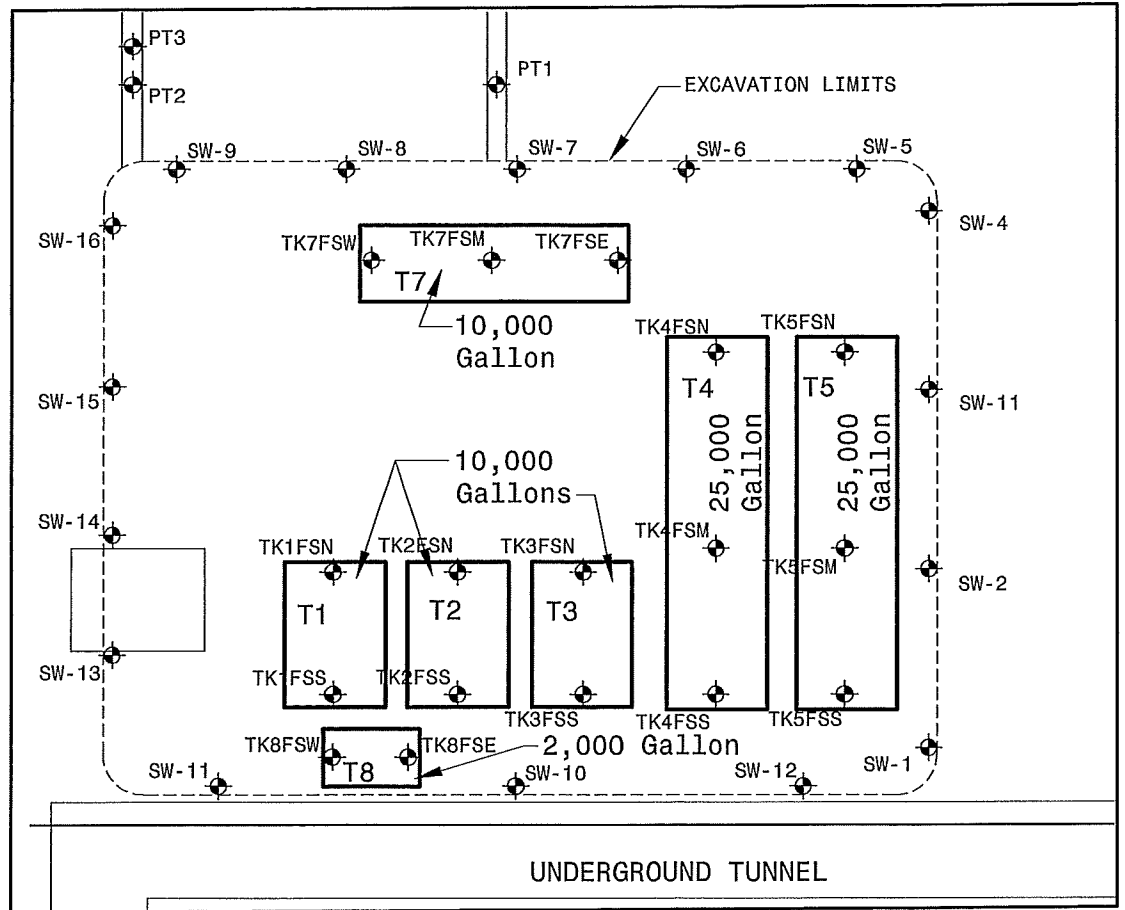
SOURCE NOTE: THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGTLEY, C.A. McCARRISON (DRAWING #56652, 5/48), THE SIDWELL COMPANY, HULL & ASSOC., INC. AND DLZ.

APPROXIMATE GRAPHIC SCALE

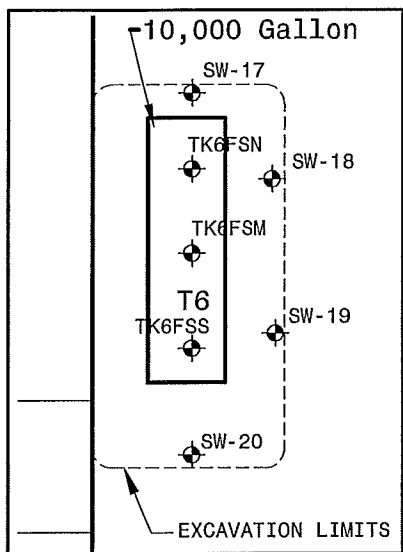


( IN FEET )  
1 inch = 20 ft.

**NOTE**  
THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. McCARRISON (DRAWING #56652, 6/48), THE SIDWELL COMPANY, AND HULL & ASSOC., INC. ALL INFORMATION REPRESENTED ON THIS DRAWING IS APPROXIMATE AND SHOULD BE USED FOR GENERAL PURPOSES ONLY.



TANK AREA 1 (TANKS 1,2,3,4,5,7&8)



TANK AREA 2 (TANK 6)

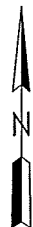
LEGEND

- TK1FSN SAMPLE COLLECTED AT FLOOR OF TANKS
- SW-15 SAMPLE COLLECTED SIDEWALL OF TANK TRENCH

UNDERGROUND STORAGE TANKS  
(TANKS 1-8) SAMPLE LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants

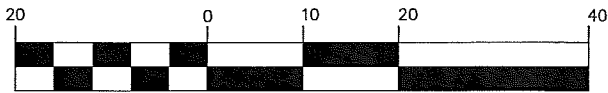
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447



SOURCE NOTE: FIGURE 2 FROM PHASE II ENVIRONMENTAL REPORT DATED 2002 BY HULL & ASSOC.

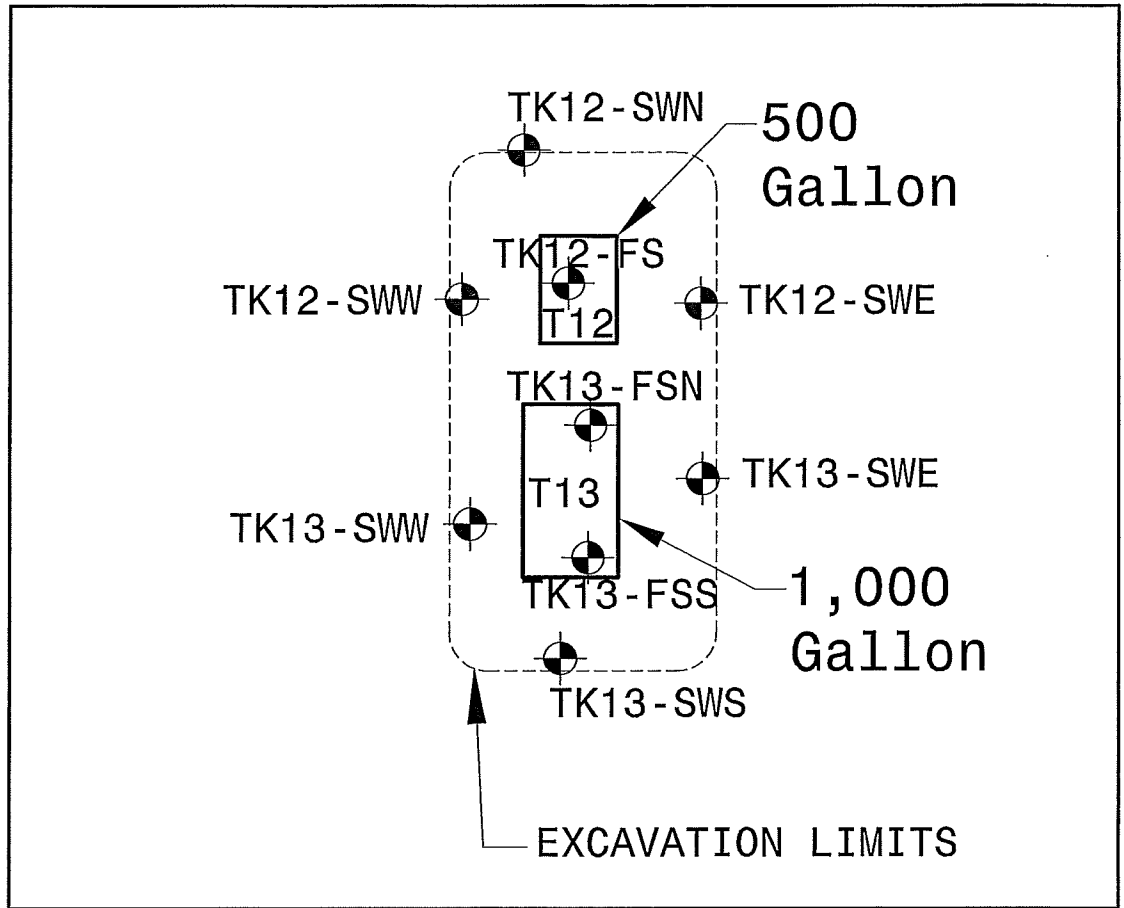
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 6.1

APPROXIMATE GRAPHIC SCALE

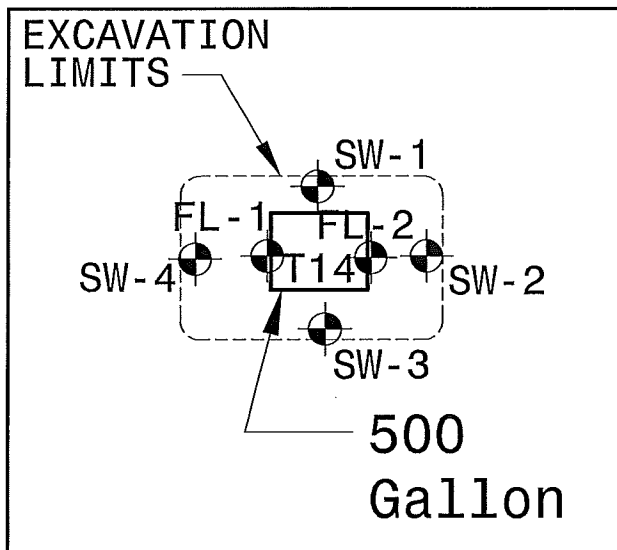


( IN FEET )  
1 inch = 20 ft.

**NOTE**  
THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. McCARRISON (DRAWING #56652, 6/48), THE SIDWELL COMPANY, AND HULL & ASSOC., INC. ALL INFORMATION REPRESENTED ON THIS DRAWING IS APPROXIMATE AND SHOULD BE USED FOR GENERAL PURPOSES ONLY.



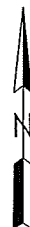
TANK AREA 3 (TANKS 12 & 13)



TANK AREA 4 (TANK #14)

LEGEND

- TK1FSN SAMPLE COLLECTED AT FLOOR OF TANKS
- SW-15 SAMPLE COLLECTED SIDEWALL OF TANK TRENCH



UNDERGROUND STORAGE TANKS  
(TANKS 12-14) SAMPLE LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

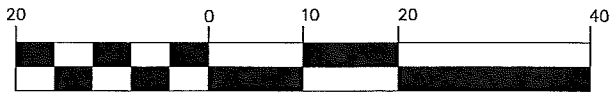
Weaver Boos Consultants

4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46828  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 6.2

SOURCE NOTE: FIGURE 2 FROM PHASE II ENVIRONMENTAL REPORT DATED 2002 BY HULL & ASSOC.

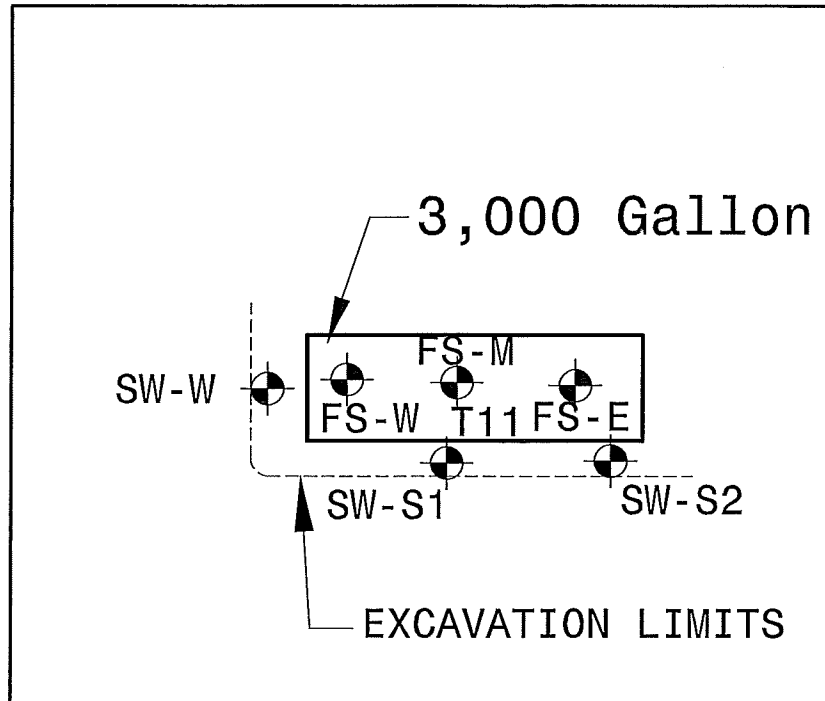
APPROXIMATE GRAPHIC SCALE



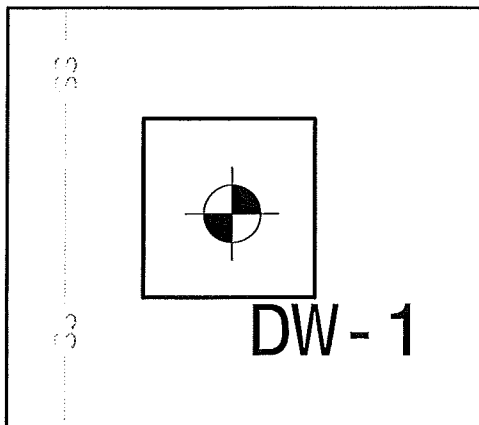
( IN FEET )  
1 inch = 20 ft.

NOTE

THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. McCARRISON (DRAWING #56652, 6/48), THE SIDWELL COMPANY, AND HULL & ASSOC., INC. ALL INFORMATION REPRESENTED ON THIS DRAWING IS APPROXIMATE AND SHOULD BE USED FOR GENERAL PURPOSES ONLY.



TANK AREA 5 (TANK 11)



DRY WELL AREA

LEGEND

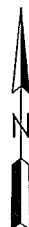
- TK1FSN SAMPLE COLLECTED AT FLOOR OF TANKS
- SW-15 SAMPLE COLLECTED SIDEWALL OF TANK TRENCH

UNDERGROUND STORAGE TANK (TANK 11) & DRY WELL SAMPLE LOCATIONS

FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants

4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447



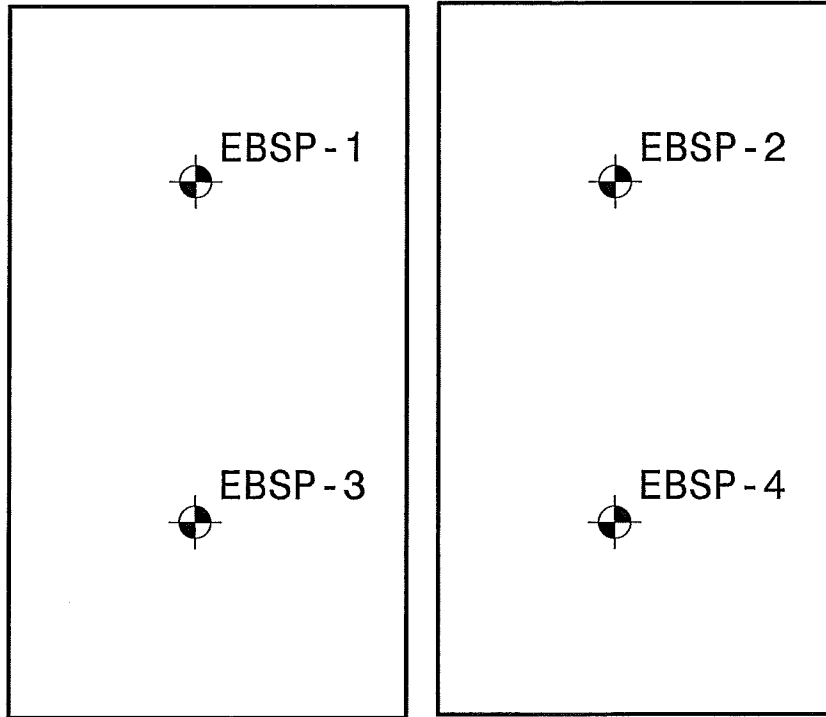
SOURCE NOTE: FIGURE 2 FROM PHASE II ENVIRONMENTAL REPORT DATED 2002 BY HULL & ASSOC.

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 6.3

APPROXIMATE GRAPHIC SCALE




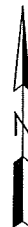
( IN FEET )  
1 inch = 10 ft.



LEGEND:

EBSP - 1

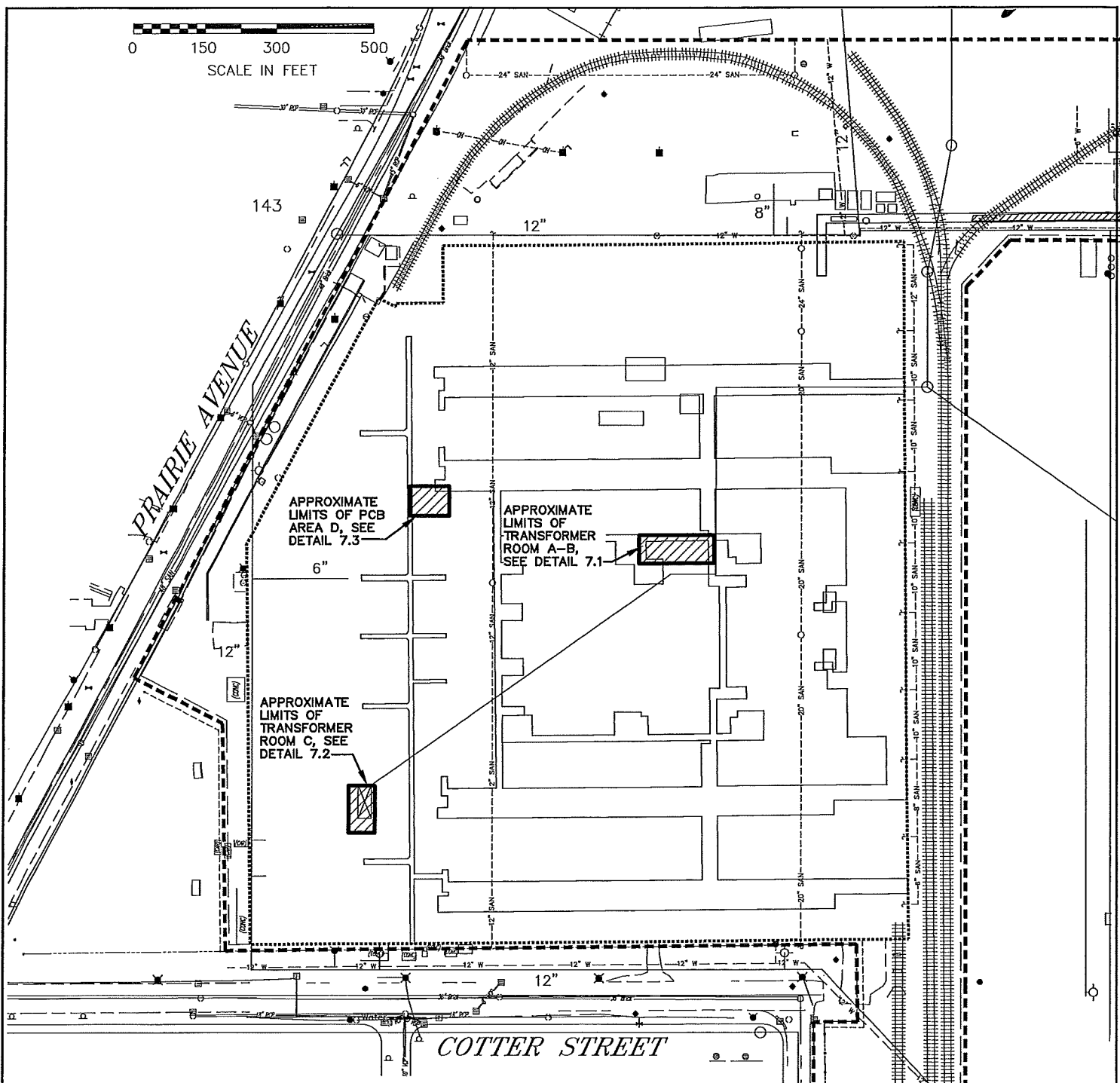
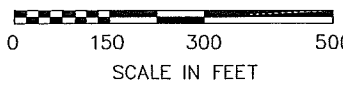
 DENOTES 11-2-11 SAMPLE LOCATIONS



TWIN VAULT  
SAMPLE LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 6.4

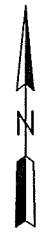


OVERALL SITE MAP  
TRANSFORMER ROOMS & PCBs  
LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

LEGEND:

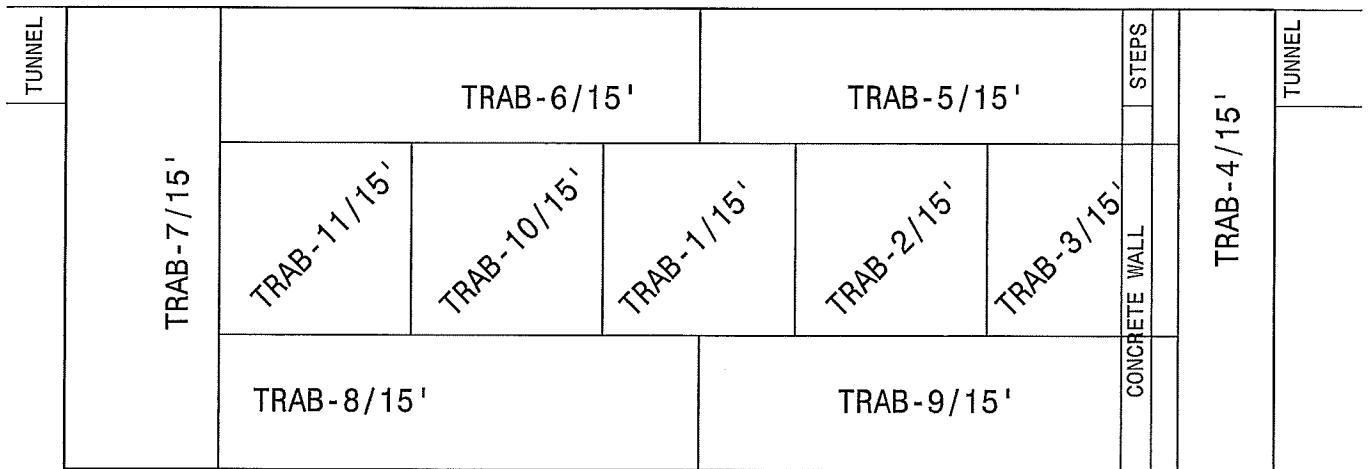
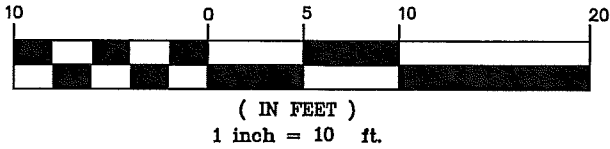
	MONITORING WELL
	POTENTIAL SOIL BORING
	DRY WELL
	PROPERTY LINE
	EXISTING RAILROAD LINES
	REMOVED RAILROAD LINES
	FENCE LINE
	TUNNELS
	WATER LINE
	SANITARY SEWER LINE W/ DIRECTION
	13,000 VOLT UNDERGROUND ELECTRIC
	TRANSFORMER ROOM W/ PCB CONTAINING FLUID
	MANHOLE
	ELECTRIC MANHOLE
	CATCH BASIN
	FILL PORT
	FIRE HYDRANT
	PUMP HOUSE
	ELEVATOR
	55-GAL DRUM
	REMOVED TANKS
	STAIN
	STRESSED VEGETATION AND BARE SOIL VEGETATION



DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	FIGURE 7

SOURCE NOTE: THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. MCCARRISON (DRAWING #55552, 6/18), THE SIDWELL COMPANY, HULL & ASSOC., INC. AND DLZ.

APPROXIMATE GRAPHIC SCALE



LEGEND:

TRAB-1 TRAB 11-23-11 SAMPLE LOCATION AREA (COMPOSITE)



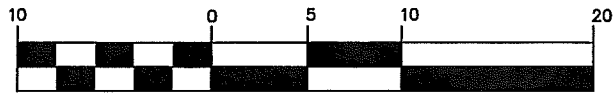
TRANSFORMER ROOM A & B  
11-23-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

**Weaver Boos Consultants**  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

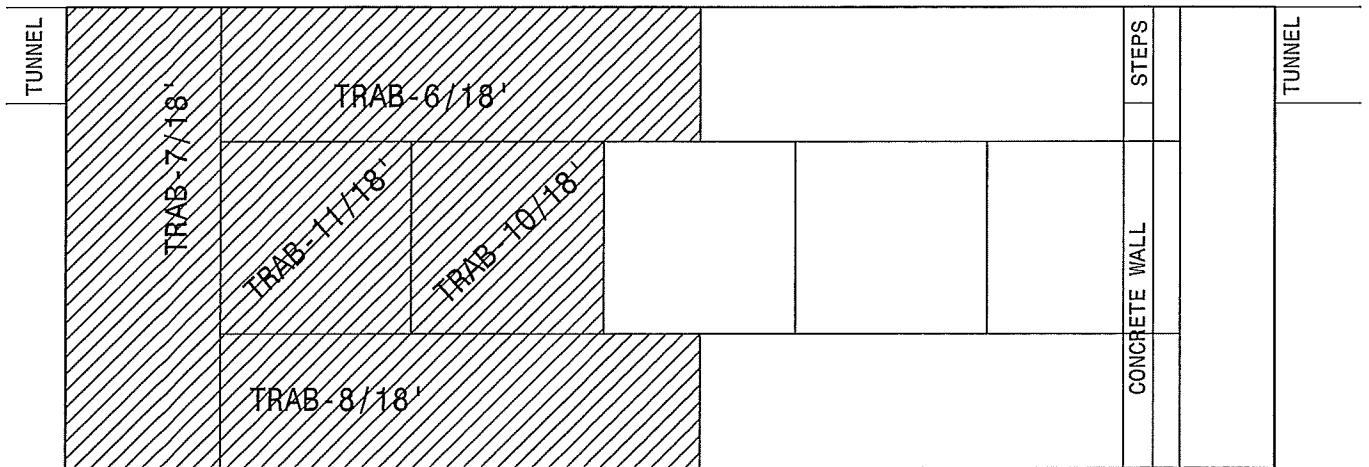
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	<b>FIGURE 7.1A</b>



APPROXIMATE GRAPHIC SCALE




( IN FEET )  
1 inch = 10 ft.



LEGEND:

TRAB- /18' DENOTES 12-6-11 TRAB SAMPLING LOCATION AREA (COMPOSITE)

 EXCAVATED SOIL



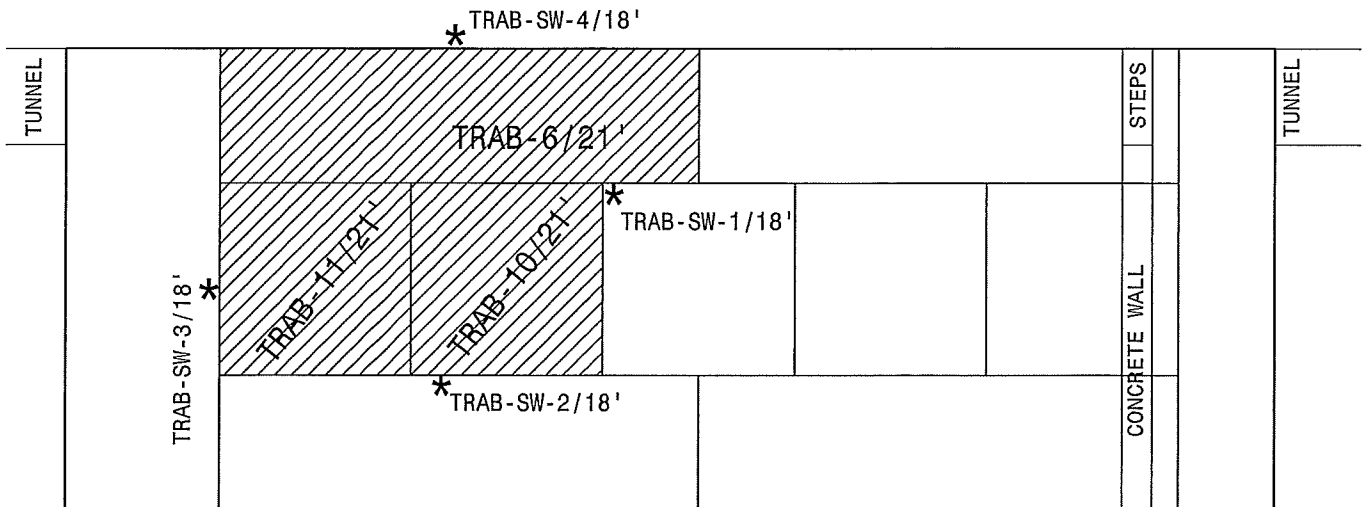
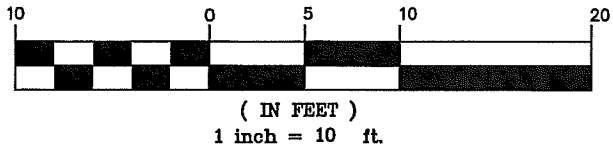
TRANSFORMER ROOM A & B  
12-6-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

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SOUTH BEND, IN 46628  
(574) 271-3447

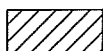
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	<b>FIGURE 7.1B</b>

APPROXIMATE GRAPHIC SCALE



LEGEND:

TRAB- /21' DENOTES 12-12-11 TRAB SAMPLING LOCATION AREA (COMPOSITE)

 EXCAVATED SOIL



TRANSFORMER ROOM A & B  
12-12-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

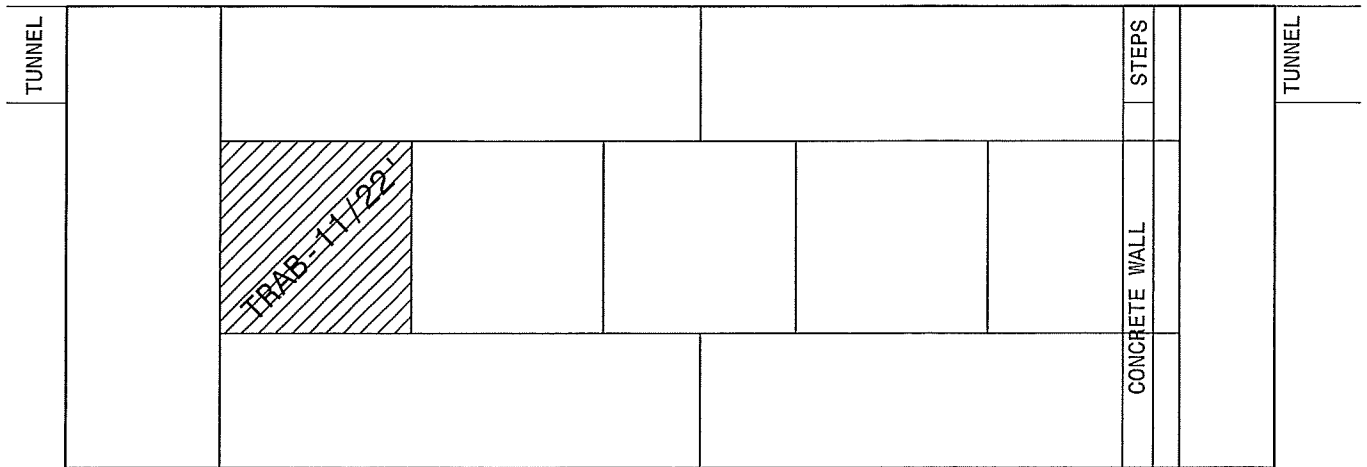
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SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	<b>FIGURE 7.1C</b>

APPROXIMATE GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.



LEGEND:

TRAB- /21' DENOTES 12-19-11 TRAB SAMPLING LOCATION AREA (COMPOSITE)

 EXCAVATED SOIL

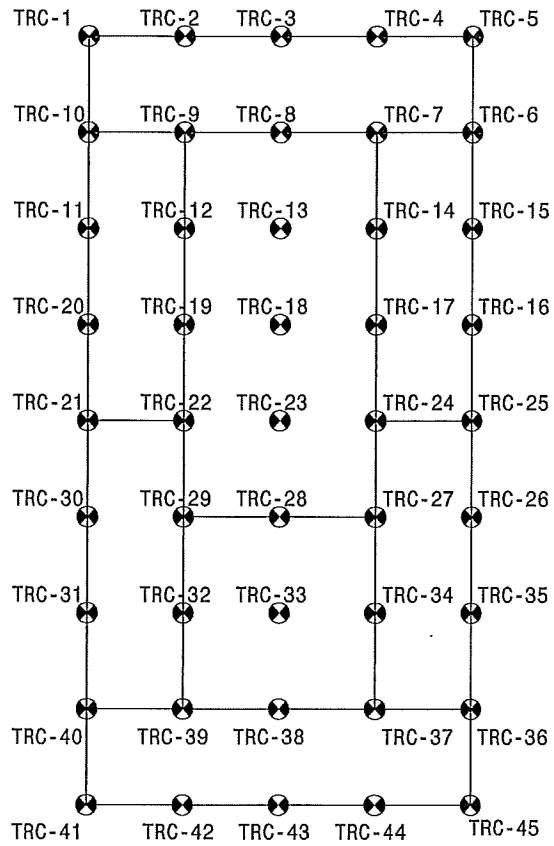
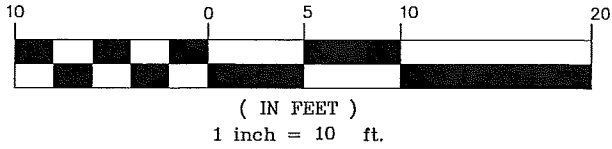


TRANSFORMER ROOM A & B  
12-19-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN


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SOUTH BEND, IN 46628  
(574) 271-3447

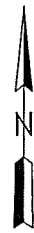
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	<b>FIGURE 7.1D</b>

APPROXIMATE GRAPHIC SCALE



LEGEND:

TRC-1  DENOTES 10-18-11 TRC SAMPLE LOCATIONS (DISCRETE)

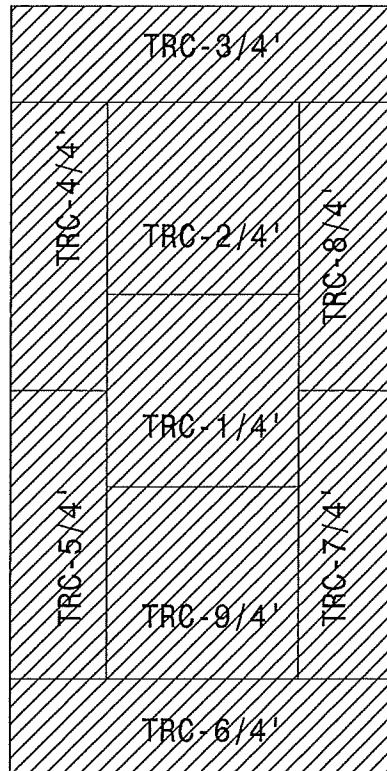


TRANSFORMER ROOM C 10-18-2011 SAMPLING EVENT (BENEATH PAD) FORMER STUDEBAKER FOUNDRY 1100 PRAIRIE AVENUE SOUTH BEND, IN		
<b>Weaver Boos Consultants</b> 4085 MEGHAN BEELER COURT SOUTH BEND, IN 46628 (574) 271-3447		
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 7.2A

APPROXIMATE GRAPHIC SCALE

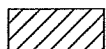


( IN FEET )  
1 inch = 10 ft.



LEGEND:

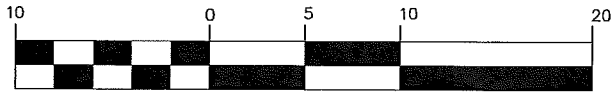
TRC-1/4' DENOTES 11-23-11 TRC SAMPLE LOCATION AREAS (COMPOSITE)

 EXCAVATED SOIL

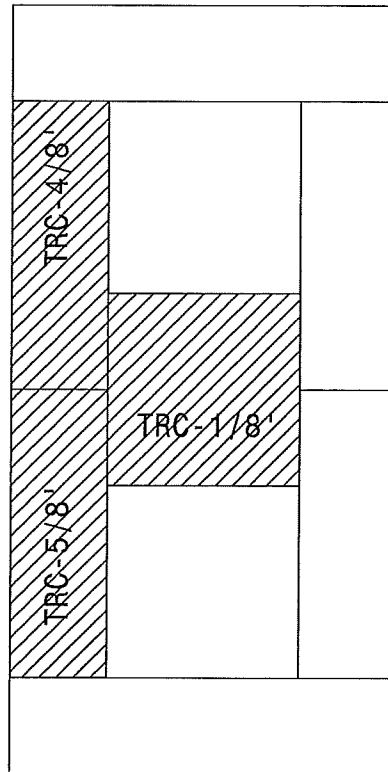


TRANSFORMER ROOM C 11-23-2011 SAMPLING EVENT (BENEATH PAD) FORMER STUDEBAKER FOUNDRY 1100 PRAIRIE AVENUE SOUTH BEND, IN		
Weaver Boos Consultants 4085 MEGHAN BEELER COURT SOUTH BEND, IN 46628 (574) 271-3447		
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 7.2B

APPROXIMATE GRAPHIC SCALE

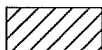


( IN FEET )  
1 inch = 10 ft.



LEGEND:

TRC-1/8' DENOTES 12-6-11 TRC SAMPLING LOCATION AREA (COMPOSITE)

 EXCAVATED SOIL



TRANSFORMER ROOM C  
12-6-2011 SAMPLING EVENT  
(BENEATH PAD)  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD

DATE: 3/1/2012

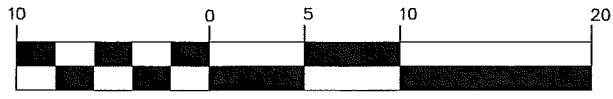
FILE: 0058-373-01

REVIEWED BY: ES

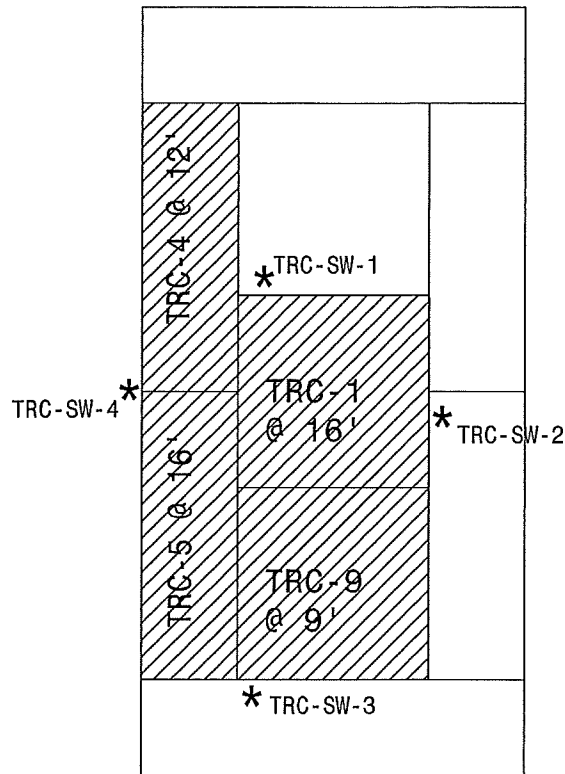
CAD: FIGS.DWG

FIGURE 7.2C

APPROXIMATE GRAPHIC SCALE




( IN FEET )  
1 inch = 10 ft.



LEGEND:

TRC-1 DENOTES 12-12-11 TRC SAMPLING LOCATION AREA

 EXCAVATED SOIL



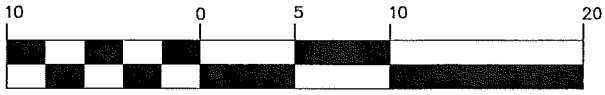
TRANSFORMER ROOM C  
12-12-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants

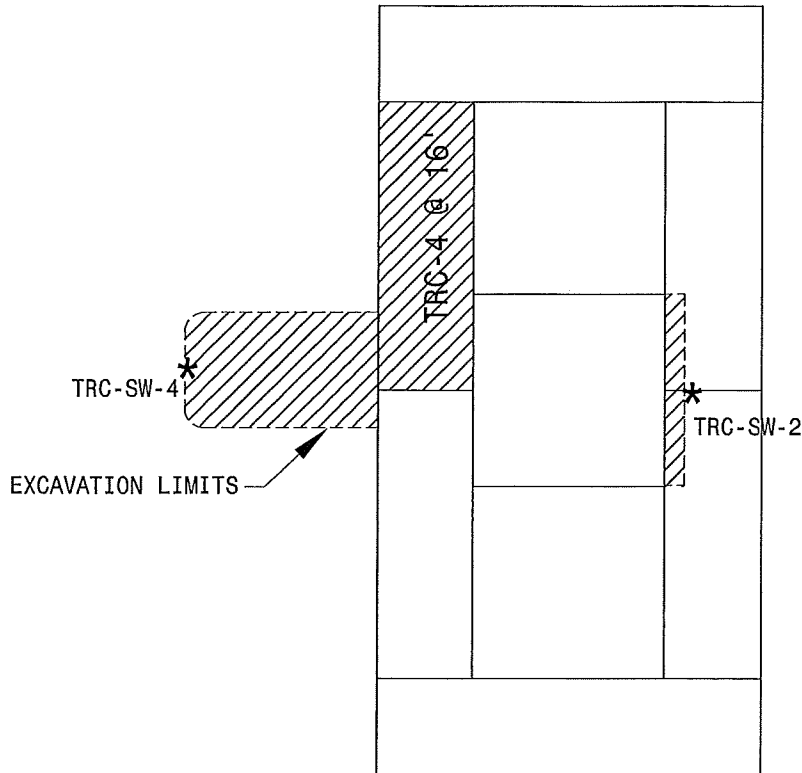
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 7.2D

APPROXIMATE GRAPHIC SCALE




( IN FEET )  
1 inch = 10 ft.



LEGEND:

TRC-4 DENOTES 12-19-11 TRC SAMPLING LOCATION AREA

 EXCAVATED SOIL

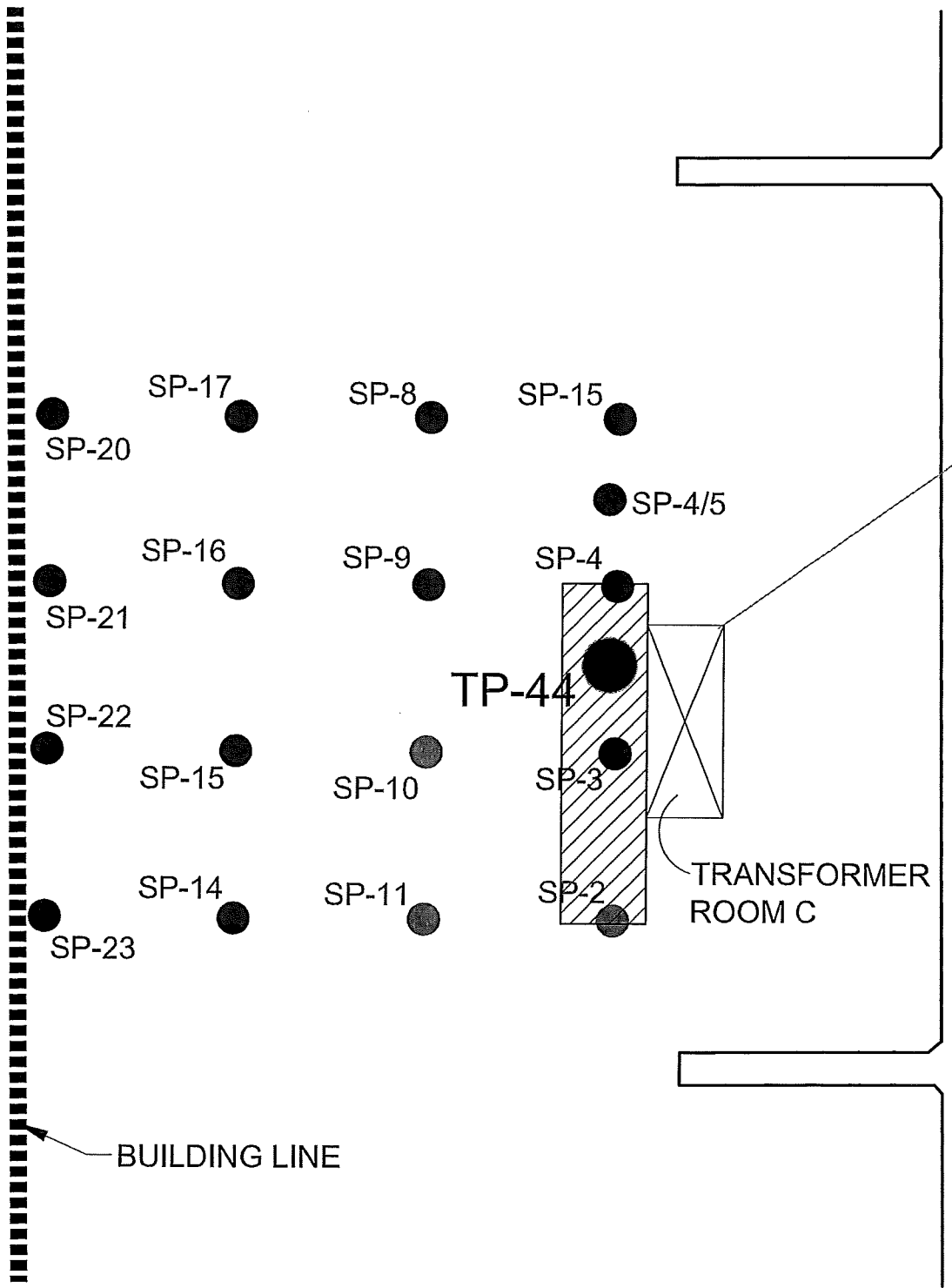


TRANSFORMER ROOM C  
12-19-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 7.2E





LEGEND:

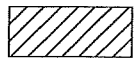


TP-71

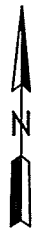
SAMPLE LOCATIONS



SP-471



AREA OF CONTAMINATED SOIL



SCALE IN FEET

**SAMPLE PIT LOCATION MAP  
WEST OF TRANSFORMER ROOM C  
10-11-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN**

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4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46828  
(574) 271-3447

DRAWN BY: RMD

DATE: 3/1/2012

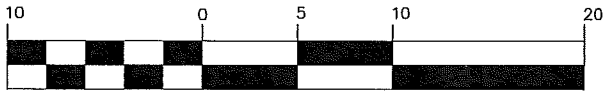
FILE: 0058-373-01

REVIEWED BY: ES

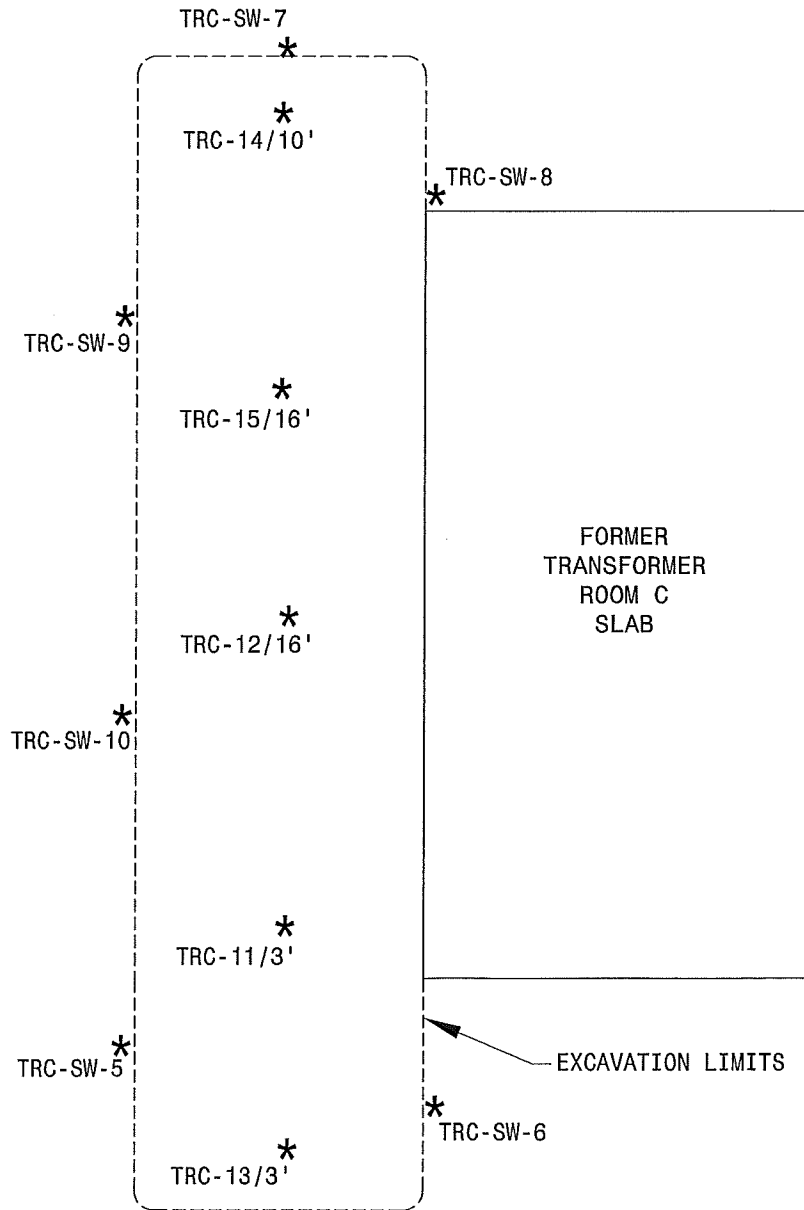
CAD: SITELOC.DWG

**FIGURE 7.2F**

APPROXIMATE GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.



LEGEND:

TRC- /3' DENOTES 12-15-11 TRC SAMPLING LOCATION AREA

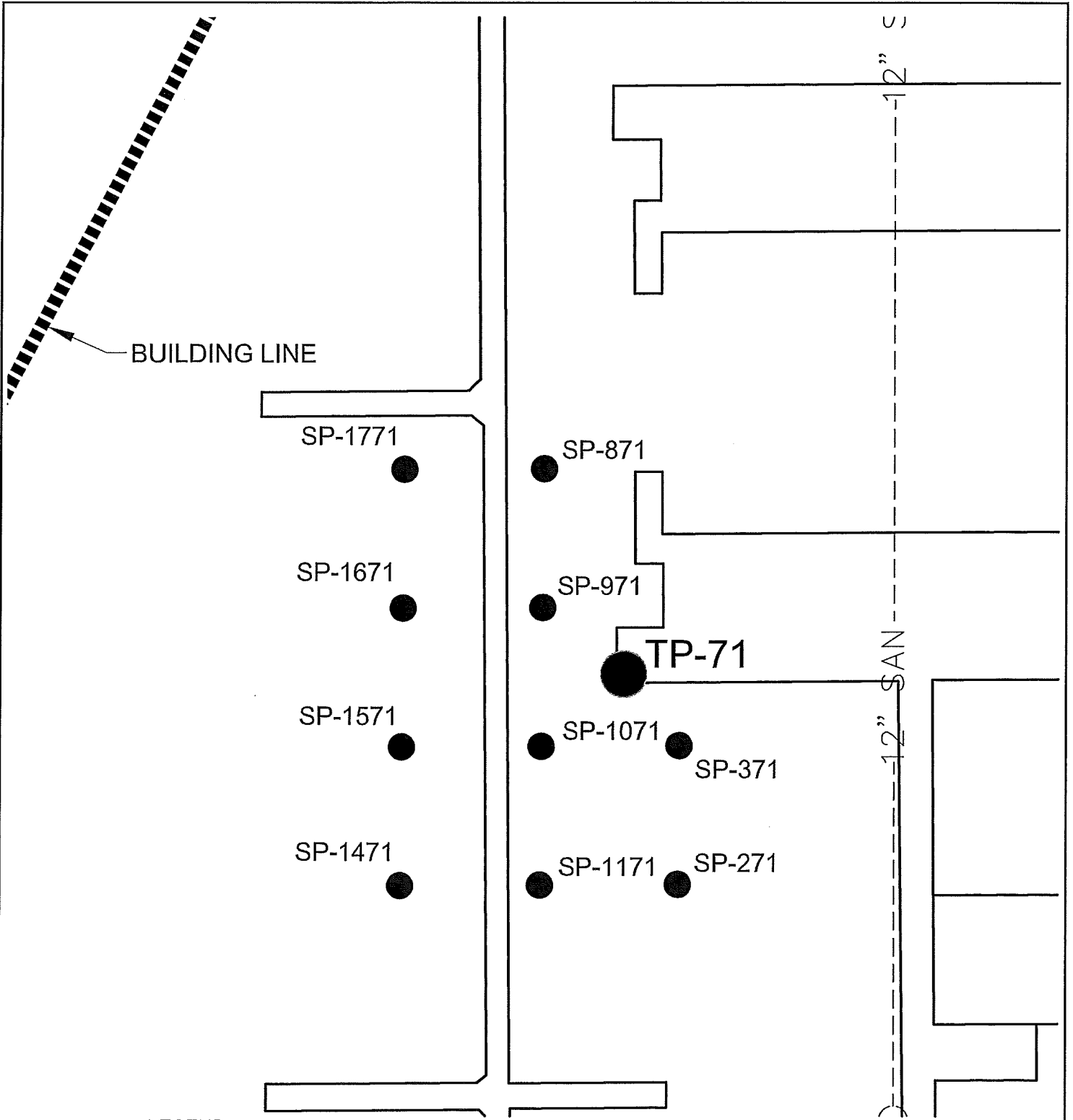


WEST OF TRANSFORMER ROOM C  
12-15-2011 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN



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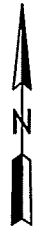
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 7.2G



LEGEND:

-  TP-71
-  SP-471

SAMPLE LOCATIONS



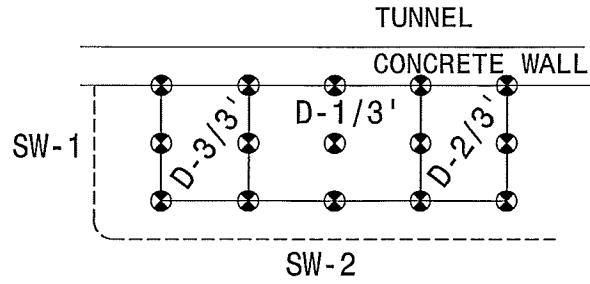
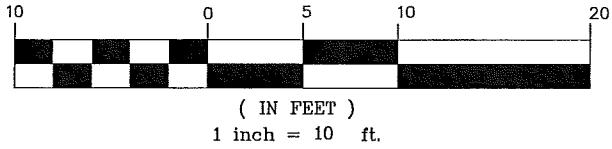
SCALE IN FEET

**SAMPLE PIT LOCATION MAP**  
**AREA D - 10-11-2011**  
**SAMPLING EVENT**  
**FORMER STUDEBAKER FOUNDRY**  
**1100 PRAIRIE AVENUE**  
**SOUTH BEND, IN**

**Weaver Boos Consultants**  
 4085 MECHAN BEELER COURT  
 SOUTH BEND, IN 46628  
 (574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	<b>FIGURE 7.3A</b>

APPROXIMATE GRAPHIC SCALE



LEGEND:

D-1/3' DENOTES 11-28-11 AREA D SAMPLING LOCATION AREA (COMPOSITE)

⊗ DENOTES AREA D SAMPLE LOCATIONS



AREA D  
11-28-11 SAMPLING EVENT  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

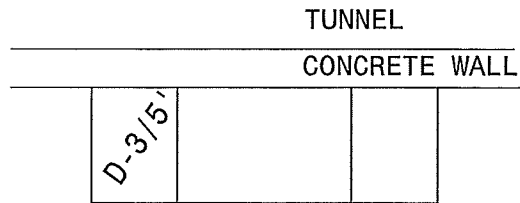
Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 7.3B

APPROXIMATE GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.

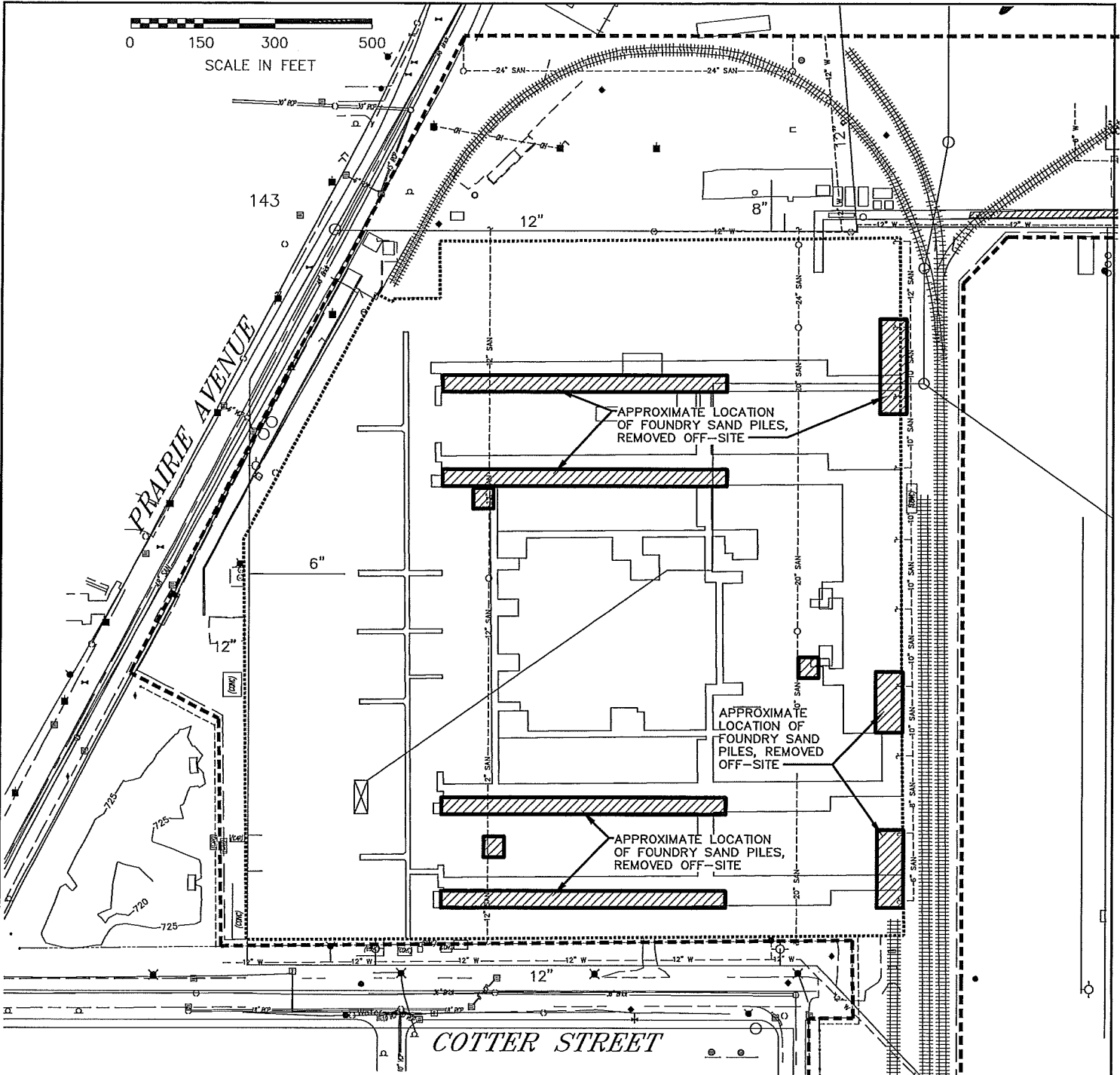


LEGEND:

D-1/5' DENOTES 12-6-11 TRAB SAMPLING LOCATION AREA (COMPOSITE)



<b>AREA D</b> <b>12-6-11 SAMPLING EVENT</b> FORMER STUDEBAKER FOUNDRY 1100 PRAIRIE AVENUE SOUTH BEND, IN		
<b>Weaver Boos Consultants</b> 4085 MEGHAN BEELER COURT SOUTH BEND, IN 46628 (574) 271-3447		
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	<b>FIGURE 7.3C</b>



OVERALL SITE MAP  
 FOUNDRY SAND  
 LOCATIONS  
 FORMER STUDEBAKER FOUNDRY  
 1100 PRAIRIE AVENUE  
 SOUTH BEND, IN

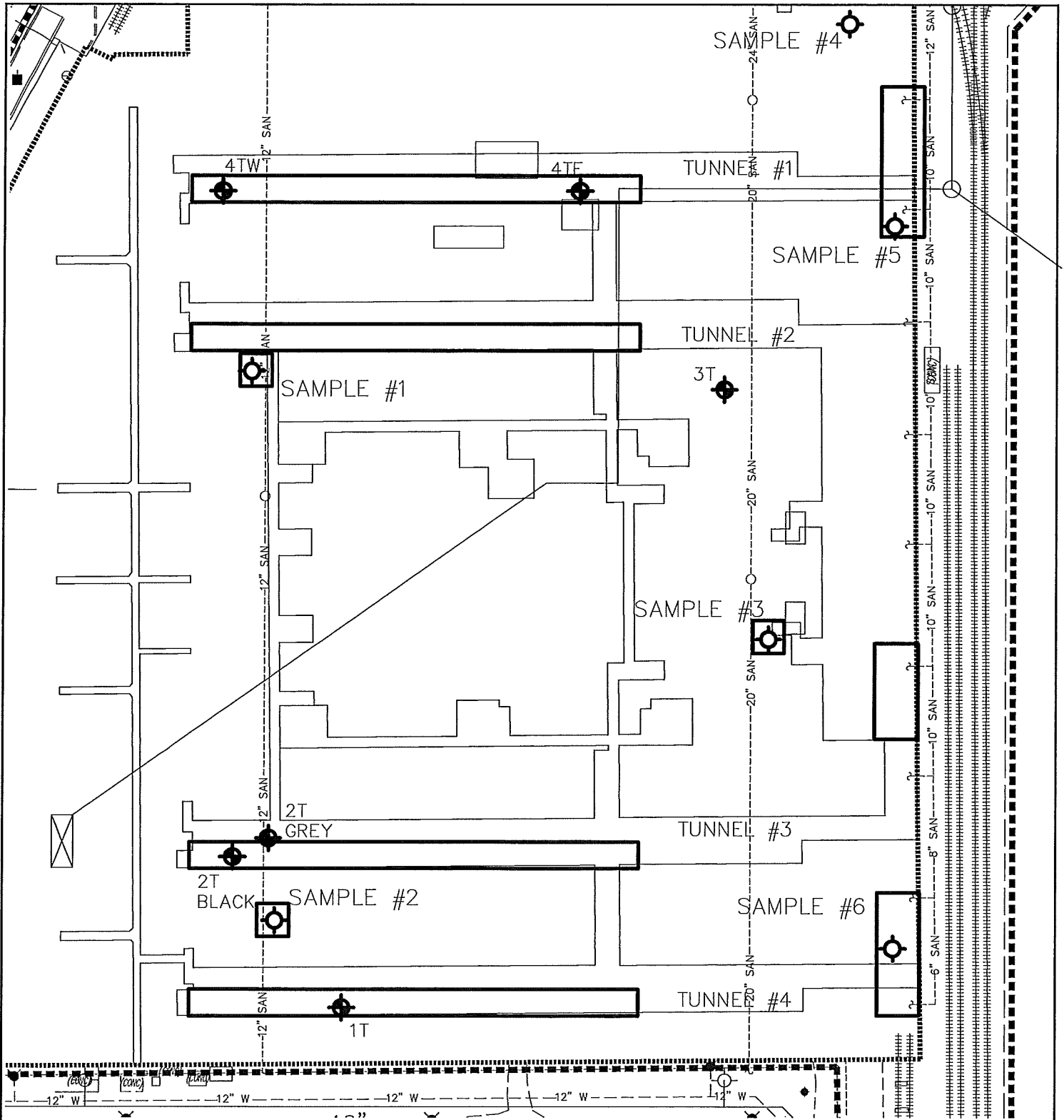
Weaver Boos Consultants  
 4085 MEGHAN BEELER COURT  
 SOUTH BEND, IN 46628  
 (574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	FIGURE 8

LEGEND:

	MONITORING WELL
	POTENTIAL SOL. BORING
	DRY WELL
	PROPERTY LINE
	EXISTING RAILROAD LINES
	REMOVED RAILROAD LINES
	FENCE LINE
	TUNNELS
	WATER LINE
	SANITARY SEWER LINE W/ DIRECTION
	13,000 VOLT UNDERGROUND ELECTRIC
	TRANSFORMER ROOM W/ PCB CONTAINING FLUID
	MANHOLE
	ELECTRIC MANHOLE
	CATCH BASIN
	FILL PORT
	FIRE HYDRANT
	PUMP HOUSE
	ELEVATOR
	55-GAL DRUM
	REMOVED TANKS
	STAIN
	STRESSED VEGETATION AND BARE SOIL
	VEGETATION

SOURCE NOTE: THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. MCCARRISON (DRAWING #56852, 6/48), THE SIDWELL COMPANY, HULL & ASSOC., INC. AND DLZ.





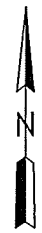
**FOUNDRY SAND  
SAMPLE LOCATIONS**

FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

**Weaver Boos Consultants**  
4085 MEGHAN BEELEER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

**LEGEND:**

-  SAMPLE COLLECTED IN TUNNELS
-  SAMPLE COLLECTED AT GRADE ABOVE TUNNELS



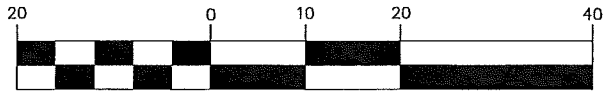
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	FIGURE 8.1A

SOURCE NOTE: THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. MCCARRISON (DRAWING #56552, 6/48), THE SIDWELL COMPANY, HULL & ASSOC., INC. AND DLZ.

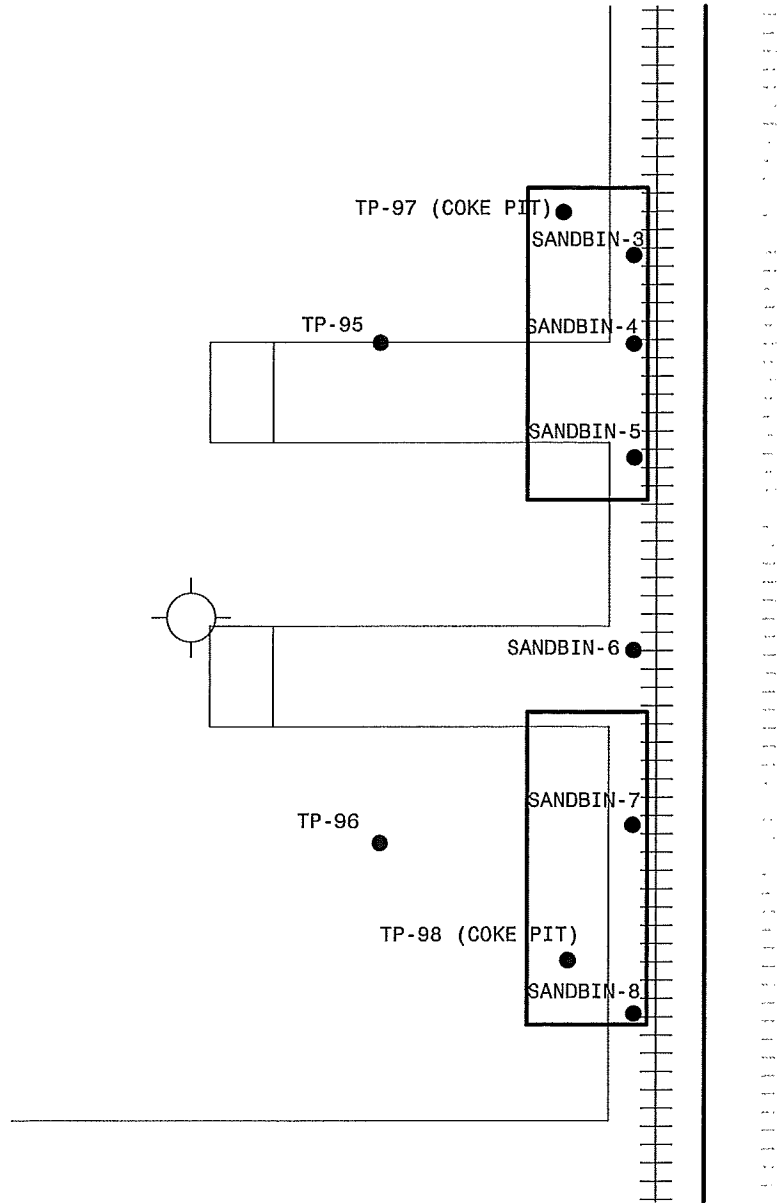




APPROXIMATE GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.



LEGEND:

TP-  
●  
SANDBIN-  
●  
DENOTES TEST PIT SAMPLE LOCATIONS

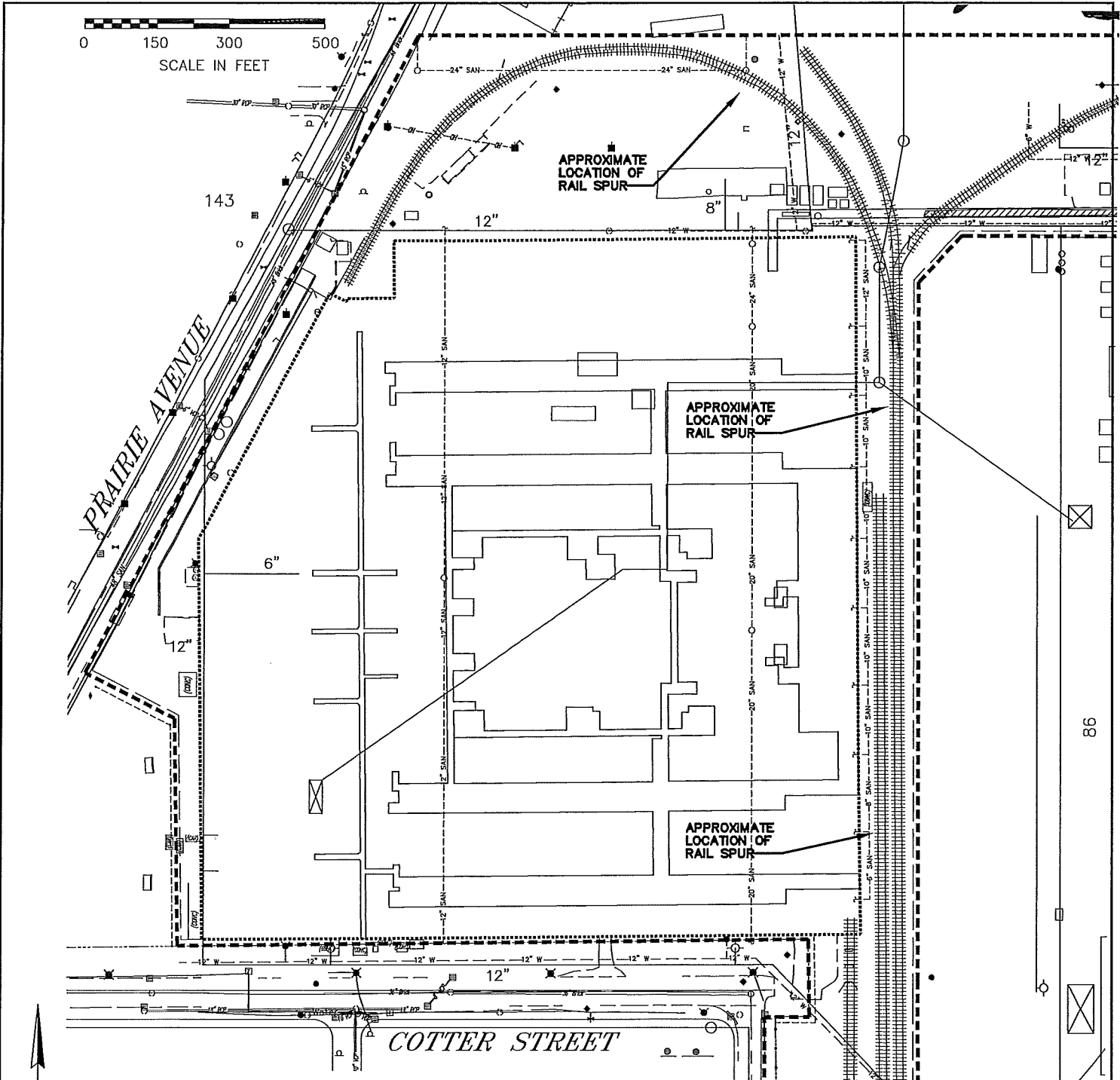


SANDBIN & COKE PIT SAMPLE  
LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants

4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 9.1A



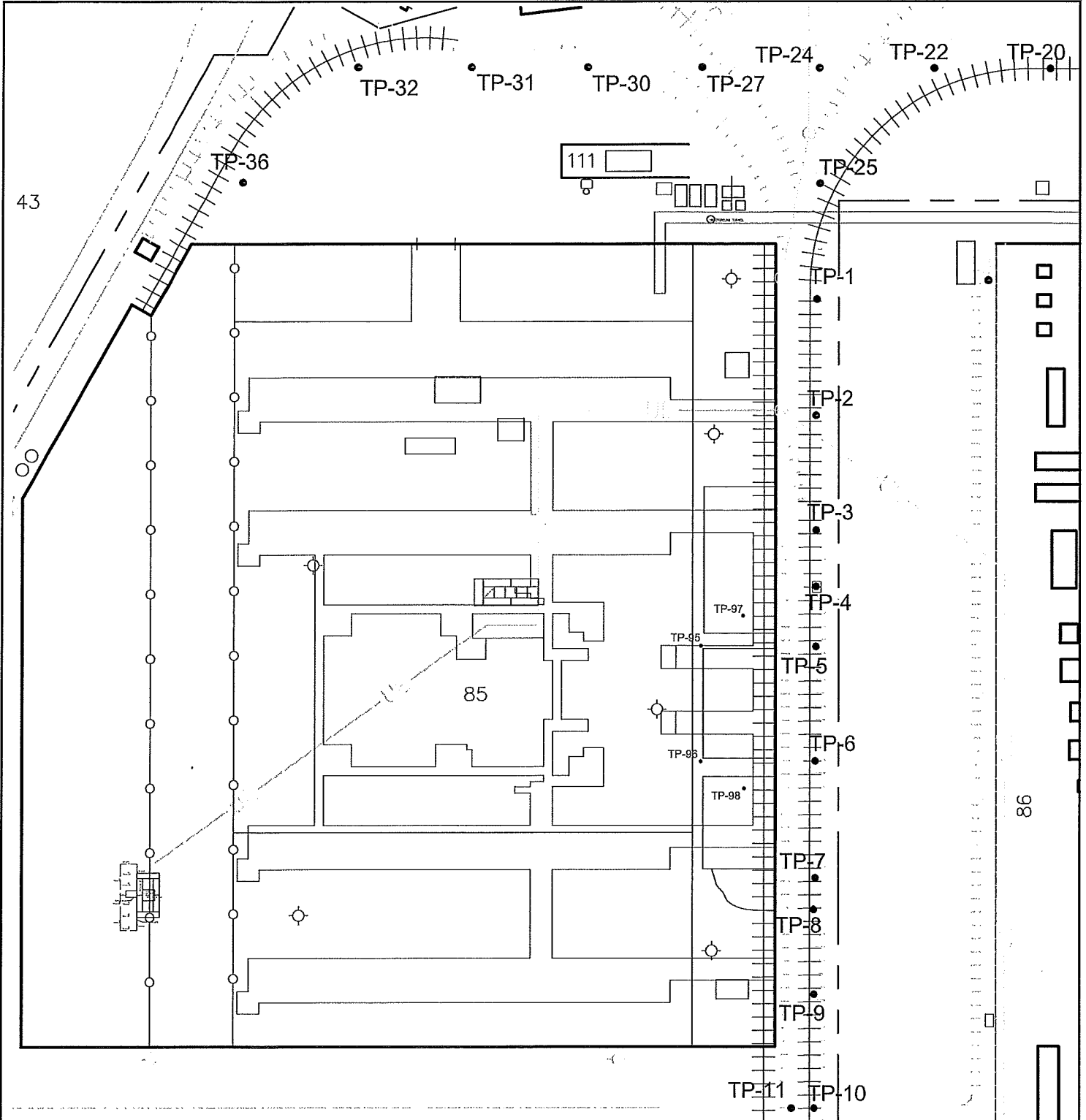
OVERALL SITE MAP RAIL SPUR TEST PIT SAMPLE LOCATIONS  
 FORMER STUDEBAKER FOUNDRY  
 1100 PRAIRIE AVENUE  
 SOUTH BEND, IN

Weaver Boos Consultants  
 4085 MEGHAN BEELER COURT  
 SOUTH BEND, IN 46628  
 (574) 271-3447

DRAWN BY: RMD    DATE: 3/1/2012    FILE: 0058-373-01  
 REVIEWED BY: ES    CAD: SITELOC.DWG    **FIGURE 10**

LEGEND:	
	MONITORING WELL
	POTENTIAL SOIL BORING
	DRY WELL
	PROPERTY LINE
	EXISTING RAILROAD LINES
	REMOVED RAILROAD LINES
	FENCE LINE
	TUNNELS
	WATER LINE
	SANITARY SEWER LINE W/ DIRECTION
	13,000 VOLT UNDERGROUND ELECTRIC
	TRANSFORMER ROOM W/ PCB CONTAINING FLUID
	MANHOLE
	ELECTRIC MANHOLE
	CATCH BASIN
	FILL PORT
	FIRE HYDRANT
	PUMP HOUSE
	ELEVATOR
	55-GAL. DRUM
	REMOVED TANKS
	STAIN
	STRESSED VEGETATION AND BARE SOIL
	VEGETATION

SOURCE NOTE: THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. McCARRISON (DRAWING #56552, 6/48), THE SIDWELL COMPANY, HULL & ASSOC., INC. AND DLZ.

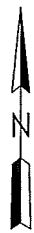


***COTTER STREET***

***KENDALL***

RAIL SPUR TEST PIT SAMPLE  
LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

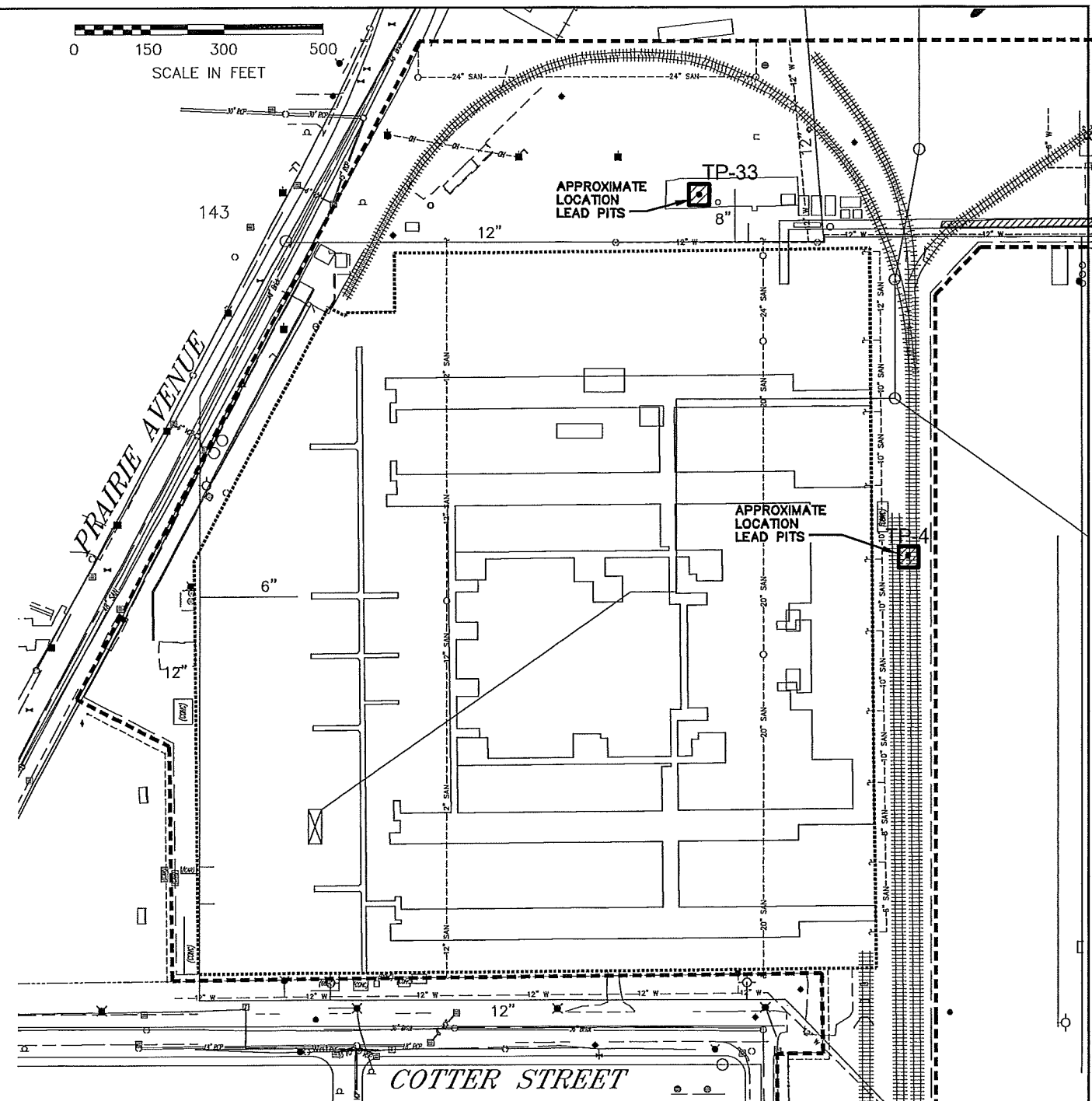
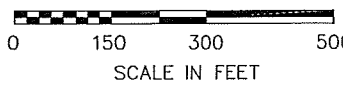
**Weaver Boos Consultants**  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447



**LEGEND:**

**TP** ● DENOTES TEST PIT SAMPLE LOCATIONS

DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 10.1A

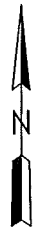


OVERALL SITE MAP  
LEAD PIT VERIFICATION  
SAMPLE LOCATIONS  
FORMER STUDEBAKER FOUNDRY  
1100 PRAIRIE AVENUE  
SOUTH BEND, IN

Weaver Boos Consultants  
4085 MEGHAN BEELER COURT  
SOUTH BEND, IN 46628  
(574) 271-3447

LEGEND:

	MONITORING WELL
	POTENTIAL SOIL BORING
	DRY WELL
	PROPERTY LINE
	EXISTING RAILROAD LINES
	REMOVED RAILROAD LINES
	FENCE LINE
	TUNNELS
	WATER LINE
	SANITARY SEWER LINE W/ DIRECTION
	13,000 VOLT UNDERGROUND ELECTRIC
	TRANSFORMER ROOM W/ PCB CONTAINING FLUID
	MANHOLE
	ELECTRIC MANHOLE
	CATCH BASIN
	FILL PORT
	FIRE HYDRANT
	PUMP HOUSE
	ELEVATOR
	55-GAL DRUM
	REMOVED TANKS
	STAIN
	STRESSED VEGETATION AND BARE SOIL VEGETATION

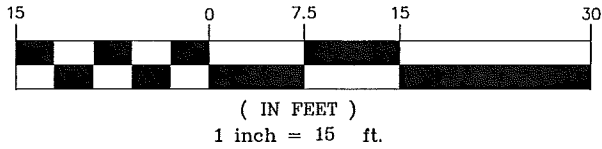


S. KENDALL

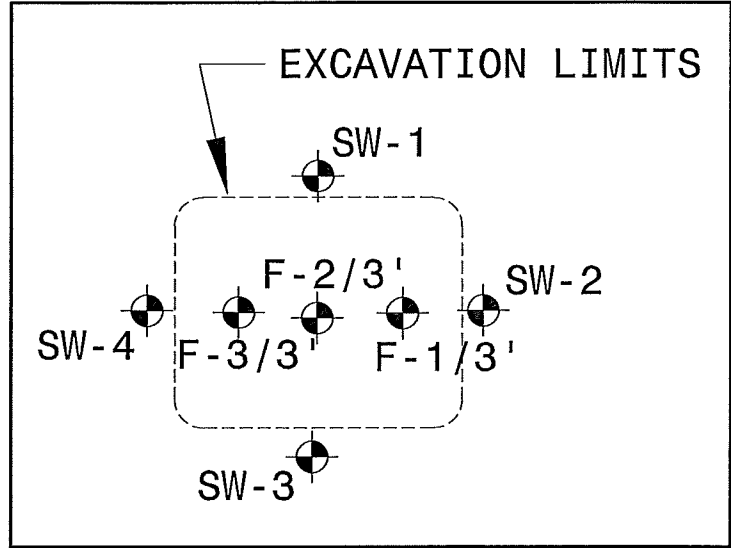
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	FIGURE 11

SOURCE NOTE: THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RICHLEY, C.A. McCARRISON (DRAWING #56652, 6/48), THE SIDWELL COMPANY, HULL & ASSOC., INC. AND DLZ.

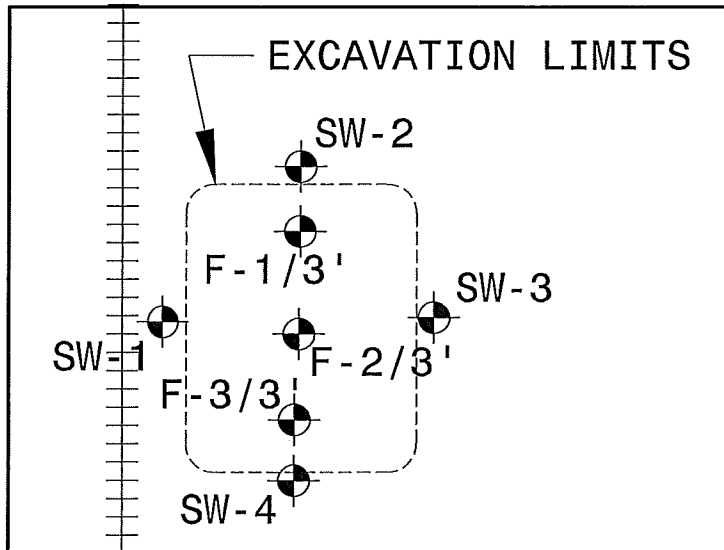
APPROXIMATE GRAPHIC SCALE



NOTE  
 THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. McCARRISON (DRAWING #56652, 6/48), THE SIDWELL COMPANY, AND HULL & ASSOC., INC. ALL INFORMATION REPRESENTED ON THIS DRAWING IS APPROXIMATE AND SHOULD BE USED FOR GENERAL PURPOSES ONLY.



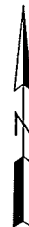
LEAD PIT 1 (AT TP-33)



LEAD PIT 2 (AT TP-4)

LEGEND

- F-1 SAMPLE COLLECTED AT FLOOR OF PIT
- SW-1 SAMPLE COLLECTED SIDEWALL OF PIT TRENCH



LEAD VERIFICATION SAMPLE LOCATIONS FORMER STUDEBAKER FOUNDRY 1100 PRAIRIE AVENUE SOUTH BEND, IN		
<b>Weaver Boos Consultants</b> 4085 MEGHAN BEELER COURT SOUTH BEND, IN 46628 (574) 271-3447		
DRAWN BY: RMD	DATE: 3/1/2012	FILE: 0058-373-01
REVIEWED BY: ES	CAD: FIGS.DWG	FIGURE 11.1A

SOURCE NOTE: FIGURE 2 FROM PHASE II ENVIRONMENTAL REPORT DATED 2002 BY HULL & ASSOC.

## Tables







**Table 1**  
Analytical Soil Sample Results  
Underground Storage Tanks, Twin Vaults and Dry Well  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	96 Non-Res Subsurf		96 Non-Res Surf		Lab Sample ID:	510-65784-11		510-68812-1		510-68812-2		510-68812-3		510-68812-4		510-68812-5		510-68812-6		510-66039-10		510-66039-11				
		RISC Indust. Default Closure	TK3FS N: 145150 5/26/2011 3:40 PM	SB0058: 145150 5/26/2011 5:30 PM	TK4FSS: 145150 5/26/2011 5:30 PM		SB0058: 145150 5/26/2011 5:30 PM	TK4FSM: 145150 5/26/2011 5:40 PM	SB0058: 145150 5/26/2011 5:50 PM	TK4FSN: 145150 5/26/2011 5:50 PM	SB0058: 145150 5/26/2011 6:00 PM	TK4FS S: 145150 5/26/2011 6:00 PM	SB0058: 145150 5/26/2011 6:10 PM	TK5FS M: 145150 5/26/2011 6:20 PM	SB0058: 145150 5/26/2011 6:20 PM	TK6FS N: 150155 6/1/2011 5:40 PM	SB0058: 150155 6/1/2011 5:50 PM										
<b>INDIANA ERO - METHOD 8015B</b>																											
C8-C36	mg/Kg	5,800.00	0.18	ND	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
<b>GASOLINE RANGE ORGANICS - METHOD 8015B</b>																											
C5-C12	mg/Kg	4,300.00	ND	0.077	0.3	0.075	0.29	0.22	0.27	0.43	0.047	0.043	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	
<b>MERCURY - METHOD 7471A</b>																											
Mercury	mg/Kg	87.60	122.40	32.00	0.027	ND	0.033	ND	0.041	0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>METALS - METHOD 6010</b>																											
Antimony	mg/Kg	584	816	37	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Arsenic	mg/Kg	438	612	5.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Barium	mg/Kg	10,000.00	10,000.00	10,000.00	28	5.9	23	2.9	7.6	30	2.7	13	7.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Cadmium	mg/Kg	730.00	1,020.00	77.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chromium	mg/Kg	7,300.00	10,000.00	120.00	5.2	2.5	5.6	2.7	5	6.7	3.2	3	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	
Copper	mg/Kg	---	---	2900	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Lead	mg/Kg	---	---	230.00	16	2.3	9.8	1.9	4.4	14	1.6	8.1	2.9	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	
Nickel	mg/Kg	10,000.00	10,000.00	2,700.00	6.9	2.9	8.1	2.7	5.4	7.5	2.6	3.7	4.6	---	---	---	---	---	---	---	---	---	---	---	---	---	
Selenium	mg/Kg	7300	10000	53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Silver	mg/Kg	7300	10000	87	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Thallium	mg/Kg	---	---	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Zinc	mg/Kg	10,000.00	10,000.00	23	7.2	7.2	25	6.4	11	23	5.8	19	12	---	---	---	---	---	---	---	---	---	---	---	---	---	
<b>Polychlorinated Biphenyls - METHOD 8082</b>																											
PCB-1016	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
PCB-1221	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
PCB-1232	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
PCB-1242	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
PCB-1248	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
PCB-1254	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
PCB-1260	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>SIM-PAHs - METHOD 8270C</b>																											
Acenaphthene	mg/Kg	10,000.00	10,000.00	1,800.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acenaphthylene	mg/Kg	180.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Anthracene	mg/Kg	10,000.00	10,000.00	2,000.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzofluoranthene	mg/Kg	103.88	79.45	15.00	ND	ND	0.025	ND	0.051	0.068	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Benzofluoranthene	mg/Kg	69.85	7.94	1.50	ND	ND	0.032	ND	0.04	0.061	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	
Benzofluoranthene	mg/Kg	354.98	79.45	15.00	ND	ND	0.036	ND	0.044	0.075	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	
Benzofluoranthene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzofluoranthene	mg/Kg	3,759.12	794.52	150.00	ND	ND	0.023	ND	0.023	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Chrysene	mg/Kg	10,000.00	7,945.21	1,500.00	ND	ND	0.035	ND	0.046	0.06	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	
Dibenz(a,h)anthracene	mg/Kg	69.86	7.95	1.50	ND	ND	0.039	ND	0.046	0.067	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	
Fluoranthene	mg/Kg	10,000.00	10,000.00	2,000.00	ND	ND	0.046	ND	0.094	0.11	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	
Pyrene	mg/Kg	10,000.00	10,000.00	2,000.00	ND	ND	0.046	ND	0.094	0.11	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	
Fluorene	mg/Kg	10,000.00	10,000.00	2,000.00	ND	ND	0.046	ND	0.094	0.11	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	
Indeno(1,2,3-cd)pyrene	mg/Kg	629.17	79.45	15.00	ND	ND	0.046	ND	0.094	0.11	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	
Naphthalene	mg/Kg	10,000.00	10,000.00	170.00	ND	ND	0.046	ND	0.094	0.11	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	
Phenanthrene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>VOLATILE ORGANIC COMPOUNDS - METHOD 8260B</b>																											
Acetone	mg/Kg	136.28	1,000.00	370.00	0.026	ND	0.031	ND	0.033	0.021	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	
Acrolein	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	mg/Kg	4.77	16.63	0.35	ND	ND	0.031	ND	0.033	0.021	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	
Bromodichloromethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorodibromomethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane	mg/Kg	1,000.00	1,000.00	10.00	ND	ND	0.031	ND	0.033	0.021	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	
Chloroform	mg/Kg	20.33	5.28	4.70	ND	ND	0.031	ND																			



**Table 1**  
Analytical Soil Sample Results  
Underground Storage Tanks, Twin Vaults and Dry Well  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	96 NonRes Subsurf		96 NonRes Surf		Lab Sample ID:	510-66039-12	510-66812-7	510-66812-8	510-65812-9	510-65927-11	510-66039-1	510-66039-2	510-66039-17	510-66927-1
		RISC Indust. Default Closure	TK6FS S	TK6FS E:	TK7FS M:										
<b>INDIANA ERO - METHOD 8015B</b>															
C8-C36	mg/Kg	---	---	---	---	---	5,800.00	ND	ND	ND	890	430	430	5200	ND
<b>GASOLINE RANGE ORGANICS - METHOD 8015B</b>															
C5-C12	mg/Kg	---	---	---	---	---	4,300.00	0.11	0.13	0.27	0.30	0.12	1.8	240	0.044
<b>MERCURY - METHOD 7471A</b>															
Mercury	mg/Kg	87.60	122.40	---	---	---	0.039	0.055	0.021	0.02	0.46	0.041	0.047	0.063	ND
<b>METALS - METHOD 6010</b>															
Antimony	mg/Kg	584	816	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	mg/Kg	438	612	---	---	---	---	---	---	---	---	---	---	---	---
Barium	mg/Kg	10,000.00	10,000.00	10,000.00	25	42	21	25	72	21	32	71	15	---	
Cadmium	mg/Kg	730.00	1,020.00	---	---	---	---	---	---	---	---	---	---	---	
Chromium	mg/Kg	7,300.00	10,000.00	---	---	---	6.3	6.8	11	4.7	7.5	8.6	6.1	---	
Copper	mg/Kg	---	---	---	---	---	2900	---	---	---	---	---	---	---	
Lead	mg/Kg	---	---	---	---	---	9.7	41	5.9	100	27	31	3.9	---	
Nickel	mg/Kg	10,000.00	10,000.00	10,000.00	7.1	7.4	7.3	5.9	10	4.3	8.1	7.2	6.2	---	
Selenium	mg/Kg	7300	10000	---	---	---	---	---	---	---	---	---	---	---	
Silver	mg/Kg	7300	10000	---	---	---	---	---	---	---	---	---	---	---	
Thallium	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	
Zinc	mg/Kg	10,000.00	10,000.00	10,000.00	30	30	17	15	150	17	50	48	18	---	
<b>Polychlorinated Biphenyls - METHOD 8082</b>															
PCB-1016	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1221	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	
PCB-1232	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	
PCB-1242	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	
PCB-1248	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	
PCB-1254	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	
PCB-1260	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	
<b>SIM-PAHs - METHOD 8270C</b>															
Acenaphthene	mg/Kg	10,000.00	10,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	mg/Kg	10,000.00	10,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Benzofluranthene	mg/Kg	103.88	79.45	---	---	---	---	---	---	---	---	---	---	---	---
Benzofluoranthene	mg/Kg	69.85	7.94	---	---	---	---	---	---	---	---	---	---	---	---
Benzofluoranthene	mg/Kg	354.98	79.45	---	---	---	---	---	---	---	---	---	---	---	---
Benzofluoranthene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzofluoranthene	mg/Kg	3,759.12	794.52	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	mg/Kg	10,000.00	7,945.21	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	mg/Kg	69.86	7.95	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	mg/Kg	10,000.00	10,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	mg/Kg	10,000.00	10,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	mg/Kg	10,000.00	10,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	mg/Kg	629.17	79.45	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	mg/Kg	10,000.00	10,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>VOLATILE ORGANIC COMPOUNDS - METHOD 8260B</b>															
Acetone	mg/Kg	136.29	1,000.00	---	---	---	0.018	0.034	0.024	0.021	0.094	0.08	0.10	ND	0.026
Acrolein	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	mg/Kg	4.77	16.63	---	---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorodibromomethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane	mg/Kg	1,000.00	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Chloroform	mg/Kg	20.33	5.28	---	---	---	---	---	---	---	---	---	---	---	---
Chloromethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethylene	mg/Kg	102.49	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cyclohexane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethylene	mg/Kg	0.08	0.15	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane	mg/Kg	1,000.00	973.47	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane	mg/Kg	0.37	5.27	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropene, Total	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethyl acetate	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	mg/Kg	1,000.00	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Iodomethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl acetate	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl Butyl Ketone (2-Hexanone)	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylcyclohexane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylene Chloride	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl ethyl ketone (MEK)	mg/Kg	146.24	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
4-Methyl-2-pentanone (MIBK)	mg/Kg	407.48	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Methyl tert-butyl ether	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
n-Butanol	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
n-Hexane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Styrene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,1,2-Tetrachloroethane	mg/Kg	7.24	75.91	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	mg/Kg	0.21	75.41	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachloroethylene (PCE)	mg/Kg	8.01	101.23	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	mg/Kg	1,000.00	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,2-Dichloroethylene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane	mg/Kg	1,000.00	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane	mg/Kg	1.05	22.74	---	---	---	---	---	---	---	---	---	---	---	---
Trichloroethene (TCE)	mg/Kg	25.73	24.97	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl acetate	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	mg/Kg	0.13	0.02	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes, Total	mg/Kg	1,000.00	1,000.00	---	---	---	---	---	---	---	---	---	---	---	---
Percent Moisture	%	---	---	---	---	---	---	7.2	5.5	94	11.7	ND	ND	ND	7.4
Percent Solids	%	---	---	---	---	---	---	93	94	88.3	88.3	ND	ND	ND	92.6

Above RISC Industrial Default Closure Levels  
Above the 1996 VRF Non-Residential Subsurface Default Closure Levels  
No Closure Level Listed for this Parameter/Parameter not analyzed  
PT - Pipe Trench/Pipe Run connected to the USTs











**Table 1**  
Analytical Soil Sample Results  
Underground Storage Tanks, Twin Vaults and Dry Well  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	96 NonRes		Lab Sample ID: 510-66039-16	510-72081-1	510-72081-2	510-72081-3	510-72081-4	510-72081-5	510-72081-6	510-72081-7	510-72081-8
		Subsurf	Surf									
<b>INDIANA ERO - METHOD 8015B</b>												
C8-C36	mg/Kg	---	---	5,800.00	ND	ND	ND	ND	310	ND	ND	ND
<b>GASOLINE RANGE ORGANICS - METHOD 8015B</b>												
C5-C12	mg/Kg	---	---	4,300.00	0.073	0.045	0.066	0.022	0.037	0.068	0.032	0.025
<b>MERCURY - METHOD 7471A</b>												
Mercury	mg/Kg	87.60	122.40	32.00	0.056	ND	ND	ND	1.1	ND	0.048	0.058
<b>METALS - METHOD 6010</b>												
Antimony	mg/Kg	584	816	37	---	---	---	---	---	---	---	---
Arsenic	mg/Kg	438	612	5.8	---	---	---	---	---	---	---	---
Barium	mg/Kg	10,000.00	10,000.00	21	6.4	10	11	14	53	14	38	53
Cadmium	mg/Kg	730.00	1,020.00	77.00	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	mg/Kg	7,300.00	10,000.00	120.00	6.2	4.3	4.6	7.2	9.2	3.9	7	7.6
Copper	mg/Kg	---	---	2900	---	---	---	---	---	---	---	---
Lead	mg/Kg	---	---	230.00	2.4	4	3.3	3.8	66	3.3	18	21
Nickel	mg/Kg	10,000.00	10,000.00	2,700.00	7.4	---	---	---	---	---	---	---
Selenium	mg/Kg	7300	10000	53	---	---	---	---	---	---	---	---
Silver	mg/Kg	7300	10000	87	---	---	---	---	---	---	---	---
Thallium	mg/Kg	---	---	10	---	---	---	---	---	---	---	---
Zinc	mg/Kg	10,000.00	10,000.00	22	---	---	---	---	---	---	---	---
<b>Polychlorinated Biphenyls - METHOD 8082</b>												
PCB-1016	mg/Kg	---	---	ND	ND	ND	ND	ND	0.16	ND	ND	ND
PCB-1221	mg/Kg	---	---	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1232	mg/Kg	---	---	ND	ND	ND	ND	ND	0.58	ND	ND	ND
PCB-1242	mg/Kg	---	---	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1248	mg/Kg	4.23	7.53	5.30	ND	ND	ND	ND	1.4	ND	0.11	0.042
PCB-1254	mg/Kg	---	---	---	ND	ND	ND	ND	1.2	ND	0.08	0.024
PCB-1260	mg/Kg	---	---	---	ND	ND	ND	ND	1.4	ND	0.083	0.028
<b>SIM-PAHs - METHOD 8270C</b>												
Acenaphthene	mg/Kg	10,000.00	10,000.00	1,800.00	ND	ND	ND	ND	0.74	ND	0.045	ND
Acenaphthylene	mg/Kg	---	---	180.00	ND	ND	ND	ND	0.84	ND	0.056	ND
Anthracene	mg/Kg	10,000.00	10,000.00	2,000.00	ND	ND	ND	ND	1.5	ND	0.1	0.035
Benz[a]anthracene	mg/Kg	103.88	79.45	15.00	ND	ND	ND	ND	0.32	ND	0.19	0.061
Benz[b]fluoranthene	mg/Kg	69.85	7.94	1.50	ND	ND	ND	ND	2.9	ND	0.23	0.073
Benz[k]fluoranthene	mg/Kg	354.98	79.45	15.00	ND	ND	ND	ND	2.5	ND	0.11	0.042
Chrysene	mg/Kg	3,759.12	794.52	150.00	ND	ND	ND	ND	0.21	ND	0.041	ND
Dibenz[a,h]anthracene	mg/Kg	10,000.00	7,945.21	1,500.00	ND	ND	ND	ND	0.77	ND	0.041	ND
Fluoranthene	mg/Kg	69.86	7.95	1.50	ND	ND	ND	ND	2.0	ND	0.073	0.03
Pyrene	mg/Kg	10,000.00	10,000.00	2,000.00	ND	ND	ND	ND	0.027	ND	ND	ND
Fluorene	mg/Kg	10,000.00	10,000.00	2,000.00	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	mg/Kg	629.17	79.45	15.00	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	mg/Kg	10,000.00	10,000.00	170.00	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/Kg	---	---	170.00	0.027	---	---	---	---	---	---	---
<b>VOLATILE ORGANIC COMPOUNDS - METHOD 8260B</b>												
Acetone	mg/Kg	136.29	1,000.00	370.00	0.053	ND	ND	ND	ND	ND	ND	ND
Acrolein	mg/Kg	---	---	0.25	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	mg/Kg	4.77	16.63	0.35	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	mg/Kg	---	---	0.51	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	mg/Kg	---	---	2.70	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	mg/Kg	---	---	0.70	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	mg/Kg	---	---	82.00	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	mg/Kg	---	---	0.29	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	mg/Kg	---	---	27.00	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	mg/Kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	mg/Kg	1,000.00	1,000.00	10.00	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	mg/Kg	20.33	5.28	4.70	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	mg/Kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	mg/Kg	102.49	1,000.00	5.80	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	mg/Kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	mg/Kg	---	---	69.00	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	mg/Kg	---	---	0.01	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	mg/Kg	0.08	0.15	42.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	mg/Kg	1,000.00	973.47	58.00	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	mg/Kg	0.37	5.27	0.15	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	mg/Kg	---	---	0.25	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropene, Total	mg/Kg	---	---	0.20	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl acetate	mg/Kg	---	---	590.00	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	mg/Kg	1,000.00	1,000.00	160.00	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	mg/Kg	---	---	42.00	ND	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	mg/Kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Butyl Ketone (2-Hexanone)	mg/Kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	mg/Kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	mg/Kg	---	---	1.80	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (MEK)	mg/Kg	146.24	1,000.00	250.00	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	mg/Kg	407.48	1,000.00	75.00	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	mg/Kg	---	---	3.20	ND	ND	ND	ND	ND	ND	ND	ND
n-Butanol	mg/Kg	---	---	44.00	ND	ND	ND	ND	ND	ND	ND	ND
n-Hexane	mg/Kg	---	---	100.00	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	mg/Kg	---	---	300.00	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	mg/Kg	---	---	550.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	mg/Kg	7.24	75.91	0.85	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	mg/Kg	0.21	75.41	0.11	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	mg/Kg	8.01	101.23	0.64	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	mg/Kg	1,000.00	1,000.00	96.00	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	mg/Kg	---	---	14.00	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	mg/Kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	mg/Kg	1,000.00	1,000.00	280.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	mg/Kg	1.05	22.74	0.30	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	mg/Kg	25.73	24.97	0.35	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	mg/Kg	---	---	540.00	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	mg/Kg	---	---	170.00	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	mg/Kg	---	---	68.00	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	mg/Kg	---	---	430.00	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	mg/Kg	0.13	0.02	0.03	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, Total	mg/Kg	1,000.00	1,000.00	170.00	ND	ND	ND	ND	ND	ND	ND	ND
Percent Moisture	%	---	---	---	3.3	11	7.1	9.6	9.5	5.8	8.2	11
Percent Solids	%	---	---	---	97	89	93	90	91	94	92	89

Above RISC Industrial Default Closure Levels  
Above the 1996 VRF Non-Residential Subsurface Default Closure Levels  
No Closure Level Listed for this Parameter/Parameter not analyzed  
PT - Pipe Trench/Pipe Run connected to the USTs



**Table 1**  
Analytical Soil Sample Results  
Underground Storage Tanks, Twin Vaults and Dry Well  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	96 NonRes Subsurf		96 NonRes Surf		RISC Indust. Default Closure		510-72081-9		510-72081-10		510-72081-11		510-72081-12		510-72081-13		510-72081-14		510-72081-15		510-72081-16		510-72081-17					
		SB0058: TK11FSE: 070080 11/8/2011 12:35 PM	SB0058: TK11S1SWW: 040050 11/8/2011 12:05 PM	SB0058: TK11SWS1: 040050 11/8/2011 12:15 PM	SB0058: TK11SWS2: 040050 11/8/2011 12:20 PM	SB0058: TK12SFW: 090100 11/8/2011 1:30 PM	SB0058: TK12SFW: 040050 11/8/2011 1:00 PM	SB0058: TK12SFW: 040050 11/8/2011 1:05 PM	SB0058: TK12SWE: 040050 11/8/2011 1:10 PM	SB0058: TK13SFW: 040050 11/8/2011 1:15 PM																			
<b>INDIANA ERO - METHOD 8015B</b>																													
C8-C36	mg/Kg	---	---	---	5,800.00	ND	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
<b>GASOLINE RANGE ORGANICS - METHOD 8015B</b>																													
C5-C12	mg/Kg	---	---	---	4,300.00	0.11	0.03	0.059	0.14	3.3	0.021	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.031	
<b>MERCURY - METHOD 7471A</b>																													
Mercury	mg/Kg	87.60	122.40	32.00	0.04	0.04	ND	2.4	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.026	
<b>METALS - METHOD 6070</b>																													
Antimony	mg/Kg	584	816	37	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	mg/Kg	438	612	5.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Barium	mg/Kg	10,000.00	10,000.00	10,000.00	30	14	68	22	14	24	11	24	42	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cadmium	mg/Kg	730.00	1,020.00	77.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Chromium	mg/Kg	7,300.00	10,000.00	120.00	9.7	6.2	1.1	8	3.7	3	7.6	13	3.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Copper	mg/Kg	---	---	2900	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	mg/Kg	---	---	230.00	12	3.9	95	8.6	2.8	3	5.6	9.6	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nickel	mg/Kg	10,000.00	10,000.00	2,700.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Selenium	mg/Kg	7300	10000	53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Silver	mg/Kg	7300	10000	87	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Thallium	mg/Kg	---	---	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Zinc	mg/Kg	10,000.00	10,000.00	10,000.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>Polychlorinated Biphenyls - METHOD 8082</b>																													
PCB-1016	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1221	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1232	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1242	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1248	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1254	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1260	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>SIM-PAHS - METHOD 8270C</b>																													
Acenaphthene	mg/Kg	10,000.00	10,000.00	1,800.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	mg/Kg	---	---	180.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]anthracene	mg/Kg	103.88	79.45	15.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	mg/Kg	69.85	7.94	0.032	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	mg/Kg	354.98	79.45	15.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	mg/Kg	3,759.12	794.52	150.00	0.034	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysenes	mg/Kg	10,000.00	7,945.21	1,500.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	mg/Kg	69.86	7.95	1.50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	mg/Kg	629.17	79.45	15.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	mg/Kg	10,000.00	10,000.00	170.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	mg/Kg	---	---	170.00	0.042	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>VOLATILE ORGANIC COMPOUNDS - METHOD 8260B</b>																													
Acetone	mg/Kg	136.29	1,000.00	370.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acrolein	mg/Kg	---	---	0.25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	mg/Kg	---	16.63	0.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	mg/Kg	---	---	0.51	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	mg/Kg	---	---	2.70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	mg/Kg	---	---	0.70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon disulfide	mg/Kg	---	---	82.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	mg/Kg	---	---	0.29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	mg/Kg	---	---	27.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorodibromomethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane	mg/Kg	1,000.00	1,000.00	10.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroform	mg/Kg	20.33	5.28	4.70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloromethane	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethylene	mg/Kg	102.49	1,000.00	5.80	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cyclohexane	mg/Kg	---	---	69.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane	mg/Kg	---	---	0.01																									







**Table 1**  
Analytical Soil Sample Results  
Underground Storage Tanks, Twin Vaults and Dry Well  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	96 NonRes Subsurf		96 NonRes Surf		RISC Indust. Default Closure	SB0058: TK14FLR2: 050055 1/25/2012 10:15 AM	SB0058: EBSB-1 11/2/2011 10:45: AM	SB0058: EBSB-2 11/2/2011 10:15: AM	SB0058: EBSB-3 11/2/2011 10:25: AM	SB0058: EBSB-4 11/2/2011 10:05: AM	SB0058: DW-1 11/2/2011 10:05: AM
		510-71843-1	510-71843-2	510-71843-3	510-71843-4							
INDIANA ERO - METHOD 8015B												
C8-C36	mg/Kg	---	---	---	---	5,800.00	---	ND	ND	ND	ND	500
GASOLINE RANGE ORGANICS - METHOD 8015B												
C5-C12	mg/Kg	---	---	---	---	4,300.00	0.027	0.053	0.030	ND	0.065	0.028
MERCURY - METHOD 7471A												
Mercury	mg/Kg	87.60	122.40	32.00	---	---	---	ND	ND	ND	ND	0.024
METALS - METHOD 6010												
Antimony	mg/Kg	584	816	37	---	---	---	ND	ND	ND	ND	ND
Arsenic	mg/Kg	438	612	5.8	---	---	---	1.7	1.1	1.3	1.3	2.9
Barium	mg/Kg	10,000.00	10,000.00	10,000.00	---	---	---	11	4.0	8.8	4.6	32
Cadmium	mg/Kg	730.00	1,020.00	77.00	---	---	---	ND	ND	ND	ND	ND
Chromium	mg/Kg	7,300.00	10,000.00	120.00	---	---	---	4.7	2.1	2.0	2.8	9
Copper	mg/Kg	---	---	2900	---	---	---	6.5	2.7	2.5	3.0	7.3
Lead	mg/Kg	---	---	230.00	---	---	7.2	22	5.0	2.0	4.0	4.7
Nickel	mg/Kg	10,000.00	10,000.00	2,700.00	---	---	---	5.0	2.8	2.4	3.4	11
Selenium	mg/Kg	7300	10000	53	---	---	---	ND	ND	ND	ND	ND
Silver	mg/Kg	7300	10000	87	---	---	---	ND	ND	ND	ND	ND
Thallium	mg/Kg	---	---	10	---	---	---	ND	ND	ND	ND	ND
Zinc	mg/Kg	10,000.00	10,000.00	10,000.00	---	---	---	---	---	---	---	---
POLYCHLORINATED BIPHENYLS - METHOD 8082												
PCB-1016	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
PCB-1221	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
PCB-1232	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
PCB-1242	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
PCB-1248	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
PCB-1254	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
PCB-1260	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
SIM-PAHs - METHOD 8270C												
Acenaphthene	mg/Kg	10,000.00	10,000.00	1,800.00	---	---	---	ND	ND	ND	ND	ND
Acenaphthylene	mg/Kg	---	---	180.00	---	---	---	ND	ND	ND	ND	ND
Anthracene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/Kg	103.88	79.45	15.00	---	---	---	0.029	0.024	0.024	0.024	0.22
Benzo(a)pyrene	mg/Kg	69.85	7.94	1.50	---	---	0.032	0.034	0.024	0.053	0.029	0.29
Benzo(b)fluoranthene	mg/Kg	354.98	79.45	15.00	---	---	---	0.056	0.053	0.053	0.029	0.29
Benzo(g,h,i)perylene	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	mg/Kg	3,759.12	794.52	150.00	---	---	---	ND	ND	ND	ND	0.15
Chrysene	mg/Kg	10,000.00	7,945.21	1,500.00	---	---	---	0.043	0.026	0.023	0.023	ND
Dibenz(a,h)anthracene	mg/Kg	69.86	7.95	1.50	---	---	---	0.037	0.026	0.027	0.027	ND
Fluoranthene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	0.042	0.027	0.027	0.027	ND
Pyrene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	ND	ND	ND	ND	ND
Fluorene	mg/Kg	10,000.00	10,000.00	2,000.00	---	---	---	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/Kg	629.17	79.45	15.00	---	---	---	0.032	0.032	0.032	0.032	ND
Naphthalene	mg/Kg	10,000.00	10,000.00	170.00	---	---	---	0.040	0.040	0.040	0.040	ND
Phenanthrene	mg/Kg	---	---	170.00	---	---	---	---	---	---	---	---
Xylenes, Total	mg/Kg	---	---	---	---	---	---	---	---	---	---	---
VOLATILE ORGANIC COMPOUNDS - METHOD 8260B												
Acetone	mg/Kg	136.29	1,000.00	370.00	---	---	---	ND	ND	ND	ND	ND
Acrolein	mg/Kg	---	---	0.25	---	---	---	ND	ND	ND	ND	ND
Benzene	mg/Kg	4.77	16.63	0.35	---	---	---	ND	ND	ND	ND	ND
Bromodichloromethane	mg/Kg	---	---	0.51	---	---	---	ND	ND	ND	ND	ND
Bromoform	mg/Kg	---	---	2.70	---	---	---	ND	ND	ND	ND	ND
Bromomethane	mg/Kg	---	---	0.70	---	---	---	ND	ND	ND	ND	ND
Carbon disulfide	mg/Kg	---	---	82.00	---	---	---	ND	ND	ND	ND	ND
Carbon tetrachloride	mg/Kg	---	---	0.29	---	---	---	ND	ND	ND	ND	ND
Chlorobenzene	mg/Kg	---	---	27.00	---	---	---	ND	ND	ND	ND	ND
Chlorodibromomethane	mg/Kg	---	---	---	---	---	---	ND	ND	ND	ND	ND
Chloroethane	mg/Kg	1,000.00	1,000.00	10.00	---	---	---	ND	ND	ND	ND	ND
Chloroform	mg/Kg	20.33	5.28	4.70	---	---	---	ND	ND	ND	ND	ND
Chloromethane	mg/Kg	---	---	5.80	---	---	---	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	mg/Kg	102.49	1,000.00	---	---	---	---	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	mg/Kg	---	---	---	---	---	---	ND	ND	ND	ND	ND
Cyclohexane	mg/Kg	---	---	69.00	---	---	---	ND	ND	ND	ND	ND
1,2-Dibromoethane	mg/Kg	---	---	0.01	---	---	---	ND	ND	ND	ND	ND
1,1-Dichloroethylene	mg/Kg	0.08	0.15	42.00	---	---	---	ND	ND	ND	ND	ND
1,1-Dichloroethane	mg/Kg	1,000.00	973.47	58.00	---	---	---	ND	ND	ND	ND	ND
1,2-Dichloroethane	mg/Kg	0.37	5.27	0.15	---	---	---	ND	ND	ND	ND	ND
1,2-Dichloropropane	mg/Kg	---	---	0.25	---	---	---	ND	ND	ND	ND	ND
1,3-Dichloropropene, Total	mg/Kg	---	---	0.20	---	---	---	ND	ND	ND	ND	ND
Ethyl acetate	mg/Kg	---	---	590.00	---	---	---	ND	ND	ND	ND	ND
Ethylbenzene	mg/Kg	1,000.00	1,000.00	160.00	---	---	---	ND	ND	ND	ND	ND
Iodomethane	mg/Kg	---	---	---	---	---	---	ND	ND	ND	ND	ND
Isopropylbenzene	mg/Kg	---	---	42.00	---	---	---	ND	ND	ND	ND	ND
Methyl acetate	mg/Kg	---	---	---	---	---	---	ND	ND	ND	ND	ND
Methyl Butyl Ketone (2-Hexanone)	mg/Kg	---	---	---	---	---	---	ND	ND	ND	ND	ND
Methylcyclohexane	mg/Kg	---	---	---	---	---	---	ND	ND	ND	ND	ND
Methylene Chloride	mg/Kg	---	---	1.80	---	---	---	ND	ND	ND	ND	ND
Methyl ethyl ketone (MEK)	mg/Kg	146.24	1,000.00	250.00	---	---	---	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	mg/Kg	407.48	1,000.00	75.00	---	---	---	ND	ND	ND	ND	ND
Methyl tert-butyl ether	mg/Kg	---	---	3.20	---	---	---	ND	ND	ND	ND	ND
n-Butanol	mg/Kg	---	---	44.00	---	---	---	ND	ND	ND	ND	ND
n-Hexane	mg/Kg	---	---	100.00	---	---	---	ND	ND	ND	ND	ND
n-Propylbenzene	mg/Kg	---	---	300.00	---	---	---	ND	ND	ND	ND	ND
Styrene	mg/Kg	---	---	550.00	---	---	---	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	mg/Kg	7.24	75.91	0.85	---	---	---	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	mg/Kg	0.21	75.41	0.11	---	---	---	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	mg/Kg	8.01	101.23	0.64	---	---	---	ND	ND	ND	ND	ND
Toluene	mg/Kg	1,000.00	1,000.00	96.00	---	---	---	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	mg/Kg	---	---	14.00	---	---	---	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	mg/Kg	---	---	---	---	---	---	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	mg/Kg	1,000.00	1,000.00	280.00	---	---	---	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	mg/Kg	1.05	22.74	0.30	---	---	---	ND	ND	ND	ND	ND
Trichloroethene (TCE)	mg/Kg	25.73	24.97	0.35	---	---	---	ND	ND	ND	ND	ND
Trichlorofluoromethane	mg/Kg	---	---	540.00	---	---	---	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	mg/Kg	---	---	170.00	---	---	---	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	mg/Kg	---	---	68.00	---	---	---	ND	ND	ND	ND	ND
Vinyl acetate	mg/Kg	---	---	430.00	---	---	---	ND	ND	ND	ND	ND
Vinyl chloride	mg/Kg	0.13	0.02	0.03	---	---	---	ND	ND	ND	ND	ND
Xylenes, Total	mg/Kg	1,000.00	1,000.00	170.00	---	---	---	ND	ND	ND	ND	ND
Percent Moisture	%	---	---	---	---	---	6	5.6	4.3	1.3	2.2	2.2
Percent Solids	%	---	---	---	---	---	94	94.4	95.7	98.7	97.8	97.8
Above RISC Industrial Default Closure Levels												
Above the 1996 VPP Non-Residential Subsurface Default Closure Levels												
No Closure Level Listed for this Parameter/Parameter not analyzed												
PT - Pipe Trench/Pipe Run connected to the USTs												



**Table 2**  
**Transformer Room AB-PCB Soil Closure Sample Results**  
 November 23, 2011 - December 19, 2011  
 Former Studebaker Foundry Demolition  
 South Bend, Indiana

Sample ID (Composite)	Depth	Concentration (mg/kg)				1996 VRP TIER II NONRESIDENTIAL CLEAN UP GOALS		CURRENT RISC INDUSTRIAL DEFAULT CLEANUP GOALS	40 CFR PART 761.61 CLEANUP LEVELS (LOW OCCUPANCY AREAS)		
						Surface Soil (mg/kg)	Subsurface Soils (mg/kg)			Soil (mg/kg)	Low Occupancy Areas (mg/kg)
		11/23/2011	12/6/2011	12/12/2011	12/19/2011						
TRAB-SW-1	18'	---	---	6.1	---	4.23	7.53	5.3	≤5		
TRAB-SW-2	18'	---	---	0.81	---	4.23	7.53	5.3	≤5		
TRAB-SW-3	18'	---	---	<0.21	---	4.23	7.53	5.3	≤5		
TRAB-SW-4	18'	---	---	<0.20	---	4.23	7.53	5.3	≤5		
TRAB-1	15'	15	---	---	---	4.23	7.53	5.3	≤5		
TRAB-2	15'	2.3	---	---	---	4.23	7.53	5.3	≤5		
TRAB-3	15'	13	---	---	---	4.23	7.53	5.3	≤5		
TRAB-4	15'	19	---	---	---	4.23	7.53	5.3	≤5		
TRAB-5	15'	<0.20	---	---	---	4.23	7.53	5.3	≤5		
TRAB-6	15'	120	---	---	---	4.23	7.53	5.3	≤5		
	18'	---	250	---	---	4.23	7.53	5.3	≤5		
	21'	---	---	21	---	4.23	7.53	5.3	≤5		
TRAB-7	15'	100	---	---	---	4.23	7.53	5.3	≤5		
	18'	---	6.1	---	---	4.23	7.53	5.3	≤5		
TRAB-8	15'	74	---	---	---	4.23	7.53	5.3	≤5		
	18'	---	0.41	---	---	4.23	7.53	5.3	≤5		
TRAB-9	15'	6.0	---	---	---	4.23	7.53	5.3	≤5		
	15'	130	---	---	---	4.23	7.53	5.3	≤5		
TRAB-10	18'	---	110	---	---	4.23	7.53	5.3	≤5		
	21'	---	---	3.2	---	4.23	7.53	5.3	≤5		
	15'	420	---	---	---	4.23	7.53	5.3	≤5		
TRAB-11	18'	---	61	---	---	4.23	7.53	5.3	≤5		
	21'	---	---	51	---	4.23	7.53	5.3	≤5		
	22'	---	---	---	1.5	4.23	7.53	5.3	≤5		

40 CFR Part 761.61 cleanup level in high occupancy areas is ≤ 1 ppm

  PCB Soil Concentration is above the 1996 VRP Subsurface Soil Cleanup Criteria

  PCB Soil Concentration is above the RISC Industrial Default Closure Levels

TRAB- Transformer Room A and B

SW- Sidewall



**Table 3A**  
 Transformer Room C-PCB Characterization Soil Sample Results  
 October 11, 2011  
 Former Studebaker Foundry Demolition  
 South Bend, Indiana

Sample ID (Discrete)	Depth	PCB-1260 Concentration (mg/kg)	1996 VRP TIER II NONRESIDENTIAL CLEAN UP GOALS		CURRENT RISC INDUSTRIAL DEFAULT CLEANUP GOALS	40 CFR PART 761.61 CLEANUP LEVELS (LOW OCCUPANCY AREAS)
			Surface Soil (mg/kg)	Subsurface Soils (mg/kg)		
		10/11/2011				
SP-2	0-2'	17	4.23	7.53	5.3	<25
	0-2'	330	4.23	7.53	5.3	<25
SP-3	4-5'	<0.035	4.23	7.53	5.3	<25
	7-8'	0.091	4.23	7.53	5.3	<25
SP-4	0-2'	9000	4.23	7.53	5.3	<25
	4-5'	53	4.23	7.53	5.3	<25
	7-8'	1.4	4.23	7.53	5.3	<25
SP-4/5	0-2'	0.40	4.23	7.53	5.3	<25
	0-2'	1.0	4.23	7.53	5.3	<25
SP-5	4-5'	<0.038	4.23	7.53	5.3	<25
	0-2'	0.72	4.23	7.53	5.3	<25
SP-8	4-5'	<0.035	4.23	7.53	5.3	<25
	0-2'	0.065	4.23	7.53	5.3	<25
SP-9	4-5'	0.067	4.23	7.53	5.3	<25
	7-8'	<0.037	4.23	7.53	5.3	<25
SP-10	0-2'	1.4	4.23	7.53	5.3	<25
	4-5'	<0.035	4.23	7.53	5.3	<25
	7-8'	<0.038	4.23	7.53	5.3	<25
SP-11	0-2'	3.6	4.23	7.53	5.3	<25
SP-14	0-2'	0.047	4.23	7.53	5.3	<25
	0-2'	0.23	4.23	7.53	5.3	<25
SP-15	4-5'	<0.035	4.23	7.53	5.3	<25
	7-8'	<0.038	4.23	7.53	5.3	<25
	0-2'	<0.038	4.23	7.53	5.3	<25
	4-5'	<0.035	4.23	7.53	5.3	<25
SP-16	7-8'	<0.035	4.23	7.53	5.3	<25
	0-2'	<0.038	4.23	7.53	5.3	<25
SP-17	4-5'	<0.036	4.23	7.53	5.3	<25
	0-2'	0.11	4.23	7.53	5.3	<25
SP-21	0-2'	0.16	4.23	7.53	5.3	<25
SP-22	0-2'	<0.037	4.23	7.53	5.3	<25
SP-23	0-2'	<0.038	4.23	7.53	5.3	<25

PCB Soil Concentration is above the 1996 VRP Subsurface Soil Cleanup Criteria

PCB Soil Concentration is above the RISC Industrial Default Closure Levels

TRC- Transformer Room C

SP- Soil Probe

**Table 3B**  
Transformer Room C - PCB Soil Sample Characterization Results  
October 18, 2011  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Sample ID (Discrete)	Depth	PCB-1260 Concentration (mg/kg)	1996 VRP TIER II NONRESIDENTIAL CLEAN UP GOALS		CURRENT RISC INDUSTRIAL DEFAULT CLEANUP GOALS	40 CFR PART 761.61 CLEANUP LEVELS (LOW OCCUPANCY AREAS)
			Surface Soil (mg/kg)	Subsurface Soils (mg/kg)	Soil (mg/kg)	Low Occupancy Areas (mg/kg)
		<b>10/18/2011</b>				
TRC-1	0-1'	580	4.23	7.53	5.3	≤25
TRC-2	0-1'	500	4.23	7.53	5.3	≤25
TRC-3	0-1'	20,000	4.23	7.53	5.3	≤25
TRC-4	0-1'	550	4.23	7.53	5.3	≤25
TRC-5	0-1'	1,500	4.23	7.53	5.3	≤25
TRC-6	0-1'	5,200	4.23	7.53	5.3	≤25
TRC-7	0-1'	1,000	4.23	7.53	5.3	≤25
TRC-8	0-1'	580	4.23	7.53	5.3	≤25
TRC-9	0-1'	9.6	4.23	7.53	5.3	≤25
TRC-10	0-1'	26	4.23	7.53	5.3	≤25
TRC-11	0-1'	33	4.23	7.53	5.3	≤25
TRC-12	0-1'	1.2	4.23	7.53	5.3	≤25
TRC-13	0-1'	12	4.23	7.53	5.3	≤25
TRC-14	0-1'	2,200	4.23	7.53	5.3	≤25
TRC-15	0-1'	1,700	4.23	7.53	5.3	≤25
TRC-16	0-1'	34,000	4.23	7.53	5.3	≤25
TRC-17	0-1'	28	4.23	7.53	5.3	≤25
TRC-18	0-1'	14	4.23	7.53	5.3	≤25
TRC-19	0-1'	11	4.23	7.53	5.3	≤25
TRC-20	0-1'	4.0	4.23	7.53	5.3	≤25
TRC-21	0-1'	33,000 B*	4.23	7.53	5.3	≤25
TRC-22	0-1'	28,000 B*	4.23	7.53	5.3	≤25
TRC-23	0-1'	2,600 B*	4.23	7.53	5.3	≤25
TRC-24	0-1'	26,000 B*	4.23	7.53	5.3	≤25
TRC-25	0-1'	17,000 B*	4.23	7.53	5.3	≤25
TRC-26	0-1'	9,300 B*	4.23	7.53	5.3	≤25
TRC-27	0-1'	4,000 B*	4.23	7.53	5.3	≤25
TRC-28	0-1'	17,000 B*	4.23	7.53	5.3	≤25
TRC-29	0-1'	320 B*	4.23	7.53	5.3	≤25
TRC-30	0-1'	9,900 B*	4.23	7.53	5.3	≤25
TRC-31	0-1'	1,600 B*	4.23	7.53	5.3	≤25
TRC-32	0-1'	2,800 B*	4.23	7.53	5.3	≤25
TRC-33	0-1'	460 B*	4.23	7.53	5.3	≤25
TRC-34	0-1'	57 B*	4.23	7.53	5.3	≤25
TRC-35	0-1'	15,000 B*	4.23	7.53	5.3	≤25
TRC-36	0-1'	9,300 B*	4.23	7.53	5.3	≤25
TRC-37	0-1'	3.1 B*	4.23	7.53	5.3	≤25
TRC-38	0-1'	5.4 B*	4.23	7.53	5.3	≤25
TRC-39	0-1'	12 B*	4.23	7.53	5.3	≤25
TRC-40	0-1'	14,000 B*	4.23	7.53	5.3	≤25
TRC-41	0-1'	6,700	4.23	7.53	5.3	≤25
TRC-42	0-1'	8.3	4.23	7.53	5.3	≤25
TRC-43	0-1'	1.7	4.23	7.53	5.3	≤25
TRC-44	0-1'	2.0	4.23	7.53	5.3	≤25
TRC-45	0-1'	15	4.23	7.53	5.3	≤25

PCB Soil Concentration is above the 1996 VRP Subsurface Soil Cleanup Criteria

PCB Soil Concentration is above the RISC Industrial Default Closure Levels

B- Compound was found in the blank and sample

\* LCS or LCSD exceeds the control limits

TRC- Transformer Room C

**Table 3C**  
**Transformer Room C - PCB Soil Closure Sample Results**  
 November 23, 2011 - December 19, 2011  
 Former Studebaker Foundry Demolition  
 South Bend, Indiana

Sample ID (Composite)	Depth	PCB-1260 Concentration (mg/kg)					PID	1996 VRP TIER II NONRESIDENTIAL CLEAN UP GOALS		CURRENT RISC INDUSTRIAL DEFAULT CLEANUP GOALS	40 CFR PART 761.61 CLEANUP LEVELS (LOW OCCUPANCY AREAS)
		11/23/2011	12/6/2011	12/12/2011	12/15/2011	12/19/2011		Surface Soil (mg/kg)	Subsurface Soils (mg/kg)		
TRC-SW-1	2-3'	0.25	---	---	---	---	---	4.23	7.53	5.3	≤25
	7-8'	---	---	0.47	---	---	---	4.23	7.53	5.3	≤25
TRC-SW-2	2-3'	<0.21	---	---	---	---	---	4.23	7.53	5.3	≤25
	7-8'	---	---	1,1000	---	---	---	4.23	7.53	5.3	≤25
TRC-SW-3	2-3'	<0.21	---	---	<0.21	---	---	4.23	7.53	5.3	≤25
	7-8'	---	---	<0.20	---	---	---	4.23	7.53	5.3	≤25
TRC-SW-4	2-3'	<0.22	---	---	---	---	---	4.23	7.53	5.3	≤25
	7-8'	---	---	120	---	---	---	4.23	7.53	5.3	≤25
TRC-SW-5	2'	---	---	---	<0.20	---	---	4.23	7.53	5.3	≤25
TRC-SW-6	2'	---	---	---	<0.22	---	---	4.23	7.53	5.3	≤25
TRC-SW-7	2'	---	---	---	<0.21	---	---	4.23	7.53	5.3	≤25
TRC-SW-8	2'	---	---	---	<0.21	---	---	4.23	7.53	5.3	≤25
TRC-SW-9	2'	---	---	---	<0.21	---	---	4.23	7.53	5.3	≤25
TRC-SW-10	2'	---	---	---	<0.22	---	---	4.23	7.53	5.3	≤25
	4'	590	---	---	---	---	---	4.23	7.53	5.3	≤25
TRC-1	8'	---	1000	---	---	---	---	4.23	7.53	5.3	≤25
	16'	---	---	18	---	---	14.5	4.23	7.53	5.3	≤25
TRC-2	4'	0.78	---	---	---	---	---	4.23	7.53	5.3	≤25
TRC-3	4'	3.2	---	---	---	---	---	4.23	7.53	5.3	≤25
	4'	62	---	---	---	---	---	4.23	7.53	5.3	≤25
	8'	---	850	---	---	---	---	4.23	7.53	5.3	≤25
TRC-4	12'	---	---	150	---	---	16.8	4.23	7.53	5.3	≤25
	16'	---	---	---	<0.21	---	---	4.23	7.53	5.3	≤25
TRC-5	4'	96	---	---	---	---	---	4.23	7.53	5.3	≤25
	8'	---	2200	---	---	---	---	4.23	7.53	5.3	≤25
	16'	---	---	<0.20	---	---	13.6	4.23	7.53	5.3	≤25
TRC-6	4'	0.41	---	---	---	---	---	4.23	7.53	5.3	≤25
TRC-7	4'	4.1	---	---	---	---	---	4.23	7.53	5.3	≤25
TRC-8	4'	<0.21	---	---	---	---	---	4.23	7.53	5.3	≤25
TRC-9	4'	9.3	---	---	---	---	0.5	4.23	7.53	5.3	≤25
	9'	---	---	24	---	---	---	4.23	7.53	5.3	≤25
TRC-11	3'	---	---	---	<0.22	---	---	4.23	7.53	5.3	≤25
TRC-12	3'	---	---	---	0.31	---	---	4.23	7.53	5.3	≤25
TRC-13	3'	---	---	---	<0.22	---	---	4.23	7.53	5.3	≤25
TRC-14	10'	---	---	---	0.33	---	---	4.23	7.53	5.3	≤25
TRC-15	16'	---	---	---	<0.22	---	---	4.23	7.53	5.3	≤25

PCB Soil Concentration is above the 1996 VRP Subsurface Soil Cleanup Criteria  
 PCB Soil Concentration is above the RISC Industrial Default Closure Levels

TRC- Transformer Room C  
 SW- Sidewall



**Table 4**  
**Area D - PCB Soil Characterization and Sample Results**  
 September 23, 2011 - December 6, 2011  
 Former Studebaker Foundry Demolition  
 South Bend, Indiana

Sample ID	Depth	Concentration (mg/kg)				1996 VRP TIER II NONRESIDENTIAL CLEAN UP GOALS		CURRENT RISC INDUSTRIAL DEFAULT CLEANUP GOALS	40 CFR PART 761.61 CLEANUP LEVELS (LOW OCCUPANCY AREAS)
		9/23/2011	10/11/2011	11/28/2011	12/6/2011	Surface Soil (mg/kg)	Subsurface Soils (mg/kg)		
TP-71	0-2'	1100	---	---	---	4.23	7.53	5.3	<5
SP-271	0-2'	---	0.080	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.035	---	---	4.23	7.53	5.3	<5
SP-371	0-2'	---	0.48	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.035	---	---	4.23	7.53	5.3	<5
	7-8'	---	<0.037	---	---	4.23	7.53	5.3	<5
SP-871	0-2'	---	<0.036	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.037	---	---	4.23	7.53	5.3	<5
SP-971	0-2'	---	0.094	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.035	---	---	4.23	7.53	5.3	<5
	7-8'	---	<0.034	---	---	4.23	7.53	5.3	<5
SP-1071	0-2'	---	250	---	---	4.23	7.53	5.3	<5
	4-5'	---	0.73	---	---	4.23	7.53	5.3	<5
	7-8'	---	<0.037	---	---	4.23	7.53	5.3	<5
SP-1171	0-2'	---	<0.035	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.035	---	---	4.23	7.53	5.3	<5
SP-1471	0-2'	---	<0.036	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.036	---	---	4.23	7.53	5.3	<5
SP-1571	0-2'	---	<0.036	---	---	4.23	7.53	5.3	<5
	4-5'	---	0.039	---	---	4.23	7.53	5.3	<5
SP-1671	0-2'	---	<0.039	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.036	---	---	4.23	7.53	5.3	<5
SP-1771	0-2'	---	<0.036	---	---	4.23	7.53	5.3	<5
	4-5'	---	<0.038	---	---	4.23	7.53	5.3	<5
D-1*	3'	---	---	<0.21	---	4.23	7.53	5.3	<5
D-2*	3'	---	---	<0.20	---	4.23	7.53	5.3	<5
D-3*	3'	---	---	74	---	4.23	7.53	5.3	<5
	5'	---	---	---	0.36	4.23	7.53	5.3	<5
SWD-1*	1-2'	---	---	1.6	---	4.23	7.53	5.3	<5
SWD-2*	1-2'	---	---	<0.21	---	4.23	7.53	5.3	<5

--- Sample was not collected on this date

\* Composite soil sample

PCB Soil Concentration is above the 1996 VRP Subsurface Soil Cleanup Criteria

PCB Soil Concentration is above the RISC Industrial Default Closure Levels

D- Area D Sample Locations

SWD- Sidewalk Area D

TP- Test Pit Sampling Locations

SP- Soil Profile Sampling Locations



































Table 7  
Site-Wide Confirmation Soil Sample Results  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	35 NonRes Subst	96 Induct Default Closure Level	Lab Sample ID:		510-7021-1		510-7021-2		510-7021-3		510-7021-4		510-7021-5		510-7021-6		510-7021-7		510-7021-8		510-7021-9		510-7021-10		510-7021-11		510-7021-12				
				RISC Induct Default Closure Level	96 NonRes Subst	510-7021-1	510-7021-2	510-7021-3	510-7021-4	510-7021-5	510-7021-6	510-7021-7	510-7021-8	510-7021-9	510-7021-10	510-7021-11	510-7021-12	510-7021-13	510-7021-14	510-7021-15	510-7021-16	510-7021-17	510-7021-18	510-7021-19	510-7021-20	510-7021-21	510-7021-22	510-7021-23	510-7021-24	510-7021-25		
<b>INDIANA ERO - METHOD 8015B</b>																																
CS-C36	mg/kg	---	---	5,800	ND	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.058	ND	0.056	ND	0.30	0.27	0.073	0.096			
<b>GASOLINE RANGE ORGANICS - METHOD 8015B</b>																																
<b>MERCURY - METHOD 7471A</b>																																
<b>METALS - METHOD 6020/6070</b>																																
Antimony	mg/kg	584	816	37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	0.041	0.041	0.061	ND	ND	0.048	ND		
Arsenic	mg/kg	438	612	5.8	1.6	2.1	3.5	2.6	1.5	6.4	ND	6.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.049	ND	ND	ND	ND	ND	ND	ND	ND		
Barium	mg/kg	10,000	10,000	16	ND	21	17	130	11	53	8.3	53	8.3	15	42	2.6	2.1	2.5	5.0	3.2	7.0	0.20	ND	ND	ND	ND	ND	ND	ND	ND		
Cadmium	mg/kg	730	1,020	771	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.039	ND	ND	ND	ND	ND	ND	ND	ND		
Chromium	mg/kg	7,300	10,000	120	5.2	5.1	3.9	7.5	5	6.4	5.2	6.4	5.2	7.6	6.5	4.6	4.8	1.9	1.6	6.7	4.5	0.050	ND	ND	ND	ND	ND	ND	ND	ND		
Copper	mg/kg	---	---	2,900	3.7	9.4	6.5	6.2	11	4.0	6.2	11	4.0	8.5	5	4.6	2.2	1.6	1.6	6.7	4.5	0.065	ND	ND	ND	ND	ND	ND	ND	ND		
Lead	mg/kg	---	---	230	4.1	15	5.8	12	2.8	3.2	3.2	3.2	3.2	22	4.2	3.3	1.7	1.3	1.4	4.9	4.3	0.030	ND	ND	ND	ND	ND	ND	ND	ND		
Nickel	mg/kg	10,000	10,000	2,700	4.9	7.2	5.8	5.9	6.2	9.1	5.3	7.2	5.3	7.2	6.3	5.6	2.8	1.6	5.8	5.1	5.1	0.048	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Selenium	mg/kg	7,300	10,000	53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.051	ND	ND	ND	ND	ND	ND	ND	ND		
Silver	mg/kg	7,300	10,000	87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.048	ND	ND	ND	ND	ND	ND	ND	ND		
Thallium	mg/kg	---	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.031	ND	ND	ND	ND	ND	ND	ND	ND		
<b>POLYCHLORINATED BIPHENYLS - METHOD 8082</b>																																
PCB-1016	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
PCB-1221	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
PCB-1232	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
PCB-1242	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1248	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1254	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1260	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>SIM-PAHs - METHOD 8270C</b>																																
Acenaphthene	mg/kg	10,000	10,000	1800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acenaphthylene	mg/kg	10,000	10,000	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.049	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Anthracene	mg/kg	10,000	10,000	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[a]anthracene	mg/kg	103.88	79.45	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.039	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[b]fluoranthene	mg/kg	69.85	7.94	1.5	ND	0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[k]fluoranthene	mg/kg	354.98	79.45	15	ND	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.065	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[ghi]perylene	mg/kg	---	---	---	---	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.048	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chrysene	mg/kg	3759.12	794.52	150	ND	0.092	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.030	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibenz[a,h]anthracene	mg/kg	10,000	7945.21	1500	ND	0.65	ND	0.022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibenz[a,i]anthracene	mg/kg	69.86	7.95	1.5	ND	0.076	ND	0.023	0.034	0.051	0.051	0.051	0.051	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	
Fluoranthene	mg/kg	10,000	10,000	2000	ND	0.028	ND	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	
Pyrene	mg/kg	10,000	10,000	2000	ND	0.52	ND	0.029	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.048	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	mg/kg	10,000	10,000	2000	ND	0.68	ND	0.068	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.054	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	mg/kg	10,000	10,000	170	ND	0.17	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/kg	---	---	---	---	0.16	ND	0.028	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.031	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>SEMIVOLATILE ORGANIC COMPOUNDS - METHOD 8270C</b>																																
Benzic acid	mg/kg	10,000	10,000	1600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl alcohol	mg/kg	4356.75	10,000	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	mg/kg	0.66	4.06	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloropropyl) ether	mg/kg	1.32	93.12	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	mg/kg	1406.25	4142.86	980	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	mg/kg	10,000	10,000	310	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	mg/kg	10,000	10,000	560	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/kg	11.63	10,000	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	mg/kg	---																														







Table 7  
Site-Wide Confirmation Soil Sample Results  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	Lab Sample ID:		510-7037-20		510-7037-21		510-7037-22		510-7037-23		510-7037-24		510-7037-25		510-7037-26		510-7037-27		510-7037-28		510-7037-29		510-7037-30		510-7037-30			
		36 MonRes Subsurf	96 Indust. Default Closure Level	SB0058: TP64-040050 9/22/2011 4:45 PM	SB0058: TP64-040050 9/22/2011 5:00 PM	SB0058: TP64-040050 9/22/2011 5:05 PM	SB0058: TP64-040050 9/22/2011 5:05 PM	SB0058: TP64-040050 9/22/2011 5:00 PM	SB0058: TP64-040050 9/22/2011 5:00 PM	SB0058: TP64-040050 9/22/2011 5:05 PM	SB0058: TP64-040050 9/22/2011 5:05 PM	SB0058: TP64-040050 9/22/2011 8:40 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM	SB0058: TP64-040050 9/22/2011 8:45 AM		
<b>INDIANA ERO - METHOD 8015B</b>																													
CS-C36	mg/kg	---	---	5.800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>GASOLINE RANGE ORGANICS - METHOD 8015B</b>																													
CS-C12	mg/kg	---	---	4.300	0.14	0.14	0.12	0.2	0.035	0.054	0.032	0.081	0.038	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029
<b>MERCURY - METHOD 7471A</b>																													
Mercury	mg/kg	87.6	122.4	32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>METALS - METHOD 6020/6070</b>																													
Antimony	mg/kg	584	816	37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	mg/kg	438	612	5.8	1.6	2.8	3.1	1.1	1.6	3.3	1.4	2.7	2.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Barium	mg/kg	10,000	10,000	10,000	12	26	18	9.4	9.0	100	11	130	17	8.7	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Cadmium	mg/kg	730	1,020	77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	mg/kg	7,300	10,000	120	4.5	7.5	4.7	3.4	3.5	10	4.4	8.4	6.7	2.9	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	
Copper	mg/kg	---	---	2,900	3.2	5.0	4.5	1.5	2.1	5.9	2.7	7.5	4.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Lead	mg/kg	---	---	230	3.8	5.9	6.7	7.2	2.2	2.2	2.6	14	5.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
Lead-TCLP	mg/kg	---	---	230	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Nickel	mg/kg	10,000	10,000	2,700	4.4	6.9	5.9	2.5	3.4	6.9	4.2	7.0	6.7	2.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	
Selenium	mg/kg	7,300	10,000	53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Silver	mg/kg	7,300	10,000	87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Thallium	mg/kg	---	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>POLYCHLORINATED BIPHENYLS - METHOD 8082</b>																													
PCB-1016	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1221	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1232	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1242	mg/kg	4.23	7.63	5.30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1248	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1254	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1260	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>SIMPAHS - METHOD 8270C</b>																													
Acenaphthene	mg/kg	10,000	10,000	1800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	mg/kg	---	---	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	mg/kg	10,000	10,000	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/kg	103.88	79.45	15	ND	ND	ND	ND	0.026	ND	0.026	ND	0.059	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/kg	69.85	7.94	1.5	ND	ND	ND	ND	ND	ND	ND	ND	0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/kg	354.98	79.45	15	ND	ND	ND	ND	ND	ND	ND	ND	0.094	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a,h)perylene	mg/kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h)perylene	mg/kg	3759.12	794.52	150	ND	ND	ND	ND	ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	mg/kg	10,000	7945.21	1500	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	mg/kg	69.86	7.95	1.5	ND	ND	ND	ND	ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/kg	10,000	10,000	2000	ND	ND	ND	ND	ND	ND	ND	ND	0.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	mg/kg	10,000	10,000	2000	ND	ND	ND	ND	ND	ND	ND	ND	0.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	mg/kg	10,000	10,000	2000	ND	ND	ND	ND	ND	ND	ND	ND	0.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/kg	629.17	79.45	15	ND	ND	ND	ND	ND	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	mg/kg	10,000	10,000	170	ND	ND	ND	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/kg	---	---	170	ND	ND	ND	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>SEMIVOLATILE ORGANIC COMPOUNDS - METHOD 8270C</b>																													
Benzoic acid	mg/kg	10,000	10,000	1600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl alcohol	mg/kg	4566.75	10000	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	mg/kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	mg/kg	0.88	4.06	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroisopropyl) ether	mg/kg	1.32	93.12	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	mg/kg	1406.25	4142.86	980	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	mg/kg	---	---	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	mg/kg	10,000	10,000	310	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	mg/kg	---	---																										







Table 7  
Site-Wide Confirmation Soil Sample Results  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Analyte	Units	95 NoRes Substef	96 NonRes Default Closure Level	Lab Sample ID:		510-7037-45		510-7037-46		510-7037-47		510-7037-48		510-7037-49		510-7037-50		510-7041-31		510-7041-32		510-7041-33		510-7041-34		510-7041-35		510-7041-36		510-7041-37		510-7041-38					
				SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050	SB0058:	TP75-040050		
<b>INDIANA ERO - METHOD 8015B</b>																																					
C8-C16	mg/kg	---	---	5.800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
<b>GASOLINE RANGE ORGANICS - METHOD 8015B</b>																																					
C9-C12	mg/kg	---	---	4.300	0.067	0.16	0.12	0.12	0.12	0.091	0.17	0.17	0.086	0.062	0.028	0.083	0.028	0.083	0.028	0.083	0.028	0.083	0.028	0.083	0.028	0.083	0.028	0.083	0.028	0.083	0.028	0.083	0.028	0.083	0.028		
<b>MERCURY - METHOD 7471A</b>																																					
<b>METALS - METHOD 6020/6010</b>																																					
Antimony	mg/kg	---	---	122.4	32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Arsenic	mg/kg	584	816	37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Barium	mg/kg	438	612	5.8	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	
Beryllium	mg/kg	10,000	10,000	13	11.0	11.0	12.00	13	11.0	11.0	12.00	13	11.0	11.0	12.00	13	11.0	11.0	12.00	13	11.0	11.0	12.00	13	11.0	11.0	12.00	13	11.0	11.0	12.00	13	11.0	11.0	12.00	13	
Cadmium	mg/kg	730	1,030	77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	mg/kg	7,300	10,000	120	5.5	6.9	4.5	17	7.2	6.2	7.0	5.5	6.9	4.5	17	7.2	6.2	7.0	5.5	6.9	4.5	17	7.2	6.2	7.0	5.5	6.9	4.5	17	7.2	6.2	7.0	5.5	6.9	4.5	17	
Copper	mg/kg	---	---	2,900	3.5	4.8	4.0	5.8	3.2	4.4	5.3	3.2	4.4	5.3	3.2	4.4	5.3	3.2	4.4	5.3	3.2	4.4	5.3	3.2	4.4	5.3	3.2	4.4	5.3	3.2	4.4	5.3	3.2	4.4	5.3	3.2	
Lead	mg/kg	---	---	230	3.8	8.9	4.0	5.8	4.3	9.1	11	150	3.6	5.2	5.2	11	150	3.6	5.2	5.2	11	150	3.6	5.2	5.2	11	150	3.6	5.2	5.2	11	150	3.6	5.2	5.2	11	
Lead-TCLP	mg/kg	---	---	230	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nickel	mg/kg	10,000	10,000	2,700	5.3	5.7	5.7	9.2	5.7	6.2	7.4	5.3	5.7	6.2	7.4	5.3	5.7	6.2	7.4	5.3	5.7	6.2	7.4	5.3	5.7	6.2	7.4	5.3	5.7	6.2	7.4	5.3	5.7	6.2	7.4	5.3	
Selenium	mg/kg	7,300	10,000	53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	mg/kg	7,300	10,000	87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	mg/kg	---	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>POLYCHLORINATED BIPHENYLS - METHOD 8082</b>																																					
PCB-1016	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1221	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1232	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1242	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1248	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1254	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PCB-1260	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>SIM-PAHS - METHOD 8270C</b>																																					
Acenaphthene	mg/kg	10,000	10,000	1800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	mg/kg	10,000	10,000	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	mg/kg	103.88	79.45	15	ND	ND	ND	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	mg/kg	69.85	7.94	1.5	ND	0.022	ND	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	mg/kg	354.98	79.45	15	ND	0.027	ND	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[e]pyrene	mg/kg	3759.12	794.52	150	ND	0.024	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	mg/kg	10,000	10,000	1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,h]anthracene	mg/kg	69.86	7.95	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/kg	10,000	10,000	2000	ND	0.042	ND	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	mg/kg	10,000	10,000	2000	ND	0.042	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	mg/kg	10,000	10,000	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	mg/kg	629.17	79.45	15	ND	ND	ND	0.073	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	mg/kg	10,000	10,000	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>SEMI-VOLATILE ORGANIC COMPOUNDS - METHOD 8270C</b>																																					
Benzoic acid	mg/kg	10,000	10,000	1600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl alcohol	mg/kg	4356.75	10,000	140	ND	ND	ND	ND	ND																												











**Table 8**  
Lead Closure Soil Sample Results  
June 9, 2011  
Former Studebaker Foundry Demolition  
South Bend, Indiana

Sample ID	Depth	Concentration (mg/kg)	1996 VRP TIER II NONRESIDENTIAL CLEAN UP GOALS		CURRENT RISC INDUSTRIAL DEFAULT CLEANUP GOALS
			Surface Soil (mg/kg)	Subsurface Soils (mg/kg)	
		<b>6/9/2011</b>			
SB0058:TP33SW1:	000020	120	1,000	1,000	230
SB0058:TP33SW2:	000020	<13	1,000	1,000	230
SB0058:TP33SW3:	000020	24	1,000	1,000	230
SB0058:TP33SW4:	000020	70	1,000	1,000	230
SB0058:TP33FLR1:	025030	<13	1,000	1,000	230
SB0058:TP33FLR2:	025030	47	1,000	1,000	230
SB0058:TP33FLR3:	025030	44	1,000	1,000	230
SB0058:TP4SW1:	000020	24	1,000	1,000	230
SB0058:TP4SW2:	000020	67	1,000	1,000	230
SB0058:TP4SW3:	000020	<13	1,000	1,000	230
SB0058:TP4SW4:	000020	<13	1,000	1,000	230
SB0058:TP4FLR1:	025030	18	1,000	1,000	230
SB0058:TP4FLR2:	025030	81	1,000	1,000	230
SB0058:TP4FLR3:	025030	71	1,000	1,000	230

Lead Soil Concentration is above the 1996 VRP Subsurface Soil Cleanup Criteria

Lead Soil Concentration is above the RISC Industrial Default Closure Levels

SW- Sidewall Sample

TP- Test Pit Sampling Locations

## Appendices