

# Remedial Investigation/ Alternatives Analysis Report (RI/AAR)

*Phase III Business Park  
Tecumseh Redevelopment, Inc.  
Lackawanna, New York*

October 2010  
Revised September 2011

0071-009-320

Prepared For:

*Tecumseh Redevelopment, Inc.*

Prepared By:



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## Phase III Business Park Area

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# REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS REPORT

## Phase III Business Park Area

### Certification

I, *Thomas H. Forbes*, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this RI/AA Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

  
\_\_\_\_\_  
Signature of Environmental Professional



Seal

## 1.0 INTRODUCTION

### 1.1 Background and History

Tecumseh Redevelopment Inc. (Tecumseh) owns approximately 1,100-acres of land located on the west side of New York State Route 5 (Hamburg Turnpike) in the City of Lackawanna, NY (see Figures 1 and 2). The majority of Tecumseh's property is located in the City of Lackawanna (the City), with portions of the property extending into the Town of Hamburg. Tecumseh's property is bordered by NY State Route 5 on the east; Lake Erie to the west and northwest; and other industrial properties to the south and the northeast.

The property was formerly used for the production of steel, coke, and related products by Bethlehem Steel Corporation (BSC). Steel production on the property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired its Lackawanna property from BSC's bankruptcy estate in 2003.

A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of all Solid Waste Management Units (SWMUs) located on the 1,100-acre property was initiated by BSC under an Administrative Order issued by the United States Environmental Protection Agency (USEPA) in 1990. Tecumseh completed the RFI in January 2005 (Ref. 1). USEPA subsequently determined that the site investigation requirements of the 1990 Administrative Order were satisfied, and Tecumseh's obligations under the 1990 Administrative Order were terminated. Tecumseh has entered into an Order on Consent with the New York State Department of Environmental Conservation (NYSDEC) to undertake corrective measures at certain solid waste management units (SWMUs) primarily on the western slag fill and coke manufacturing portion of the property. As indicated on Figure 2, the CMS area encompasses approximately 500 acres.

Outside of the CMS Area Tecumseh designated five parcels for redevelopment under the New York State Brownfield Cleanup Program (BCP). These include: The Phase I, IA, II and III Business Park Areas, which are at various points of investigation and cleanup under the BCP and are slated for commercial/industrial redevelopment, and the Steel Winds Site, which was remediated under the BCP and redeveloped as a commercial wind farm.

The 149-acre Phase III Business Park Area, which is the subject of this Remedial Investigation and Alternatives Analysis Report (RI/AAR), formerly housed several facilities used in BSC's steel manufacturing processes. As more fully described in Section 2.0, these

included a basic oxygen furnace (BOF) plant; an open hearth and furnace building; a sinter plant; finishing mills; mould warming; rail servicing; and electrical substations.

Fifteen historic SWMUs (i.e., P-17, and P-19 through P-32) are present on the Phase III Business Park Site (see Figure 3). BSC performed assessments for these SWMUs during the RCRA Facility Assessment (RFA; Ref. 2) and subsequent RFI. Based on the findings, USEPA Region II issued “No Further Action” determination for the identified SWMUs within the Business Park III area (Ref. 1).

Remedial Investigation activities on the eastern portion of the Phase III Business Park Area were initiated in August 2008. At that time the western side of the Phase III parcel was slated to be carved out under a separate BCP application and redeveloped as a latter phase of the Steel Winds project. However, the planned developer was unable to fulfill its responsibilities under the Brownfield Cleanup Agreement (BCA) and Tecumseh elected to resume obligations for this portion of the Site under the original Phase III Business Park Area BCA. Supplemental RI activities addressing the western portion of the Site were therefore undertaken in late 2009 through early 2010.

## 1.2 Purpose and Scope

This RI/AA Report has been prepared on behalf of Tecumseh to present RI findings, describe environmental conditions within the Site, and evaluate and recommend a remedial approach.

This Report contains the following sections.

- Section 2.0 presents a description of the Site and summarizes prior assessments.
- Section 3.0 presents a discussion of the RI sampling and methodology.
- Section 4.0 presents the nature and extent of impact in Site media.
- Section 5.0 discusses RI findings and describes potential chemical constituent migration pathways.
- Section 6.0 provides a human health exposure assessment and fish and wildlife resources impact assessment.
- Section 7.0 presents RI summary and conclusions
- Sections 8.0 through 10.0 present the development and evaluation of remedial alternatives

- Section 11.0 identifies post-remedial requirements that will be followed to assure the efficacy of the remedy
- Section 12.0 presents cited references.

## 2.0 SITE DESCRIPTION

The Phase III Business Park is located west of the Phase II Business Park Area, east of other Tecumseh property, north of lands owned by South Buffalo Railroad Company, and south of the Gateway Metroport Ship Canal and land currently owned by Gateway Trade Center (see Figures 1 and 2). The Site is transected by Smokes Creek, which is subject to further assessment in the RCRA CMS and is specifically excluded from the BCP Site. West of Smokes Creek, the Site is segregated from the Phase II Business Park Area by the South Return Water Trench, a man-made surface water discharge channel.

The Phase III Business Park Site formerly housed a portion of BSC's steelmaking operations. Buildings and operations historically located on the Site are shown on Figure 3. As indicated, prior facilities within the Phase III Business Park boundaries included:

- A 45'-90" Universal Slabbing Mill and Slabbing Mill Return Water Trench (filled). This facility encompassed oil and grease houses, electrical equipment (including transformers), and a "soaking pit building" that was used for reheating steel ingots prior to milling. SWMUs P-28 through P-32 (including scale and scarfer pits, settling tank and sand filters, all of which received "No Further Assessment" designation by the USEPA) are associated with the former Slabbing Mill. The former soaking pit building foundation is allegedly filled with asbestos containing materials (ACM).
- An electrical materials storage building and yard.
- A Basic Oxygen Furnace (BOF) Plant. This facility included fuel oil above-ground storage tanks (ASTs), electrical equipment (including transformers), dust collectors, and an oil house.
- Water Quality Control Station (WQCS) #3. This facility included the scalping tanks, primary thickener, north thickener, south thickener, and final thickeners; multiple USTs, and electrical equipment (including transformers). As indicated on Figure 3, WQCS #3 was comprised of two nearby areas, with several of the northern WQCS #3 buildings and thickeners still standing. SWMUs P-17, P-19, and P-21 through P-27, all of which received "No Further Assessment" designation by the USEPA, are associated with the former WQCS #3.
- Open Hearth No.3, which contained among other features: 11 brick-lined furnaces; electrical equipment (including transformers); a tar pump house; stripper building; multiple ASTs and USTs; a stockyard; and precipitators.
- The Sintering Building, which contained two 105' chimneys; a scrubber (SWMU P-20); electrical equipment (transformers); and miscellaneous ASTs and underground storage tanks (USTs).

- Miscellaneous office production support buildings, and Welfare buildings.

## 2.1 Site Topography and Drainage

The Phase III Business Park Area Site is generally characterized as a flat area covered by early succession trees, brush, grasses and other low lying vegetation. Due to the nature of the slag/soil fill there is very little ponded storm water or surface runoff as most of the precipitation seeps into the highly permeable slag/soil fill.

## 2.2 Remaining Site Structures

The Site contains few structural remnants and other features associated with historic integrated steel-making facilities. These include remaining buildings of the former WQCS No. 3, the Electrical Department building, remnants of former overhead coke gas and active natural gas conveyance lines on the northern side of the property, access roads, electrical power lines, and railroad tracks. As indicated above, immediately east of the Site boundary is a man-made drainage channel designated as the South Return Water Trench that begins near WQCS No. 3 and flows south to Smokes Creek (see Figure 3). Historically and currently, the trench collects and discharges groundwater and storm water to Smokes Creek under active SPDES Permit No. NY-0269310. There are no active outfalls into the South Return Water Trench from the Site.

### 2.2.1 *Electrical Department*

Figure 2 shows the location of the Electrical Department building, which an unoccupied, slab-on-grade steel building formerly used to store electrical supplies. The Electrical Department building is currently used for cold storage of some remaining equipment and supplies, but is otherwise vacant. It is serviced by electric power; no other utilities are active. Based on TurnKey's observations, the building floor is competent and the building is well ventilated.

### 2.2.2 WQCS#3A

WQCS#3A was historically used to neutralize acidic wastewaters and precipitate metals from the Sinter Plant<sup>1</sup> Scrubber, which was operated from 1950 to 1983. Remaining WQS#3A structures on the Phase III Business Park Area include the garage and lab buildings, as well as a former tank, clarifiers and sludge thickener. According to the 1989 SWMU Assessment Report for WQCS #3A (Ref. 6), the thickener (sludge) tank was taken out of service in August 1983 due to plant shutdown. On January 21, 1983, an analysis for EP toxicity metals was performed on the Sinter Plant Scrubber Thickener Sludge and found to be below regulatory action levels (i.e., toxicity characteristic). At the time of the shutdown, the tank was reportedly pumped out and the remaining sludge was removed from the tank. According to the Final RCRA Facility Investigation Report Part V (October 2004), the Assessment Report for WQCS#3A was approved by the agencies on December 7, 1990. The Solid Waste Management Units (SWMUs) associated with WQCS#3A, P-19 (thickener) and P-20 (scrubber sump), also received “No Further Assessment” designation by the USEPA.

Although at the time of the RI the thickener remained placarded with “hazardous waste” signs due to its historic use in storing/processing precipitated metal hydroxide sludge, no sludge remains in this vessel or the other remaining WQS vessels (arrangements have been made to remove hazardous waste signage). Precipitation has accumulated in the open-top thickener and clarifiers; however no evidence of sheen or product was identified in these vessels during the RI. In addition, RI test pits excavated in the vicinity of WQS#3A were consistent with those excavated elsewhere on the Site and did not yield specific indications of hazardous materials disposal/release.

The WQS#3A laboratory building and garage have been cleaned out of any remaining water treatment chemicals. The laboratory building, which is a concrete block building with a competent slab-on-grade foundation, is not occupied or used. Utilities (electric, sewer, water and gas) are available but are shut off. The WQS#3A garage is a metal building with a competent slab-on grade foundation. The garage primarily used for storage

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<sup>1</sup> Sintering is a process where iron-rich fine materials wasted from other plant processes, such as mill scale, are fused into clinkers that are used as an iron source, together with ore, in blast furnaces. The process includes mixing the raw materials, ignition, and combustion on a traveling grate in the sinter machine, agglomeration of the sinter, cooling and screening.

of construction equipment, and is only occupied periodically. It is serviced by electric power, no other utilities are active.

### 2.3 Site Geology and Hydrogeology

The United States Department of Agriculture Soil Survey of Erie County, New York indicates that the Site is covered by surface soil classified as Urban Land; soil consisting of paved, foreign, or disturbed soils. Drilling logs from monitoring wells constructed on or near the Site indicate that the upper two feet (east side) to eight feet (west side) is typically composed of steel and iron-making slag and/or other fill material. The fill is underlain by lacustrine clays and silts that are, in turn, underlain by shale or limestone bedrock. Bedrock is about 60 feet below ground surface (fbgs) near the eastern perimeter of the Site.

Historically, due to the proximity of Lake Erie and municipal supplied water, groundwater in the area has not been developed for industrial, agricultural, or public supply purposes. There is a deed restriction that prohibits the use of groundwater on the property. Consequently, no groundwater supply wells are present on the 1,100-acre Tecumseh property. Measurements taken in several monitoring wells on or near the Site indicate that the water table is 5 to 6 fbgs within the soil/fill unit.

Groundwater elevation contour maps completed during investigation of the 1,100-acre former BSC property indicate that shallow groundwater flows radially west/southwest across the Site towards the Gateway Metroport Ship Canal and Lake Erie as well as northwest toward the Buffalo Outer Harbor.

### 2.4 Utilities

The following utilities are present on or near the Site:

- Electric Utility: Overhead electric power lines on wooden utility poles, owned by Niagara Mohawk Power Corporation (NMPC), run east and west along the northern portion of the Site. In addition, buried electrical transmission lines from the Steel Winds turbines run underground in the northern portion of the site.
- Natural Gas: Natural Gas (National Fuel) lines run overhead in an east-west direction along the northern boundary of the site.
- Railroad Tracks: Active railroad tracks, owned and operated by South Buffalo Railway, are located on the south side of the Site and the western site boundary.

These tracks are primarily used to service tenants within the larger Tecumseh property.

- Water: Erie County currently supplies potable water to the site. Groundwater is not used for any purpose.
- Sanitary Sewers: Active sewer lines are located along the northeast boundary of the property near the former WQCS#3A and along Highway 2.

## 2.5 Wetlands and Floodplains

The land surrounding Smokes Creek is listed on the National Wetlands Inventory and as a FEMA floodplain. No NYSDEC wetlands exist on the Site.

### 3.0 REMEDIAL INVESTIGATION APPROACH & RATIONALE

The RI was designed to provide defensible data to identify areas of the Site potentially requiring remediation, define chemical constituent migration pathways, and qualitatively assess human health and ecological risks to allow for performance of a remedial alternatives evaluation. This section of the RI report presents a discussion of the rationale for the data collection program of the RI, including the methods employed to collect samples and make field measurements and observations, and the methods used to chemically analyze the environmental samples.

#### 3.1 General

The RI included the following field activities to delineate and characterize on-site soil/fill and assess groundwater quality at the Site:

- Visual, olfactory, and PID characterization of surface and subsurface soil/fill through test pit excavation.
- Collection of surface and subsurface soil/fill samples.
- Advancement of on-site borings completed as groundwater monitoring wells.
- Collection and analysis of groundwater samples from existing and newly installed monitoring wells at the site.
- Completion of a soil boring and test pit investigation of the Soaking Pit Building foundation to check for the presence of asbestos-containing materials (ACM).

RI field activities were conducted by TurnKey Environmental Restoration, LLC (TurnKey) in accordance with the approved Work Plans (Refs. 3 and 4); herein referred to as the RI Work Plan. Environmental sample collection was performed in accordance with TurnKey's Field Operating Procedures (FOPs). USEPA- and NYSDEC-approved sample collection and handling techniques were used. Samples for chemical analysis were analyzed in accordance with USEPA SW-846 methodology to meet the definitive-level data requirements. Analytical results were evaluated by a third-party data validation expert in accordance with provisions described in the RI Work Plan. The majority of field activities were conducted under NYSDEC oversight. Each sampling location was surveyed via GPS and plotted on the site base map shown on Figure 3.

### 3.2 Constituents of Potential Concern

Constituents of potential concern (COPCs) were identified in the RI Work Plan based on Site operational history (see Table 1). The primary COPCs included base-neutral Target Compound List (TCL) semi-volatile organic compounds (SVOCs) associated with petroleum bulk storage and fossil fuels, and select inorganic compounds (arsenic, cadmium, chromium, lead, mercury, and cyanide) typically associated with steel manufacturing. Other COPCs analyzed on a location-by-location basis included polychlorinated biphenyls (PCBs), which were analyzed at select locations near former transformers and electrical equipment, and petroleum-based VOCs, analyzed in areas of former petroleum or fuel storage.

In addition to the COPCs, an expanded list of parameters was developed as part of the RI Work Plan (see Table 2). The “expanded” list was employed during the RI at an approximate frequency of 1 per 10 samples per matrix to check for the presence of both COPCs and other constituents less likely to be encountered. Also, photoionization detector (PID) headspace screening for VOCs was employed at all test pit locations, with expanded list VOCs typically added to samples exhibiting elevated PID readings.

### 3.3 Soil/Fill

Surface and subsurface soil/fill samples were initially collected from the eastern portion of the Phase III Business Park Area in the Fall of 2008 in accordance with the NYSDEC-approved May 2008 RI/AAR Work Plan for the Phase III Business Park Area. Subsequently, soil/fill samples were collected from the western portion of the Phase III Business Park Area in late 2009 through early 2010 per the NYSDEC-approved RI/AAR Work Plan for the Steel Winds II Site (Ref. 4). As discussed in Section 1.0 this latter sampling work was performed on behalf of Tecumseh Redevelopment to supplement to the earlier 2008 Phase III Business Park investigation, as the Steel Winds II development did not materialize. As such, the western portion of the parcel ultimately remained within the Phase III Business Park Area.

The initial Phase III Business Park Area soil/fill investigation involved excavation of 86 test pits (although test pits 72 and 73 could not be excavated due to accessibility issues, 2 supplemental test pits were excavated in the vicinity of test pits 54 and 55). A total of 53 surface soil/fill samples (typically collected from 0-2 feet below grade), 8 subsurface soil samples, and 1 waste characterization sample were collected from those test pit locations during the RI. The subsequent investigation on the western portion of the Site (undertaken

per the RI Work Plan for the “Steel Winds II” Site) involved excavation of 58 test pits, with a total of 28 surface soil/fill samples and 13 subsurface soil/fill samples collected from the western area. For clarification purposes and to avoid numbering overlap with the earlier test pits on the eastern side of the Phase III Business Park parcel the western area of the site was internally designated as “Business Park 3A” and test pits were labeled as “BPA-3A-#.”

Tables 3a and 3b identify the test pit numbers, the sampling rationale, and laboratory analyses. Figure 3 shows the test pit locations discussed in this section. Appendix A includes the field logs for all test pits excavated at the Site.

### ***3.3.1 Soil/Fill Sampling Methodology***

Following test pit excavation, surface soil/fill samples were collected using a dedicated stainless steel spoon to scrape a representative sample from the test pit sidewall to a maximum depth of 2 fogs. Subsurface samples were retrieved by scraping the excavator bucket across the depth from 2 fogs to the bottom of the test pit and were collected from the center of the excavator bucket using a dedicated stainless steel spoon. Samples were transferred to laboratory-supplied, pre-cleaned sample containers for analysis of the parameters listed in Tables 1 and 2 using USEPA SW-846 methodology.

In accordance with the RI Work Plan, a representative aliquot was also collected from the sample interval and transferred to a sealable plastic bag for discrete headspace determination. PID headspace readings are shown on the individual test pit excavation logs included as Appendix A. Per the Work Plan, PID scan values greater than 20 parts per million (ppm) required the collection of an additional sample for TCL VOC analysis using USEPA SW-846 methodology. Each VOC subsurface soil/fill sample collected was transferred directly into a laboratory supplied, pre-cleaned sample container for analysis of TCL VOCs.

### ***3.3.2 Methods of Chemical Analysis***

Surface and subsurface soil/fill samples were couriered under chain-of-custody command to TestAmerica, Inc., located at 10 Hazelwood Drive, Amherst, New York 14228 for chemical analysis as identified in Tables 1 and 2. TestAmerica is an independent, NY State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified facility approved to perform the analyses prescribed for this RI.

TestAmerica also has NYSDOH Contract Laboratory Program (CLP) certification while maintaining ASP accreditation. TestAmerica employed analytical testing methods described in USEPA Test Methods for Evaluating Solid Wastes contained in SW-846 (revised 1991).

### **3.4 Groundwater**

A groundwater monitoring program was conducted at the Site to assess groundwater quality and potential groundwater contaminant migration pathways. The following sections describe the groundwater investigation and sampling methodology. Figure 3 shows the monitoring well locations discussed in this section. Appendix B includes the boring and monitoring well construction logs for all wells at the Site.

#### ***3.4.1 Monitoring Well Installation***

Following completion of the soil/fill portion of the investigation 12 new monitoring wells were installed to better determine groundwater flow direction and upgradient/downgradient groundwater quality on the Phase III Business Park Area. Figure 3 identifies the groundwater monitoring points sampled during the RI, including: existing monitoring wells MWS-04, MWN-10, MWN-19A/19B, and MWN 30A; and newly installed monitoring wells MWS-30A, MWS-31A, MWS-33A, MWS-34A, MWS-35A, MWN 56A through 61A, and MWN-62D.

Monitoring wells were generally installed at the proposed (RI Work Plan) locations, with some minor adjustments made in the field as necessary to avoid underground utilities. In addition, some well locations were renamed from the planned RI Work Plan designations to avoid overlap with well numbers designated on other Tecumseh parcels.

#### ***3.4.2 Monitoring Well Installation Methodology***

Monitoring well installation methodology followed the RI Work Plan requirements. All new wells were constructed of 2-inch schedule 40 PVC with a lockable J-plug and protected by a vented, 4-inch diameter protective steel casing. Table 4 presents monitoring well construction details; the logs are included in Appendix B. Protective steel casings were installed to a depth of approximately 2 fbs and anchored in a 2-foot by 2-foot concrete surface pad.

### ***3.4.3 Monitoring Well Development***

Both the newly installed and existing wells were developed prior to sampling using a dedicated disposable polyethylene bailer for surging and a peristaltic pump for purging in accordance with NYSDEC and TurnKey protocols. A slight kink in the casing at MWN-30A prevented lowering of a bailer or pump at this location, therefore purging and sampling was performed using dedicated 1/2" HDPE tubing and a foot valve. Non-aqueous phase liquid (NAPL) was not identified in any on-site monitoring wells during this investigation; however slight sheen and odor were identified in groundwater at MWN-30A.

### ***3.4.4 Groundwater Elevation Measurements***

Static depth to groundwater measurements from existing and newly installed wells/piezometers were performed on January 29, 2010 and are summarized in Table 5. An isopotential map, prepared from the January 29, 2010 groundwater elevations, is included as Figure 4. Examination of the isopotential map indicates that shallow groundwater generally flows toward the minor water bodies of the Tecumseh Site (e.g., Smokes Creek and the SRWT) in conjunction with a westerly component (northwest portion of the Phase III BPA Site) toward major water body Lake Erie. The South Return Water Trench is in hydraulic connection with the shallow groundwater at the Site and flows south into Smokes Creek, which then flows westerly ultimately discharging into Lake Erie. In addition, a small groundwater divide is present at the northwest corner of the Site, which has been substantiated by the RFI as well as the off-site Benzol Plant Interim Corrective Measures (ICM) work. This divide has created a southerly groundwater flow component from the Benzol Plant area onto the Site, which is substantiated by groundwater concentrations of Benzol Plant constituents within wells MWN-19A and MWN-30A as discussed later in this report.

### ***3.4.5 Monitoring Well Sampling***

With the exception of well MWN-30A, all groundwater monitoring wells were sampled using low-flow sampling methodology per the RI Work Plan. As indicated above, the slightly kinked casing in well MWN-30A required sampling via dedicated poly tubing and a foot valve in lieu of a submersible pump. Appendix A includes the well sampling logs.

### ***3.4.6 Methods of Chemical Analysis***

Groundwater samples were couriered under chain-of-custody command to TestAmerica for analysis of the parameters identified on Tables 3a and 3b. TestAmerica employed analytical testing methods described in USEPA Test Methods for Evaluating Solid Wastes contained in SW-846, revised 1991.

## **3.5 Former Soaking Pit Building Foundation Investigation**

At the NYSDEC's request, two borings were completed through the former Soaking Pit Building foundation to check for the presence of buried asbestos materials, which were allegedly disposed beneath the soaking pit building foundation. Figure 3 shows the locations of the borings; the logs are included in Appendix B. The borings were completed using the drill rig hollow stem auger to grind through the concrete foundation slab and access underlying material. At boring ALF-01, concrete was encountered at 1.5 fbg. No evidence field of asbestos-containing material was recorded.

At boring ALF-02, refusal was encountered at approximately 1 fbg. Augering continued to 1.5 fbg where steel grating was encountered. A 3-inch spoon was advanced through the grating to a depth of approximately 4.5 fbg, where refusal was again encountered. A sample was collected between 1.5-4.0 fbg and transmitted to EMSL Laboratories in Depew, NY for ACM analysis.

Subsequently at the request of the NYSDEC, a limited test pit investigation was performed to substantiate the soil boring findings. The investigation was performed on June 13, 2011 with over-site by NYSDEC personnel.

A mini tracked excavator was used to excavate several test pits along and over the building foundation. Attempts to excavate within the building foot print indicated an impenetrable concrete slab. As directed by NYSDEC personnel, test pits were excavated along the north side of the building foundation. The test pits indicated vaulted openings below the foundation concrete slab. The vaulted area contained groundwater and various electrical conduits. No suspect asbestos containing materials were observed during the investigation.

## **3.6 Quality Assurance/Quality Control**

Field investigation data were collected and processed using the procedures outlined in the RI Work Plan to ensure representative sample collection and to achieve the data quality

objectives of the Remedial Investigation. The field activities were recorded in bound project field books supplemented with TurnKey field forms as necessary. No Variance Logs were completed during the Remedial Investigation as deviations from the RI Work Plan were not substantial and limited to minor test pit location changes and increase in analytical parameters for collected soil/fill samples.

TurnKey collected blind duplicates and matrix spike/matrix spike duplicates (MS/MSD) at a frequency of 1 per 20 samples for each environmental media (i.e., soil/fill and groundwater). A trip blank, analyzed for the most comprehensive VOC list accompanied each cooler of aqueous media to be analyzed for VOCs. Tables 3a and 3b summarize the QA/QC sample locations.

### 3.7 Data Usability Summary

In accordance with the RI Work Plan, the laboratory analytical data from this investigation was independently assessed and, as required, submitted for independent review. Vali-Data of Western New York, LLC performed the data usability summary assessment for the soil/fill and groundwater samples collected from the eastern portion of the Site in 2008; Judy Harry of Data Validation Services located in North Creek, New York performed the data usability summary assessment for the remaining soil/fill and groundwater samples. The validation involved a review of the summary form information and sample raw data, and a limited review of associated QC raw data. Specifically, the following items were reviewed:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Recoveries
- Field Duplicate Correlation
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental IDLs
- Calibration/CRI/CRA Standards
- ICP Interference Check Standards
- ICP Serial Dilution Correlations
- Sample Results Verification

The data usability evaluations were conducted using guidance from the USEPA Region 2 validation Standard Operating Procedures, the USEPA National Functional Guidelines for Data Review, as well as professional judgment. Appendix C includes the Data Usability Summary Reports (DUSRs), which were prepared in accordance with Appendix 2B of NYSDEC's draft DER-10 guidance. Those items listed above that demonstrated deficiencies are discussed in detail in the DUSRs. Analytical results that were edited or qualified per the DUSR have been modified appropriately on Tables 6 through 8. Appendix D includes the analytical data packages.

## 4.0 RI FINDINGS

This Section describes pertinent field observations and chemical analytical results in surface soil/fill, subsurface soil/fill, and groundwater.

### 4.1 Field Observations

The surface of the Phase III BPA is sparsely vegetated with voluntary indigenous shrubs, grasses, weeds, and emergent trees (mostly poplars). Due to the nature of the slag/soil fill there is very little ponded storm water or surface runoff as most of the precipitation seeps into the highly permeable slag/soil fill. Subsurface lithology generally consisted of a soil/fill unit comprised of non-cohesive coal and coke fines; slag; cindery ash and brick; concrete; gravel; silt; reddish silt (precipitator dust); and sand, all of which are ubiquitous at the Site. Below the soil/fill unit is a native silty clay or clayey silt layer; a peat layer was noted at some test pits immediately below the soil/fill unit. Groundwater was generally encountered within the soil/fill unit approximately 5 to 6 fbg.

Field evidence of potential significant soil/fill impacts, characterized by moderate to strong odors, unusual discoloration or visible evidence of product layer, and/or PID readings in excess of 50 ppm was identified at certain test pit locations as presented below.

- **BPA-3-TP-2:** At approximately 2-4 fbg, a PID reading slightly above 50 parts per million (ppm) was detected and a petroleum-like odor was noted.
- **BPA-3-TP-42:** At approximately 0.5-1.5 fbg, a PID reading of 400 ppm was encountered and suspected red paint was observed. The test pit area was expanded with similar observations recorded across an area approximately 10' x 10' x 1' deep.
- **BPA-3-TP-54:** Saturated soil within this test pit, which was encountered at a depth of approximately 8 fbg, exhibited moderate odor and groundwater sheen. Saturated soil/fill exhibited a PID reading of approximately 102 ppm.
- **BPA-3-TP-56:** A trace of tar-like material was observed between 0.5 and 3 fbg in the test pit excavated within the area of the former Linde Plant.
- **BPA-3A-TP-8:** At approximately 7 fbg, blackish fill exhibiting a PID reading of 82 ppm was recorded. A slight sheen and moderate odor were encountered at the water table (approximately 8.5 fbg).
- **BPA-3A-TP-25:** At approximately 7 feet below grade (i.e., groundwater interface) saturated soils exhibiting a PID reading of 72.5 and slight odor was recorded.
- **BPA-3A-TP-44:** Petroleum-impacted groundwater with visible sheen and oil/tar impact was identified at the water table (approximately 7 fbg).

- **BPA-3A-TP-47:** Blue-stained soils were identified at 0-3 fbg's at this location, which is in the vicinity of a former gas holder.
- **BPA-3A-TP-53:** At approximately 5 fbg's, a PID reading of 400 ppm was detected with moderate odor. This test pit was excavated adjacent to the historic off-site underground storage tank area which is part of SWMU P-11 (i.e., benzol yard) currently subject to interim corrective measures under the RCRA Corrective Action Program.
- **BPA-3A-TP-58:** Moderate odor and sheen were identified at the water table (approximately 7 fbg's); a PID reading of 72.5 ppm was recorded at this depth. This test pit was also excavated adjacent to the historic off-site underground storage tank area.

In addition, field evidence of groundwater impact (sheen, odor) was identified during development and sampling of existing well MWN-30A.

## 4.2 Soil/Fill

Chemical data for soil/fill samples collected during the RI are discussed in the following sections and are summarized in Tables 6 and 7.

For the purpose of comparison, Tables 6a and 7a include "Unrestricted Use" Soil Cleanup Objectives (SCOs) as published in 6NYCRR Part 375-6 "Remedial Program Soil Cleanup Objectives." Unrestricted Use SCOs are deemed protective of human health and groundwater irrespective of end use of the property. Accordingly, the unrestricted use SCOs represent conservative soil/fill cleanup objectives that are often difficult to achieve on former industrial sites in urban areas. Tables 6b and 7b compare the data to restricted-commercial use SCOs per 6NYCRR Part 375-6. These values are deemed protective of human health, in the absence of other controls, for sites where end use will be limited to commercial or more restrictive (e.g., industrial) uses, which are considered the reasonably anticipated future uses for the Phase III Business Park Area per the land use analysis presented in Section 8.4.

RI Sample locations where reported concentrations exceed respective SCOs are shaded on the data summary tables.

As indicated on Tables 6a and 7a, several exceedances of the unrestricted use SCOs were noted, particularly for carcinogenic polyaromatic hydrocarbons; metal COPCs; and, to a lesser extent, PCBs. Based on the widespread nature of the unrestricted use SCO exceedances, the discussions below are limited to soil/fill quality as indicated by the more

meaningful comparison to restricted-commercial use SCOs. To the extent commercial use SCOs are exceeded, unrestricted use SCOs would be exceeded as well.

#### **4.2.1 VOCs**

The commercial SCOs for benzene, xylene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were exceeded at test pit sample BPA-3A-TP-53 collected from 5 to 7 fbs (see Table 7b). As described in Section 4.1, field evidence of impact including a PID reading of 400 ppm was noted at this interval.

No other test pit locations/samples exhibited an exceedance of the commercial SCOs for VOCs.

#### **4.2.2 SVOCs**

Several locations exhibited exceedances of the commercial SCOs for one or more PAHs. Specifically, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene) were reported above commercial SCOs at several locations, however the exceedances were generally within an order of magnitude of the SCO.

#### **4.2.3 Inorganic Compounds**

Arsenic was reported above the commercial SCO at the majority of the sample locations. Other inorganic compounds reported above commercial SCOs included cadmium (3 samples), copper (2 samples), lead (4 samples), manganese (4 samples), mercury (5 samples), and cyanide (4 samples). In all instances the reported exceedances were within an order of magnitude of the SCO with the exception of cyanide and mercury at sample location BPA-3A-SS-49 (i.e., a surface soil/fill sample collected at NYSDEC's request from blue-stained soil near the former gas holder) and mercury in test pit BPA-3A-TP-47.

#### **4.2.4 PCBs**

The result for PCB Aroclor 1260 slightly exceeded its commercial SCO at BPA-3A-TP-32 at 0-2 fbs. No other PCBs were not detected above restricted-commercial SCOs.

### 4.3 Groundwater

Groundwater quality data was collected during the RI from the shallow overburden or fill unit at the Site, with a deep (bedrock) sample collected from MWN-62D. Table 4 summarizes groundwater monitoring well construction details. Tables 8 and 9 summarize the analytical data, including field QC samples, along with Class GA Groundwater Quality Standards and Guidance Values (GWQS/GVs) per NYSDEC TOGS 1.1.1. The findings are discussed below.

#### 4.3.1 VOCs

With limited exception, groundwater samples exhibited non-detectable or trace (estimated) concentrations of VOCs well below the GWQS/GVs. Only three locations (i.e., wells MWN-19A, MWN-30A, and MWN-61A) contained concentrations of VOCs above the GWQS/GVs for one or more parameters. Well MWN-61A exhibited toluene at an estimated concentration of 6 ug/L as compared to the GWQS/GV of 5 ug/L, remaining VOCs at MWN-61A were reported as non-detect or were below the standards. Wells MWN-30A and, to a lesser extent, MWN-19A exhibited exceedances for one or more parameters (see Table 9). Both of these latter monitoring wells are located within the area of visually observed soil/fill impact in BPA-3A-TP-53, as described above, and contain similar parameters.

#### 4.3.2 SVOCs

The majority of the sampled locations exhibited SVOCs at non-detectable concentrations or at low concentration levels below GWQS/GVs. As indicated on Tables 8 and 9, wells exhibiting one or more SVOCs above the GWQS/GV include MWS-35A, MWS-04, MWS-31A, MWN-61A, MWN-19A, MWN-19B, and MWN-30A. However, with the exception of MWN-30A, the total (cumulative) SVOC concentrations at each of these locations are less than 1 ppm, which is typically considered, along with other factors, to be the point at which groundwater impact is considered de-minimis or subject to no further remedial measures under NYSDEC's Petroleum Spills program. As discussed in Section 4.3.1, MWN-30A is located within the area of visually observed soil/fill impact in BPA-3A-TP-53.

### ***4.3.3 Inorganic Compounds***

Total metals were reported as non-detect or at concentrations well below GWQS/GVs for all of the COPC metals with the exception of well MWS-31A, which exhibited slight exceedance of the standard for total arsenic. However, the sample from MWS-31A yielded field turbidity measurements greater than TurnKey's threshold value of 50 nephelometric units (NTUs). Accordingly, a filtered metals sample was collected and from well MWS-31A and was analyzed for soluble COPC metals. The filtered sample data were reported as non-detect or below GWQS/GVs for all the analyzed inorganic compounds, including arsenic.

Similarly, non-COPC metals were detected below the GWQS/GVs at all locations with the exception of MWS-35A, which exhibited exceedance of the standard for total iron, and MWN-19A, which exceeded the GWQS/GVs for total iron, manganese, and sodium.

### ***4.3.4 PCBs***

All PCBs analyzed were reported as non-detect; therefore, PCBs were not reported on Tables 8 and 9.

## **4.4 Soaking Pit Building ACM Sample**

Appendix E includes the sample results from ALF-02 as reported by EMSL. As indicated, no asbestos-containing materials were identified in the sample.

Following the RI, TurnKey located a site drawing (#180946) showing a concrete tunnel beneath what was formerly a narrow gauge track referred to as the "ingot buggy aisle" along the southern portion of the Soaking Pit Building foundation. It is likely that if asbestos material and miscellaneous debris from the demolition of site buildings was disposed within the Soaking Pit Building it would have occurred within a portion of this 15-ft by 16-ft tunnel.

## 5.0 FATE AND TRANSPORT OF COPCS

Soil/fill sample results exceed SCOs for certain COPCs. In addition, isolated groundwater samples indicated exceedance of Class GA GWQS/GVs for certain parameters as well. Accordingly, the soil/fill data were incorporated with the physical characterization of the Site to evaluate the fate and transport of COPCs in Site media. The mechanisms by which the COPCs present above SCOs can migrate to other areas or media are briefly outlined below.

### 5.1 Airborne Pathways

Potential migration pathways involving airborne transport of soil/fill COPCs include erosion and transport of soil particles and sorbed chemical constituents in fugitive dust emissions, and volatilization from subsurface soil vapor.

#### *5.1.1 Fugitive Dust*

Chemicals present in soil/fill can be released to ambient air as a result of fugitive dust generation. Since the Site is presently unoccupied and is substantially vegetated with shrubs, grasses, and trees, and because most of the fill consists of large grained slag, suspension due to wind erosion or physical disturbance of surface soil/fill particles is unlikely under the current use scenario. Under the planned future commercial/ industrial land use, the majority of the Site would be covered by asphalt and structures with only small areas covered by grass and/or ornamental landscaping. Fugitive dust may be generated during excavation activities either during or following redevelopment. Therefore, this migration pathway is potentially relevant under the reasonably anticipated future land use scenario.

#### *5.1.2 Volatilization*

Volatile chemicals, when present in soil/fill at elevated levels, may be released to ambient air or future building indoor air through volatilization from or through the soil/fill pore space. Volatile chemicals typically have a low organic-carbon partition coefficient ( $K_{oc}$ ), low molecular weight, and a high Henry's Law constant. VOCs were not detected in Site soil/fill at concentrations above restricted commercial SCOs with the exception of the sample collected from test pit BPA-3A-TP-53 collected from 5 to 7 fbg. Similarly, groundwater samples generally yielded not-detectable or trace levels of VOCs at or near

Class GA GWQS/GVs with the exception of samples from overburden wells MWN-19A and MWN-30A. Therefore, the soil and groundwater-to-air pathways may be relevant near the northwest portion of the Site where these samples were collected.

## 5.2 Waterborne Pathways

### 5.2.1 Surface Water Runoff

Under the current use scenario, the potential for soil particle transport with surface water runoff is low, as the Site is mostly flat lying and contains a significant amount of vegetative growth. In addition the well-drained slag/fill matrix precludes surface water ponding. Uncontrolled off-site transport is further limited because the Site is outside the 100-year floodplain. Under the reasonably anticipated future use scenario, the Site will be substantially covered by asphalt, buildings and landscaping, mitigating transport of subsurface (i.e., covered) soil/fill via storm water runoff. Although stormwater runoff during excavation activities is possible during the future use scenario, erosion controls are typical construction practice and would be implemented as a component of the Site Management Plan required for BCP Sites that do not achieve unrestricted use conditions.

### 5.2.2 Leaching

Localized VOC impacts were identified in groundwater samples collected from MWN-30A and MWN-19A. The relatively insoluble nature of the majority of the COPCs identified at elevated concentration in soil/fill and the general absence of significant overburden groundwater impacts in other on-site groundwater monitoring wells indicates that the chemical migration via leaching pathway is limited to the northwest portion of the Site near MWN-19A and MWN-30A.

## 5.3 Exposure Pathways

Based on the analysis of chemical fate and transport provided above, the pathways through which Site COPCs could potentially migrate to other areas or media are fugitive dust emissions via physical disturbance of soil particles and, to a lesser extent, soil and groundwater vapor-to-air volatilization and soil leaching. However, given the absence of existing site occupancy; the distance between the Site and occupied structures; the existing

deed restriction preventing groundwater use anywhere on the Tecumseh property; and NYSDEC/NYSDOH requirements for dust controls during excavation at remedial program construction sites, it is unlikely that site-related COPCs would reach off-site receptors at significant exposure point concentrations.

## 6.0 QUALITATIVE HUMAN HEALTH EXPOSURE AND WILDLIFE IMPACT ASSESSMENT

### 6.1 Human Health Exposure Assessment

A qualitative exposure assessment consists of characterizing the exposure setting (including the physical environment and potentially exposed human populations), identifying exposure pathways, and evaluating contaminant fate and transport.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements:

- A receptor population.
- A contaminant source
- A contaminant release and transport mechanism
- A point of exposure
- A route of exposure

The receptor population is the people who are or may be exposed to contaminants at a point of exposure. The source of contamination is defined as either the source of contaminant release to the environment (such as a waste disposal area or point of discharge), or the impacted environmental medium (soil, air, biota, water) at the point of exposure. Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed. The point of exposure is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (i.e., ingestion, inhalation, dermal absorption).

An exposure pathway is complete when all five elements of an exposure pathway are documented; a potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented but could reasonably occur. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway does not exist in the present and will not exist in the future.

### ***6.1.1 Potential Receptors***

The identification of potential human receptors is based on the characteristics of the Site, the surrounding land uses, and the probable future land uses. The Phase III Business Park Site is presently unoccupied, with the exception of active rail lines. Under current Site use conditions, receptors would be limited to trespassers who may traverse the Site (although presently mitigated by fencing and security measures); and construction workers that may access the Site to service utilities, perform rail maintenance, or similar duties. Trespassers might be comprised of adolescents and adults, whereas construction workers would be limited to adults.

In terms of future use, the current Site owner (Tecumseh Redevelopment) has developed a Master Plan for commercial/industrial redevelopment of the Site consistent with surrounding property use and site zoning. Future site use is further discussed under Section 8.4, which indicates that the reasonably anticipated future use of the Site is for commercial/industrial purposes. Exposed receptors under the future use scenario may be comprised of indoor workers, outdoor workers (e.g., groundskeepers or maintenance staff), and construction workers who may be employed at or perform work on the property. Site visitors/customers may also be considered receptors; however, their exposure would be similar to that of the indoor worker but at a lesser frequency and duration. Therefore, consideration of the indoor worker is conservatively protective of the site visitor.

### ***6.1.2 Contaminant Sources***

Section 4.0 discusses the COPCs present in unremediated Site media at elevated concentrations. In general, these are limited to SVOCs and select inorganic COPCs in surface soil/fill and, to a lesser extent, in subsurface soil/fill. Elevated VOCs and SVOCs were detected in the sample collected from 5 to 7 fbg at test pit BPA-3A-TP-53. Groundwater contained elevated concentrations of VOCs but only at two locations within the same general petroleum-impacted soil/fill area.

### ***6.1.3 Contaminant Release and Transport Mechanisms***

Contaminant release and transport mechanisms are specific to the type of contaminant and site use. For the non-volatile COPCs present in site-wide soil/fill, contaminant release and transport mechanisms will generally be limited to fugitive dust

migration and direct contact during intrusive work (e.g., during construction and grounds keeping activities), as the Site is currently covered by vegetation and will be substantially covered by roads, parking lots, buildings, and landscaping after redevelopment.

For VOCs present in the petroleum-impacted soil/fill and groundwater, the potential exists for exposure through pathways associated with soil gas migration. This would include both the outdoor pathway (primarily to construction workers involved in subsurface activities where VOCs are present at elevated concentration) as well as the indoor vapor intrusion pathway, also referred to as “soil vapor intrusion.”

Concerning the indoor air pathway, the NY State Department of Health (NYSDOH) has issued a guidance document for assessing potential impacts to indoor air via soil vapor intrusion (Ref. 7). This document presently provides guidance criteria for seven chlorinated aliphatic VOCs, none of which were detected at elevated concentration in the soil/fill or groundwater samples collected during the Phase III Business Park RI. Rather, the VOCs detected above commercial SCOs are petroleum-based compounds and were limited to benzene, xylene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene at test pit sample BPA-3A-TP-53. Several petroleum-based VOCs were also detected in overburden groundwater above the Class GA standards/guidance values in this same area of the Site. No soil/fill exhibiting field evidence of gross impacts were identified in the vicinity of the Electrical Department Building or WQS#3A buildings, nor were elevated concentrations of VOCs detected in soil or groundwater in these areas of the site. As such, under the future (unremediated) use scenario the potential exists for soil vapor migration in the area of the Site proximate to BPA-3A-TP-53. For the current use scenario, soil vapor intrusion is not a concern for the existing buildings. Concerning the outdoor air pathway, the potential exists for exposure to VOCs under the current and future use scenarios for construction workers engaged in activities proximate to BPA-3A-TP-53.

#### ***6.1.4 Point of Exposure***

Based on the widespread exceedance of commercial SCOs for certain ubiquitous parameters (i.e., arsenic and PAHs), the point of exposure is defined as the overall BCP Site. For both the current and future use scenarios, groundwater is not considered to pose a relevant mechanism due to the absence of significant groundwater impacts, the availability of a local municipal potable water source, the depth to groundwater (greater than 4.5 feet; the

standard depth of utilities and foundation footers), and the existence of a deed restriction that does not allow the use of Site groundwater.

### ***6.1.5 Route of Exposure***

Based on the types of receptors and points of exposure identified above, potential routes of exposure are listed below:

#### **Current Use Scenario**

- Construction Worker – skin contact, inhalation, and incidental ingestion

#### **Future Use Scenario**

- Indoor Worker – inhalation
- Construction and Outdoor Worker – skin contact, inhalation and incidental ingestion

### ***6.1.6 Exposure Assessment Summary***

Based on the above assessment, the potential exposure pathways for the un-remediated site condition are listed below.

#### **Current Use Scenario**

- Construction Worker – direct contact, incidental ingestion and inhalation of non-volatile COPCs present in site-wide soil/fill, and inhalation of volatile COPCs present in petroleum-impacted soil/fill during intrusive activities.

#### **Future Use Scenario**

- Indoor Worker – inhalation of volatile COPCs present in petroleum-impacted soil/fill via indoor air migration.
- Construction and Outdoor Worker – direct contact, incidental ingestion and inhalation of non-volatile COPCs present in site-wide soil/fill, and inhalation of volatile COPCs present in petroleum-impacted soil/fill during intrusive activities

In most instances, these exposures can be readily mitigated during and following redevelopment through proper soil/fill management, and engineering controls including placement of asphalt, building, and landscape cover and construction of vapor barriers or subslab depressurization systems in newly constructed buildings.

## 6.2 Fish and Wildlife Impact Assessment (FWIA)

The Site has been vacant since the former BSC steel plant ceased production in 1983. The historical use of the Site has eliminated the majority of native species. The Site is mainly populated by low-lying vegetation and small stature early successional trees (e.g., eastern cottonwood and poplar). The majority of fauna found on the Site are avian and small mammal species with the exception of the white-tailed deer. No federally listed or proposed threatened or endangered species are known to exist in the project area (USFWS 1999).

The Phase III Business Park Area is slated for redevelopment as a commercial/industrial area, consistent with surrounding property. Roadways, buildings, parking facilities, and maintained ornamental landscaping will substantially limit availability of suitable cover type for reestablishment of biota. As such, based on the Fish and Wildlife Resource Impact Analysis Decision Key included as Appendix F (NYSDEC DER-10 guidelines, Appendix 3C), no fish and wildlife resources impact analysis is warranted.

## 7.0 SUMMARY AND CONCLUSIONS

The RI findings indicate conditions consistent with the historic use of the Site for steel-making and finishing operations, and the widespread presence of fill materials containing slag and cindery ash. Key observations and findings from the soil/fill investigation are listed below:

- Base-neutral SVOCs (i.e., PAHs) were detected above the SCO at several test pit locations across the Site. However, total SVOC concentrations were reported at less than 500 parts per million, which NYSDEC's Draft Soil Cleanup Policy (November 2009) has proposed as an alternative soil cleanup objective (i.e., in lieu of individual SCOs) for soils where end use of the site will be for commercial or industrial purposes and where a cover (1 foot of clean soil, building and/or pavement) and Site Management Plan will be implemented.
- Arsenic was also detected above the commercial SCO of 16 mg/kg at several test pit locations. Arsenic is a ubiquitous metal with urban background soils in New York State frequently containing concentrations in excess of the commercial SCO, particularly at active and former industrial properties characterized by historic slag fill deposition and coal burning, such as that which occurred on the subject property. Accordingly, comparison of the arsenic data to site-specific background or average concentrations is considered appropriate. To determine the site background concentration, all arsenic data for the Phase III Business Park Area was tabulated and the 95% upper confidence limit (95% UCL) on the mean was calculated (see Appendix G). The data were then reviewed relative to the 95% UCL, with 5x the UCL considered representative of a potential hotspot. Review of the data indicates that none of the arsenic concentrations exceed 5x the UCL value.
- Field observation of potential subsurface impact by petroleum was recorded at certain test pit locations as discussed in Section 4.1. However, with the exception of test pit BPA-3A-TP-53, samples from the associated depth intervals yielded VOC concentrations below commercial SCOs and SVOC concentrations at levels consistent with those found across the Site, suggesting that the observations are representative of residual, weathered organics that do not constitute a remaining source area.
- Mercury and cyanide were identified at elevated levels in shallow fill at BPA-3A-TP-47, BPA-3A-TP-49 and BPA-3A-SS-49 (i.e., proximate to the former gas holder). In addition, bluish staining was observed at BPA-3A-TP-47 and BPA-3A-SS-49. These findings suggest potential localized shallow releases from historic gas holder instrumentation and/or purifier box waste.

- The observation of apparent red paint at BPA-3-TP-42 (0.5 to 1 fbgs) is substantiated by the detection of elevated lead in the associated sample.
- The two borings in the soaking pit building did not indicate the presence of asbestos (although refusal was encountered at one of the locations, allowing for collection and laboratory analysis of only one subsurface sample). Notwithstanding the potential for subsurface ACM in this area, the borings indicate a thick concrete layer is present at grade, mitigating potential for exposure. Based on review of historic drawings, it is possible that the historic concrete-lined tunnel beneath the building foundation contains asbestos material.

The groundwater investigation findings indicate that, as would be expected based on the relatively low solubility of the soil/fill constituents prevalent in the soil/fill matrix, groundwater is not impacted by COPCs except for the petroleum-impacted area in the vicinity of BPA-3A-TP-53. Review of the isopotential map presented as Figure 4 indicates that these impacts as well as the impacted soils near the water table (i.e., smear zone) may be the result of shallow groundwater migration/fluctuation from off-site SWMU P-11.

Based on the RI Findings, remedial measures are warranted. The remaining sections constitute an Alternatives Analysis Report (AAR) in accordance with NYSDEC DER-10 guidance.

## 8.0 DEVELOPMENT OF REMEDIAL ACTION OBJECTIVES AND GENERAL RESPONSE ACTIONS

The development of an appropriate remedial approach begins with definition of site-specific Remedial Action Objectives (RAOs) to address substantial human health and ecological risk or other significant environmental issues identified in the Remedial Investigation (RI). General Response Actions are then developed as potential means to achieve the RAOs.

### 8.1 Remedial Action Objectives

RAOs for this Site have been developed based on the findings of the RI, which have identified elevated soil/fill concentrations (particularly arsenic and PAHs) across the majority of the Site, and localized “hot spot” areas in discrete portions of the site where field evidence of impact was corroborated by analytical results (i.e., petroleum-impacted subsurface soil/fill near BPA-3A-TP-53; mercury and cyanide-impacted shallow soil/fill near BPA-3A-TP-47, BPA-3A-TP-49 and BPA-3A-SS-49; and lead-impacted soil/fill at BPA-3-TP-42). In addition, one hotspot area (BPA-3A-TP-44) was identified based on visual and olfactory impacts suggesting potential impact by tar materials.

In developing the RAOs, consideration is given to the reasonably anticipated future use of the Site (i.e., commercial and/or industrial reuse – see Section 8.4), and the applicable Standards, Criteria, and Guidance (SCGs), including soil cleanup guidance per 6 NYCRR Part 375 and groundwater quality standards and guidance values per Technical and Operational Guidance Series (TOGS) 1.1.1. Accordingly, the RAOs for the Site are to:

- Remediate hotspot soil/fill as described above.
- Mitigate exposure to soil/fill where contaminant levels exceed restricted-commercial SCOs.
- Mitigate potential for exposure to asbestos, if present, beneath the former soaking pit building foundation.
- Implement and maintain engineering and institutional controls to assure that the Site is not used in a manner inconsistent with the reasonably anticipated future use scenario.

## 8.2 General Response Actions

General Response Actions are broad classes of actions that may satisfy the RAOs. General response actions form the foundation for the identification and screening of remedial technologies and alternatives. General Response Actions considered for the Site are:

- Excavation and treatment or off-site disposal of impacted soil/fill
- Engineering controls or cover to mitigate contact and contaminant transport.
- Institutional controls (e.g., deed restrictions and other administrative measures) to restrict use of the site and mitigate unacceptable exposure.

## 8.3 Standards, Criteria and Guidance (SCGs)

This section provides a summary of the standards, criteria, and guidance (SCGs) that are considered applicable or relevant and appropriate to remediation of the Site. SCGs include New York State laws, regulations, guidance as well as more stringent Federal requirements.

Applicable SCGs pertain to cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under NY State or Federal environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a site. An applicable requirement must directly and fully address the situation at the site.

Relevant and appropriate SCGs pertain to cleanup standards, standards of control, or other substantive requirements, criteria, or limitations promulgated under NY State or Federal environmental or facility siting laws that, while not “applicable” to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site.

SCGs are classified as chemical-, action-, or location-specific. Chemical-specific SCGs are usually health- or risk-based concentrations in environmental media (e.g., air, soil, water), or methodologies that when applied to site-specific conditions, result in the establishment of concentrations of a chemical that may be found in, or discharged to, the ambient environment. Location-specific SCGs generally are restrictions imposed when remedial activities are performed in an environmentally sensitive area or special location. Some

examples of special locations include floodplains, wetlands, historic places, and sensitive ecosystems or habitats. Action-specific SCGs are restrictions placed on particular treatment or disposal technologies. Examples of action-specific SCGs are effluent discharge limits and hazardous waste manifest requirements.

Additional discussions concerning the specific chemical, action and location-specific SCGs that may be applicable, relevant or appropriate to remedy selection at the Site are presented below. In each case, the identified SCGs are generally limited to regulations or technical guidance in lieu of the environmental laws from which they are authorized, as the laws are typically less prescriptive in nature and are inherently considered in the regulatory and guidance evaluations.

### ***8.3.1 Chemical-Specific SCGs***

The determination of potential chemical-specific SCGs for a site is based on the nature and extent of contamination; potential migration pathways and release mechanisms for site contaminants; the presence of human receptor populations; and the likelihood that exposure to site contaminants will occur. The RI performed for the Phase III Business Park Area provides this information. RI sampling events included the collection and analysis of surface soil, subsurface soil, and groundwater samples. Table 10 presents a list of chemical-specific NY State and Federal SCGs that may be applicable or relevant and appropriate to the Site based on this information.

### ***8.3.2 Location-Specific SCGs***

The location of the Site is a fundamental determinant of its impact on human health and the environment. Location-specific SCGs are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they are in a specific location. Some examples of these unique locations include: floodplains, wetlands, historic places, and sensitive ecosystems or habitats. Table 11 presents the location-specific SCGs that may be applicable or relevant and appropriate to the Site.

### ***8.3.3 Action-Specific SCGs***

Table 12 identifies action-specific SCGs that may significantly impact the selection of remedial alternatives for the Phase III Business Park Site. This list of potential action-specific SCGs is based on the candidate remedial alternatives identified in Section 10.

## **8.4 Future Use Evaluation**

In developing and screening remedial alternatives, NYSDEC's Part 375 regulations require that the reasonableness of the anticipated future land use be factored into the evaluation. The regulations identify 16 criteria that must be considered. These criteria and the resultant outcome for the Phase III Business Park Site are presented in Appendix H. As indicated, the evaluation supports commercial and/or industrial redevelopment as the reasonably anticipated future use of the Site, consistent with surrounding Site use, zoning, and the Master Redevelopment Plan endorsed by Tecumseh, Erie County, and the City of Lackawanna. The remedial alternatives identified in Section 10 are evaluated against their consistency with the reasonably anticipated land use as well as other screening criteria.

In addition to the evaluation of alternatives to remediate to the likely end use of the Site, NYSDEC regulation and policy calls for evaluation of an unrestricted use scenario (considered under 6NYCRR Part 375-2.8 to be representative of cleanup to pre-disposal conditions). Per NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 5), evaluation of a "no-action" alternative is also required to provide a baseline for comparison against other alternatives.

## 9.0 VOLUME, NATURE, AND EXTENT OF CONTAMINATION

Estimation of the volume, nature, and extent of media that may require remediation to satisfy the RAOs or that needs to be quantified to facilitate evaluation of remedial alternatives is presented in this section. The estimates are a function of the cleanup goal: for the unrestricted use scenario, the cleanup goal would involve achieving unrestricted use SCOs; whereas for the reasonably anticipated future use scenario, the cleanup goal would involve achieving the restricted-commercial SCOs. The volume and extent of media requiring cleanup under these scenarios is presented in Sections 9.1 and 9.2. In addition, the volume and extent of “hot spot” material that may need to be addressed to achieve the RAO for remediation of these areas is discussed in Section 9.3. In all instances these volume estimates (and associated cost estimates presented later in this AAR) are projected based on limited data and observations collected during the RI; additional pre-remedial investigation would be required to refine the estimates, particularly for hotspot areas.

### 9.1 Comparison to Unrestricted SCOs

Exceedance of the unrestricted use SCOs was noted in the majority of soil/fill samples collected, primarily for carcinogenic PAHs; petroleum SVOCs; metal COPCs (i.e., arsenic, cadmium, chromium, lead, and mercury); and to a lesser extent PCBs (Aroclors 1242, 1254, and 1260). Due to the highly ubiquitous nature of the constituents observed in Site soil/fill and the extent to which they exceeded the unrestricted use SCO values, it is likely that the entire 149-acre property defines the impacted soil/fill area. The depth of impact is assumed to extend into native material, with an average depth of approximately 8 fbg. Thus, the volume of impacted soil/fill requiring remediation is approximately 1.9 million cubic yards.

### 9.2 Comparison to Restricted-Commercial SCOs

The soil/fill data indicated widespread exceedance of the Part 375 restricted-commercial SCOs for several ubiquitous constituents. Specifically, nearly all samples collected exhibited exceedance of the commercial SCOs for one or more of the carcinogenic polyaromatic hydrocarbons, with the majority also exhibiting exceedance of arsenic. Based on the data, it is not possible to quantify with any certainty the areas that do not exceed one or more of the commercial SCO criteria. It is therefore assumed, for the purpose of cost

estimating, that the entire 149-acre Site is also impacted above the restricted-commercial SCOs.

### 9.3 Hotspot Soil/Fill

As discussed in Section 8.1, certain test pit locations contained visually impacted soil/fill with the impacts corroborated by analytical results. Two groundwater monitoring wells also exhibited elevated concentrations of petroleum VOCs and SVOCs, likely attributable to contaminant migration from the adjacent SWMU P-11. Figure 5 identifies the location of the impacted areas; the estimated dimensions of each area are approximated since the extent has not been fully defined. The estimated areal and vertical extent of impact in these source areas is described below. Refinement of the volumes will be required through supplemental investigation.

- **Hotspot “A” – Test Pit BPA-3A-TP-42:** Red paint was observed across an approximate 10-foot x 10-foot area at a depth of 0.5 to 1.5 fbgs, with an elevated lead concentration identified in the associated sample. Therefore the extent of in-place impact is estimated to cover 100 square-feet x 1.0 feet, for a corresponding in-place volume of approximately 4 cubic yards. Accounting for contingency and excavation inefficiencies, the volume for ex-situ treatment and/or disposal alternatives is estimated to be 20 cubic yards.
- **Hotspot “B” – Test Pit BPA-3A-TP-47 and BPA-3A-TP-49:** Mercury and cyanide were identified at elevated levels in shallow fill at BPA-3A-TP-47, BPA-3A-TP-49, and BPA-3A-SS-49 (i.e., a surface soil sample proximate to test pit BPA-3A-TP-49). In addition, bluish staining was observed at BPA-3A-TP-47 and BPA-3A-SS-49. The extent of the impacts are estimated to span an approximate 22,500 square-foot area to a depth of 2 fbgs, for a corresponding in-place volume of approximately 1,700 cubic yards. Accounting for contingency and excavation inefficiencies the volume for ex-situ treatment and/or disposal alternatives is estimated to be 2,500 cubic yards.
- **Hotspot “C” – Test Pits BPA-3A-TP-53 and BPA-3A-TP-58:** These test pits were excavated adjacent to SWMU P-11, an area where fourteen 35,000-gallon USTs were reportedly removed. At approximately 5 fbgs, a PID reading of 400 ppm was detected with moderate odor in test pit BPA-3A-TP-53. Visual evidence of soil impact (sheen) was observed on the fill and water at a depth of 5 fbgs. In test pit BPA-3A-TP-58, petroleum-impacted groundwater with slight odor was identified at the water table (approximately 7 fbgs); a PID reading of 72.5 ppm was detected at this depth. Surrounding test pits did not indicate similar findings; therefore, the

extent of impact is estimated to cover an approximate 50,000 square-foot area at a depth of 5-7 fbgs (smear zone), for a corresponding in-place volume of approximately 3,700 cubic yards. Accounting for contingency and excavation inefficiencies the volume for ex-situ treatment and/or disposal alternatives is estimated to be 5,000 cubic yards.

- **Hotspot “D” – Test Pit BPA-3A-TP-44:** This test pit was excavated to the south of the Tar Pump House. Oil/tar soaked fill with sheen on the fill and water table and moderate odor were noted on the test pit log in Appendix A. It was also noted on the log that the impacts appeared to begin at the water table (7 fbgs). PID readings ranged from 0 to 3.3 ppm. The dimensions of the test pit were 15’ long by 5’ wide by 8’ deep; therefore, the extent of impact is estimated to cover an approximate 75 square-foot area at a depth of 6-8 fbgs (smear zone), for a corresponding in-place volume of approximately 6 cubic yards. Accounting for contingency and excavation inefficiencies the volume for ex-situ treatment and/or disposal alternatives is estimated to be 25 cubic yards.

Based on the estimated and assumed extent of the impacts described above, the total estimated in-place volume of “hotspot” contamination is 5,400 cubic yards. The volume of soil/fill for ex-situ treatment and/or disposal alternatives is estimated to be 7,550 cubic yards.

#### 9.4 Asbestos Waste

As discussed in Section 4.4, TurnKey located site drawings showing a historic 15-ft wide by 16-ft high tunnel with a concrete floor and walls along the southern portion of the Soaking Pit Building foundation (approximately 850 feet in length). Assuming this tunnel may contain asbestos material intermingled with demolition debris, the estimated volume of asbestos-containing debris is 7,500 cubic yards (see Figure 6).

## 10.0 DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES

### 10.1 Development of Alternatives

The following remedial alternatives have been developed in accordance with the General Response Actions and NYSDEC regulation and policy:

#### Soil/Fill Alternatives:

- Alternative 1: No action.
- Alternative 2: Excavation of soil/fill to achieve unrestricted SCOs.
- Alternative 3: Excavation followed by treatment and/or off-site disposal of hotspot soil/fill, with placement of a cover system prior to site redevelopment.
- Alternative 4: Excavation followed by treatment and/or off-site disposal of hotspot soil/fill, with placement of a cover system during site redevelopment.

#### Asbestos Waste Alternatives (Soaking Pit Building Foundation):

- Alternative 1: Asbestos Removal with Off-Site Disposal
- Alternative 2: Restricted Use with No Further Development
- Alternative 3: Restricted Use as On-Site Soil/Fill Biotreatment Pad

Institutional controls, though identified in the General Response Actions, were not identified as a stand-alone remedial alternative because a deed restriction prohibiting use of groundwater and limiting land reuse to industrial and similar non-residential settings already exists for the larger Tecumseh property. Accordingly, all of the above alternatives inherently include these institutional controls. In addition, Soil/Fill Alternatives 3 and 4 will require development and enforcement of a Site Management Plan (see Section 11). Other institutional and engineering controls that would be considered applicable for this Site and would be incorporated into the remedial alternatives are described in greater detail in Section 11.

### 10.2 Evaluation of Alternatives

NYSDEC's Brownfield Cleanup Program calls for remedy evaluation in accordance with DER-10 Technical Guidance for Site Investigation and Remediation (May 2010). In

In addition to achieving RAOs, the remedial alternatives are evaluated against the following criteria consistent with 6NYCRR Part 375-1.8(f):

- **Overall Protection of Public Health and the Environment.** This criterion is an evaluation of the remedy's ability to protect public health and the environment, assessing how risks posed through each existing or potential pathway of exposure are eliminated, reduced, or controlled through removal, treatment, engineering controls, or institutional controls.
- **Compliance with Standards, Criteria, and Guidance (SCGs).** Compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards, and guidance.
- **Long-Term Effectiveness and Permanence.** This criterion evaluates the long-term effectiveness of the remedy after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: (i) the magnitude of the remaining risks (i.e., will there be any significant threats, exposure pathways, or risks to the community and environment from the remaining wastes or treated residuals), (ii) the adequacy of the engineering and institutional controls intended to limit the risk, (iii) the reliability of these controls, and (iv) the ability of the remedy to continue to meet RAOs in the future.
- **Reduction of Toxicity, Mobility or Volume with Treatment.** This criterion evaluates the remedy's ability to reduce the toxicity, mobility, or volume of Site contamination. Preference is given to remedies that permanently and significantly reduce the toxicity, mobility, or volume of the wastes at the Site.
- **Short-Term Impacts and Effectiveness.** Short-term effectiveness is an evaluation of the potential short-term adverse impacts and risks of the remedy upon the community, the workers, and the environment during construction and/or implementation. This includes a discussion of how the identified adverse impacts and health risks to the community or workers at the Site will be controlled, and the effectiveness of the controls. This criterion also includes a discussion of engineering controls that will be used to mitigate short term impacts (i.e., dust control measures), and an estimate of the length of time needed to achieve the remedial objectives.
- **Implementability.** The implementability criterion evaluates the technical and administrative feasibility of implementing the remedy. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.
- **Cost-Effectiveness.** Capital, operation, maintenance, and monitoring costs are estimated for each remedial alternative and presented on a present worth basis.

Detailed cost estimates for each alternative, excluding the no action alternative, are presented on Tables 4 through 6.

- **Community Acceptance.** This criterion evaluates the public's comments, concerns, and overall perception of the remedy. The Community Acceptance criterion incorporates public concerns into the evaluation of the remedial alternatives. Therefore, Community Acceptance of the remedy will be evaluated after the public comment period required by the BCP.
- **Land Use.** In addition to the above criteria, 6NYCRR Part 375-1 specifies that the criterion of Land Use (i.e., the current, intended, and reasonably anticipated future land uses of the Site and its surroundings) be considered in the selection of the remedy. The intended future land use was initially submitted to the NYSDEC via the BCP application. The reasonably anticipated future use of the Site in a commercial/industrial capacity (i.e., as a business park) is further discussed in Appendix H.

#### ***10.2.1 Soil/Fill Alternative 1: No Action***

The no-action alternative is defined as taking no additional actions to address the impacted soil/fill. The Site is presently subject to a deed restriction prohibiting groundwater use and limiting reuse to industrial and similar non-residential settings, and is fenced along NYS Route 5. While these controls would not be removed, the no action alternative assumes that there would be no maintenance, monitoring, or certifications to assure that these controls remain in place and effective. The no-action alternative also provides a baseline for comparison against the other remedial alternatives and justifies the need for any remedial action.

***Overall Protection of Public Health and the Environment*** – This alternative would protect public health under the current use scenario via the existing engineering and institutional controls; however, localized areas of environmental impact associated with hotpot areas would remain. This alternative would not meet the RAOs for the Site.

***Compliance with SCGs*** – This alternative would not address source area materials or mitigate exposure to contaminants in excess of SCOs, and would therefore not comply with SCGs per 6NYCRR Part 375.

***Long-Term Effectiveness and Permanence*** – This alternative provides no long-term maintenance measures and, as such, provides no reliable long-term control against exposure to impacted soil/fill. All current and future risks would remain under this alternative.

***Reduction of Toxicity, Mobility, or Volume with Treatment*** – This alternative provides no reduction in toxicity, mobility, or volume of COPCs in soil/fill.

***Short-Term Impacts and Effectiveness*** – There would be no additional risks posed to the community, Site workers, or the environment associated with implementation of this alternative.

***Implementability*** – No technical implementability issues or action-specific administrative implementability issues are associated with this alternative.

***Cost-Effectiveness*** – There are no capital or operation, maintenance, and monitoring costs associated with this alternative.

***Land Use*** – This alternative is consistent with the reasonably anticipated future use of the Site, but would not promote commercial and industrial redevelopment due to the absence of a release from liability and placement of the responsibility to assure protection of public health following redevelopment on the future buyer or developer.

### ***10.2.2 Soil/Fill Alternative 2: Excavation of Impacted Soil/Fill to Unrestricted SCOs***

For unrestricted use scenarios, excavation and off-site treatment or disposal of impacted soil/fill would be performed, obviating the need for engineering and institutional controls. This alternative would necessitate excavation of all soil/fill where COCs exceed unrestricted use SCOs per 6NYCRR Part 375, with transport of the excavated materials to and disposal at a permitted, off-site disposal facility. The estimated total volume of impacted soil/fill that would be removed from the Site and disposed off-site is approximately 1.9 million cubic yards. The same volume of clean soil would be necessary to backfill the

excavation. During the RI, subsurface soil/fill samples from Hotspot A were analyzed for leachable (TCLP) VOCs, SVOCs, and metals, as well as flashpoint, and pH. The analyses indicated that the subsurface soil/fill exhibits leachable lead in excess of TCLP limits, requiring on-site treatment or off-site disposal of these materials in a RCRA-permitted facility. For purposes of cost estimating all other excavated materials are assumed to be non-hazardous and would be transported to a commercial solid waste disposal facility.

***Overall Protection of Public Health and the Environment*** – Excavation and off-site disposal to unrestricted use SCOs would be protective of public health under any reuse scenario. However, this alternative would permanently use and displace 1.9 million cubic yards of valuable landfill airspace, causing ancillary environmental issues due to reduced landfill capacity, and would require removal of 1.9 million cubic yards of clean soil from an off-site borrow source, also contributing to significant detrimental off-site environmental issues.

***Compliance with SCGs*** – Excavation and off-site disposal would need to be performed in accordance with applicable, relevant, and appropriate SCGs. Soil excavation activities would necessitate preparation of and adherence to a community air monitoring plan for particulates in accordance with Appendix 1B of DER-10.

***Long-Term Effectiveness and Permanence*** – This alternative would achieve removal of all impacted soil/fill; therefore, no soil/fill impacts would remain on the Site. To avoid recontamination of the Hotspot “C” area, it would be necessary to install a groundwater collection or cutoff system north of the site where the groundwater divide exists. This could be accomplished by extending the collection well system currently in place as part of the ICM for the adjacent benzol yard SWMU to the boundary of the Phase III Business Park Area. Assuming this measure was implemented, the excavation alternative would provide long-term effectiveness and permanence. Post-remedial monitoring and certifications would not be required.

***Reduction of Toxicity, Mobility, or Volume with Treatment*** – Through removal of all impacted soil/fill, this alternative would permanently and significantly reduce the

toxicity, mobility, and volume of contamination within the Site. However, since this alternative transfers Site soil/fill from one environment to another, an overall reduction of toxicity, mobility, and volume would not occur.

***Short-Term Impacts and Effectiveness*** – The short-term adverse impacts and risks to the community, workers, and environment during implementation of this alternative are significant. Site workers would be required to wear personal protective equipment (PPE) during excavation to prevent direct contact with soil/fill. Dust control methods would be required to limit the release of particulates during placement of the backfill soils. Physical hazards, primarily related to potential accidents from heavy truck traffic on NY State Route 5, would be expected, as the excavation work would require removal of approximately 135,700 truckloads of soil and import of a similar number of clean loads from the borrow source. Substantial disruption of the neighboring community would occur due to material transport and deliveries and noise from heavy equipment used to construct the remedy. This action would result in storm water impacts at the borrow source(s) and on-site; diesel fuel consumption on the order of 678,500 gallons (assuming 20 miles round trip, 8 miles per gallon), with several thousands of gallons also consumed by excavation and grading equipment. The USEPA’s estimated CO<sub>2</sub> generation rate for diesel engines is approximately 22.2 lbs per gallon of diesel consumed. Accordingly, this alternative would produce over 15 million lbs of greenhouse gas while at the same time stripping hundreds of acres of CO<sub>2</sub> consuming trees and shrubs from the site.

The Remedial Action Objectives would be achieved once the soil/fill is removed from the Site and backfill soils are in place (est. 2-3 years).

***Implementability*** – Significant technical and administrative implementability issues would be encountered in construction of this unrestricted use alternative. These include, but are not limited to: the need for construction, maintenance, and operation of substantial dewatering facilities; the need to coordinate and secure disposal contracts with numerous permitted off-site landfills, as no single location would be able to accept the volume of soil/fill generated under this alternative; difficulty locating local borrow sources for such a large volume of backfill; traffic coordination for trucks entering and exiting NY State Route 5; and the need to relocate rail lines to allow excavation beneath the existing tracks.

**Cost-Effectiveness** – Capital costs for implementation of this alternative are estimated at \$179 million. There are no operation and maintenance costs associated with this alternative assuming groundwater collection near Hotspot “C” is undertaken as part of the benzol yard ICM. Table 13 presents a breakdown of these capital costs.

**Land Use** – This alternative, although inconsistent with the reasonably anticipated future use of the Site, would not preclude commercial and industrial redevelopment.

### ***10.2.3 Soil/Fill Alternative 3: Hotspot Soil/Fill Removal with Placement of Soil Cover System Prior to Redevelopment***

This alternative would initially involve removal of the three hotspot areas described in Section 9.3. The lead-impacted soil/fill (Hotspot “A”) would require stabilization prior to off-site disposal or off-site stabilization/disposal in a RCRA-permitted treatment storage and disposal facility. Hotspot “B” soil/fill would be excavated and disposed off-site at a permitted NY State sanitary landfill or other permitted solid waste disposal facility. The petroleum-impacted soil/fill (Hotspot “C”) would likely be treated via on-site bioremediation (e.g., on a biopad constructed over the Soaking Pit Building foundation) with relocation of the treated soils back into the excavation area. Hotspot “D” would be handled in a similar manner unless tar impacts were found to be extensive, in which case these materials would need to be segregated and disposed off-site.

Following hotspot soil/fill removal, a 12” soil cover would be installed prior to Certificate of Completion issuance and redevelopment. The estimated total volume of clean soil required for the cover system is approximately 240,500 cubic yards. The cover would then be removed, as necessary, to accommodate build-out during the redevelopment period. Standard institutional and engineering controls would also be implemented under this alternative. Specifically, a Site Management Plan (SMP) incorporating an Excavation Plan; an Operation, Maintenance, and Monitoring (OM&M) Plan; and ongoing Engineering and Institutional Control certification requirements would be developed and enforced through an environmental easement. The environmental easement will restrict use of the Phase III Business Park Area to commercial and industrial applications and preclude groundwater use without treatment.

***Overall Protection of Public Health and the Environment*** – This alternative meets NYSDEC requirements for a Track IV cleanup under the BCP regulations and is therefore protective of human health and the environment at the Site. Accordingly, Alternative 3 would achieve the RAOs. However, placement of a 12” soil cover over the Phase III Business Park area would require immediate clearing of the Site and borrow source(s), resulting in rapid loss of 149 acres of greenhouse gas consuming plant life and cover for habitat and foraging on-site and a likely similar acreage off-site, which is inconsistent with NYSDEC’s DER-31 green remediation policy. In addition, significant short-term impacts would result from implementation of this alternative as described below.

***Compliance with SCGs*** – Excavation and off-site disposal, as well as on-site biotreatment of petroleum-impacted soil/fill, would need to be performed in accordance with applicable, relevant, and appropriate SCGs. Imported cover material would need to meet backfill quality criteria per 6NYCRR Part 375. Borrow source mining would require a permit and storm water pollution prevention plan (SWPPP) for all disturbed areas greater than 1 acre in size. Vegetative cover stripping and cover placement would be performed under the BCP and would therefore require an equivalent SWPPP to address on-site impacts. Subgrade preparation activities would necessitate preparation of and adherence to a community air monitoring plan for particulates in accordance with Appendix 1B of DER-10. As indicated above, this alternative is inconsistent with NYSDEC’s DER-31 green remediation policy due to rapid loss of vegetative cover on the site and off-site, as well as significant air emissions attributable to use of heavy diesel equipment for excavation and transport on-site and at the borrow source.

***Long-Term Effectiveness and Permanence*** – Removal of the hotspot soil/fill areas as well as construction of a cover system prior to redevelopment would prevent direct contact with soil/fill exceeding restricted-commercial SCOs. The efficacy of the cover system will be maintained and monitored via the Site Management Plan. Periodic inspection and maintenance of the cover and possible repair of the soil and vegetative layers would be required to assure long-term cover integrity. The institutional controls outlined in Section 11 would be required for long-term effectiveness. Following soil/fill removal, there is a

potential for re-impact of Hotspot “C” due to on-site contaminant migration from the adjacent parcel. Specifically, groundwater is likely migrating into the Hotspot “C” area from the Benzol Yard (SWMU P-11) north of the Phase II Business Park. In order for this alternative to maintain long-term effectiveness and permanence, the ICM presently in operation at the Benzol Yard would need to extend the groundwater collection system to the Phase III Business Park boundary near Hotspot “C” to mitigate localized groundwater migration to the south-southwest.

***Reduction of Toxicity, Mobility, or Volume with Treatment*** – Removal of hotspot soil/fill would permanently and significantly reduce the toxicity, mobility, and volume of the soil/fill that could potentially be contacted or produce localized areas of environmental impact at the Site. However, since this alternative transfers Site soil/fill from one environment to another, an overall reduction of toxicity and volume would not occur, with the exception of the petroleum-impacted soil/fill bioremediated on-site. Placement of a soil cover over the remaining areas would somewhat reduce the mobility of contaminants from erosion, although the RI concluded that this pathway is not likely significant under the current (undeveloped) scenario. Accordingly the toxicity, mobility, and volume of remaining residual contaminants would not be appreciably reduced under this alternative.

***Short-Term Effectiveness and Impacts*** – Similar to Alternative 2, the short-term adverse impacts and risks to the community, workers, and environment during implementation of this approach are significant. Because the site clearing and soil cover placement would occur in a single construction season as opposed to a gradual progression during build out, excess physical hazards (primarily related to potential accidents from soil deliveries and associated increased truck traffic on NY State Route 5) would be expected. Disruption of the neighboring community would occur due to material transport, deliveries, noise, and air emissions from heavy equipment used to strip the site and construct the cover. Community air monitoring, dust control, and soil erosion measures would be required during subgrade preparation and soil cover placement.

Moreover, under this alternative, the Phase III Business Park Area would require over 240,500 cubic yards of imported cover soil, which would be stripped from an off-site borrow source and then transported to the site in approximately 17,200 truckloads and

graded/raked using heavy, diesel-fueled grading equipment. This action alone would result in storm water impacts at the borrow source(s) and on-site; diesel fuel consumption on the order of 43,000 gallons (assuming 20 miles round trip, 8 miles per gallon); and related traffic, dust and air emissions. These impacts would be compounded when redevelopment is initiated, as much of the soil cover (est. 80%) would need to be removed and hauled off-site to allow for build out. Thus, an additional 34,400 gallons of diesel fuel may be consumed, resulting in total consumption of approximately 77,400 gallons of diesel fuel for transportation, with several thousands of gallons also consumed by excavation and grading equipment. As indicated above, the USEPA's estimated CO<sub>2</sub> generation rate for diesel engines is approximately 22.2 lbs per gallon of diesel consumed. Accordingly, the transportation of soil cover to the Site and subsequent removal and off-site transportation would produce over 1.7 million lbs of greenhouse gas while at the same time stripping hundreds of acres of CO<sub>2</sub> consuming trees and shrubs.

Finally, the existing soil/fill currently allows for good surface water percolation and drainage. If a soil cover were placed over the Phase III Business Park Area ahead of redevelopment, it would be absent the permanent storm water drainage system and Site grading that will be designed and constructed when redevelopment occurs. As a result, ponding, washout, and undesirable drainage patterns can be expected, damaging the cover system if soil cover is placed before final grading and storm water collection and conveyance systems are in place. The RAOs would be achieved upon cover placement.

***Implementability*** – Technical and administrative implementability issues anticipated under this alternative include difficulty locating local borrow sources for such a large volume of cover soil (estimated 240,500 CY); traffic coordination for trucks entering and exiting NY State Route 5; the need to integrate the cover with rail lines traversing the property; and the need to design and provide for significant erosion and storm water controls to mitigate ponding, washout, and undesirable storm water drainage and runoff patterns. A pre-redevelopment cover system is also certain to be damaged and repaired multiple times by development work and buried infrastructure (sewer, water, gas, electric, telephone, etc.), necessitating multiple inspections by an environmental professional, and documentation/explanation in annual Periodic Review Reports.

No significant administrative implementability issues are associated with this alternative.

***Cost-Effectiveness*** – The estimated capital cost for this alternative is \$9.2 million, which includes: hotspot removal and disposal/treatment; construction of the 12-inch landscape cover over the entire 149 acres; development of a Site Management Plan; and environmental-based redevelopment costs associated with removal of the temporary soil cover system. Annual OM&M costs for groundwater monitoring, cover maintenance, and annual certifications are estimated to be \$36,000, resulting in an estimated present worth cost of \$9.9 million. Table 14 presents a breakdown of these costs.

***Land Use*** – This alternative would be consistent with the reasonably anticipated future use of the Site. However, the placement of soil cover over the Site would significantly impair the ability and cost of redeveloping the Site. Redevelopment would require the removal and displacement of most if not all of the soil cover during infrastructure and building construction, would necessitate deeper excavation to access existing for utilities, and would limit the ability to locate existing foundations and other near-surface structures that may require removal during redevelopment.

#### ***10.2.4 Soil/Fill Alternative 4: Hotspot Soil/Fill Removal with Deferred Soil Cover System during Redevelopment***

This alternative is similar to Alternative 3 in that it provides for construction of a 12” soil cover over exposed areas of the Site following hotspot soil/fill removal; however, the cover would be placed on a sub-parcel basis during the redevelopment stage (i.e., after COC issuance) to coordinate with and exclude the cover that inherently will be provided by building, road, parking areas and landscaping. While this soil cover would not be in place at the time of COC issuance, it would be mandatory under the Site Management Plan and the environmental easement (see Section 11.0) that the cover be constructed prior to occupancy of any built-out subparcel, with the remainder of the undeveloped Business Park Area segregated from the redeveloped subparcel by fencing and appropriate signage to restrict access to uncovered areas. The size of the subparcels would vary according to the build-out

plan; however, a minimum acreage (e.g., 5 acres) incorporating the proposed redevelopment buildings and structures is envisioned.

***Overall Protection of Public Health and the Environment*** – Based on the removal of hotspot soil/fill and the fact that the Site is isolated, covered by indigenous vegetation, secured with fencing, and patrolled by security during off hours to discourage trespassing, this alternative is protective of human health and the environment under the current (undeveloped) scenario. This alternative would be protective of human health and the environment under the future use scenario, as it provides for implementation of the 12” cover system in areas not otherwise covered by buildings, roads, etc. as well as segregation of developed subparcels from undeveloped areas of the Site. Therefore, Alternative 4 successfully achieves the RAOs for the Site.

***Compliance with SCGs*** – Excavation and off-site disposal, as well as on-site biotreatment of petroleum-impacted soil/fill, would need to be performed in accordance with applicable, relevant, and appropriate SCGs. Imported cover material would need to meet backfill quality criteria per 6NYCRR Part 375. Borrow source mining would require a permit and storm water pollution prevention plan (SWPPP) for all disturbed areas greater than 1 acre in size. Vegetative cover would be placed during the redevelopment period along with building, road and other build-out and as such would be subject to storm water regulations. Soil excavation and cover activities would necessitate preparation of and adherence to a community air monitoring plan for particulates in accordance with Appendix 1B of DER-10.

***Long-Term Effectiveness and Permanence*** – Removal of the hotspot soil/fill areas as well as construction of a cover system on a subparcel basis prior to occupancy would prevent direct contact with soil/fill exceeding restricted-commercial SCOs. The efficacy of the cover system will be maintained and monitored via the Site Management Plan. Periodic inspection and maintenance of the soil cover as well as the “hardscape” cover provided by asphalt roads, concrete, etc. would be required to assure long-term cover integrity. The institutional controls outlined in Section 11 would be required for long-term effectiveness. Following soil/fill removal, there is a potential for re-impact of Hotspot “C”

due to on-site contaminant migration from the adjacent parcel. Specifically, groundwater is likely migrating into the Hotspot “C” area from the Benzol Yard (SWMU P-11) north of the Phase II Business Park. In order for this alternative to maintain long-term effectiveness and permanence, the ICM presently in operation at the Benzol Yard would need to extend the groundwater collection system to the Phase III Business Park boundary near Hotspot “C” to mitigate localized groundwater migration to the south-southwest.

***Reduction of Toxicity, Mobility, or Volume with Treatment*** – Removal of hotspot soil/fill would permanently and significantly reduce the toxicity, mobility, and volume of the soil/fill that could potentially be contacted or produce localized areas of environmental impact at the Site. However, since this alternative transfers Site soil/fill from one environment to another, an overall reduction of toxicity and volume would not occur, with the exception of the petroleum-impacted soil/fill bioremediated on-site. Placement of a soil cover in conjunction with cover provided by build-out over the remaining areas may somewhat reduce the mobility of contaminants from erosion, although the RI concluded that this pathway is not likely significant under the current (undeveloped) scenario. Accordingly the toxicity, mobility and volume of remaining residual contaminants would not be appreciably reduced under this alternative.

***Short-Term Impacts and Effectiveness*** – Because cover will be placed on a gradual basis as development occurs and will exclude hardscape cover inherently provided by buildings, roads, parking areas, etc. (which are anticipated to represent 80-90% of the site acreage), short-term impacts will be minimized. The net volume of soil cover required under this approach would be approximately 48,100 cubic yards, representing approximately 3,400 truck trips from borrow sources over a multi-year period in lieu of a single construction season, negating traffic concerns along Route 5. As the cover soil placement will coordinate with the build-out, no additional removal work will be required. Community air monitoring, dust control, and soil erosion measures would only be required during Site development. The RAOs would be achieved upon cover placement.

***Implementability*** – No significant technical or administrative implementability issues are anticipated under this alternative.

**Cost-Effectiveness** – The estimated capital cost for this alternative is \$2.4 million which includes: hotspot removal and disposal/treatment; cover system construction during remediation (i.e., areas not covered by building, parking or roads, assumed to be approximately 20% of the Site); development of a Site Management Plan; and environmental-based redevelopment costs associated with air monitoring during intrusive work. Annual OM&M costs for groundwater monitoring, cover maintenance, and annual certifications are estimated to be \$36,000, resulting in an estimated present worth cost of \$3.1 million. Table 15 presents a breakdown of these costs.

**Land Use** – This alternative is consistent with the reasonably anticipated future use of the Site. Furthermore, this alternative facilitates redevelopment by deferring final soil cover placement until redevelopment, thus avoiding the costs, time delays, and unnecessary disruption of placing, removing, and replacing cover during building, road, and utility construction.

#### ***10.2.5 Asbestos Waste Alternative 1: Asbestos Removal with Off-Site Disposal***

This alternative involves removal of the asbestos waste (i.e., asbestos containing materials, or ACM, and associated demolition debris) allegedly encapsulated within the Soaking Pit Building tunnel (see Figure 3), with transport of the material to and disposal at a permitted, off-site disposal facility where it would need to be handled as special regulated waste. As described in Section 9.4, the estimated total volume of intermingled asbestos waste and debris that would be removed and disposed off-site is approximately 7,500 cubic yards. The resultant excavation would be backfilled with BUD-approved slag material or other approved import material to match existing grade.

**Overall Protection of Public Health and the Environment** – Removal and off-site disposal of the asbestos waste would be protective of public health and the environment under the future use scenario. However, this alternative would permanently use and displace 7,500 cubic yards of valuable landfill airspace, and would have potential significant short-term impacts to human health and the environment as discussed below.

***Compliance with SCGs*** – Removal of asbestos waste and off-site disposal would need to be performed in accordance with applicable, relevant, and appropriate SCGs. Asbestos removal activities would necessitate preparation of and adherence to a community air monitoring plan for particulates in accordance with Appendix 1B of DER-10, as well as baseline, project and post-abatement clearance air monitoring for asbestos by a qualified third party contractor. Variances from New York State DOL regulations governing asbestos removal operations may be required to allow friable material to be disposed without bagging.

***Long-Term Effectiveness and Permanence*** – This alternative would achieve removal of the alleged asbestos waste; therefore no impacts would remain on the Site providing long-term effectiveness and permanence. Specific post-remedial monitoring and certifications relative to the Soaking Pit Building foundation would not be required.

***Reduction of Toxicity, Mobility, or Volume with Treatment*** – Through removal of all asbestos waste, this alternative would permanently and significantly reduce the volume of asbestos containing material within the Site. However, the material is believed to be encapsulated within the concrete tunnel, and as such is not presently mobile nor does it pose a potential toxic effect since it is not in an environment where the inhalation exposure pathway is complete. Because this alternative transfers asbestos containing material from one environment to another, an overall reduction of toxicity, mobility, and volume would not occur.

***Short-Term Impacts and Effectiveness*** – The short-term adverse impacts and risks to the community, workers, and environment during implementation of this alternative are significant. Site workers would be required to wear personal protective equipment (PPE) during asbestos removal to mitigate inhalation of asbestos fibers. Significant control methods (continuous water spray, limits on excavation area) would be required to limit the release of ACM during removal, however strong westerly winds off Lake Erie and the large quantity of materials requiring removal will undoubtedly result in some suspension of friable asbestos fibers, posing a threat to neighboring residents (i.e., Bethlehem Village, located directly downwind of the site) from airborne transport of friable ACM. Physical hazards, primarily related to potential accidents from heavy truck traffic on NY State Route 5, can

also be expected. Because the material is likely bulkier than soil, transport trucks will carry less weight, requiring additional trips. Assuming that each truck would be capable of transporting 10 cubic yards of debris, 750 round trips with dump trailers would be required for disposal. Any accident involving damage or turnover of a transport vehicle would likely have far-reaching detrimental impacts, as wind-blown asbestos fibers would be carried across a wide radius. Disruption of the neighboring community may occur due to material transport and noise from heavy equipment used to construct the remedy. The Remedial Action Objectives would be achieved once the asbestos waste is removed from the Site (est. 6 months).

***Implementability*** – Significant technical issues would be encountered with this implementation of this alternative. These include, but are not limited to: special precautions to safely excavate unknown asbestos waste material from a below-grade tunnel; and site control to prevent asbestos waste from becoming airborne during removal. Administrative implementability issues would include the need to apply for and receive a NYSDOL variance to allow all debris to be handled as bulk demolition wastes in lieu of bagging asbestos-containing materials, and the need to identify a landfill facility capable of handling a large quantity of ACM, as these materials require special subsurface disposal.

***Cost-Effectiveness*** – Capital costs for implementation of this alternative are estimated at \$1.55 Million, as shown on Table 16. No post-remedial operation and maintenance costs are associated with this alternative.

***Land Use*** – This alternative would be consistent with the reasonably anticipated future use of the Site.

#### ***10.2.6 Asbestos Waste Alternative 2: Restricted Use with No Further Development***

This alternative involves allowing ACM to remain encapsulated within the Soaking Pit Building tunnel, and placing a specific restriction in the site environmental easement to prevent future development over this area of the Phase III Business Park.

***Overall Protection of Public Health and the Environment*** – This alternative is protective of human health and the environment under the current (undeveloped) scenario as the materials are presently encapsulated. This alternative would be protective of human health and the environment under the future use scenario with an environmental easement preventing any future development over the Soaking Pit Building foundation.

***Compliance with SCGs*** – This alternative would comply with applicable SCGs.

***Long-Term Effectiveness and Permanence*** – Allowing the asbestos materials to remain encapsulated in place would prevent direct contact with the waste. Development of a specific use restriction (i.e., no future development) under the site-wide environmental easement would be required for long-term effectiveness.

***Reduction of Toxicity, Mobility, or Volume with Treatment*** – The asbestos containing material is believed to be encapsulated within the concrete tunnel, and as such is not presently mobile nor does it pose a potential toxic effect since it is not in an environment where the inhalation exposure pathway is complete. Under this alternative the ACM would remain contained in place. Accordingly the toxicity, mobility and volume of remaining contaminants would not be reduced under this alternative.

***Short-Term Impacts and Effectiveness*** – There are no short-term impacts with this alternative. The RAOs would be achieved once the environmental easement is executed.

***Implementability*** – No significant technical or administrative implementability issues are anticipated under this alternative.

***Cost-Effectiveness*** – The estimated capital cost for this alternative is \$6,000 for survey of the Soaking Pit Building foundation and development of an area-specific restriction under the site-wide environmental easement. Table 17 presents a breakdown of these costs.

**Land Use** – This alternative is consistent with the reasonably anticipated future use of the Site. However, no development would be permitted over the foundation in accordance with the environmental easement.

**10.2.7 Asbestos Waste Alternative 3: Restricted Use as On-Site Soil/Fill Biotreatment Pad**

Under this alternative, the former Soaking Pit Building foundation would be converted to a biotreatment pad for treatment of petroleum-impacted soil/fill excavated from the Tecumseh Business Park Areas during remedial work, as well as any additional petroleum-impacted soil/fill, if encountered during the redevelopment phase of these areas. The environmental easement would stipulate that this area would be used for treatment of Business Park Area soil/fill only and, upon completion of treatment, no additional development would be allowed. The entire area would be enclosed by a 6-ft chain link fence with a locking double-access gate and identification/warning signs, and the foundation would be prepared for biotilling with a layer of sand or wood chip mulch buffer.

**Overall Protection of Public Health and the Environment** – This alternative is protective of human health and the environment under the current (undeveloped) scenario as the materials are presently encapsulated. This alternative would be protective of human health and the environment under the future use scenario with an environmental easement restricting future use to biotreatment of Business Park Area soil/fill. Following use of the area for soil/fill treatment, the environmental easement would stipulate that no future development be permitted.

**Compliance with SCGs** – This alternative would comply with applicable SCGs. Any site preparation activities for construction of the biotreatment pad or fence would necessitate preparation of and adherence to a community air monitoring plan for particulates in accordance with Appendix 1B of DER-10.

**Long-Term Effectiveness and Permanence** – Allowing the asbestos materials to remain encapsulated in place with use of the above-grade slab as a base for a biopad would prevent direct contact with the waste. A specific condition in the environmental easement

preventing use of the Soaking Pit Building area, other than as a biopad, would be required for long-term effectiveness.

***Reduction of Toxicity, Mobility, or Volume with Treatment*** – The asbestos the material is believed to be encapsulated within the concrete tunnel, and as such is not presently mobile nor does it pose a potential toxic effect since it is not in an environment where the inhalation exposure pathway is complete. Under this alternative the ACM would remain contained in place. Accordingly the toxicity, mobility and volume of remaining contaminants would not be reduced under this alternative.

***Short-Term Impacts and Effectiveness*** – There are no short-term impacts with this alternative beyond the personal protective equipment and air monitoring required during biotreatment pad construction. The RAOs would be achieved once the environmental easement has been executed.

***Implementability*** – No significant technical or administrative implementability issues are anticipated under this alternative.

***Cost-Effectiveness*** – The estimated capital cost for this alternative is 60,000 which includes survey of the Soaking Pit Building foundation, biotreatment pad preparation, and fence installation. Table 18 presents a breakdown of these costs.

***Land Use*** – This alternative is consistent with the reasonably anticipated future use of the Site. However, no development would be permitted over the foundation in accordance with the environmental easement.

### 10.3 Proposed Remedy

The previous sections describe the remedial alternatives and evaluate these alternatives against the screening criteria. This final section of the evaluation considers the information and evaluations contained in the previous sections to identify appropriate remedial measures to achieve the RAOs for the Phase III Business Park Area.

### ***10.3.1 Soil/Fill Alternatives***

The proposed remedial approach for the impacted soil/fill is Alternative 4 – Hotspot Soil/Fill Removal with Deferred Soil Cover System during Redevelopment because it satisfies the RAOs for the Site, is significantly less disruptive to the community, is consistent with current and future land use, and represents a lower cost than Alternatives 2 or 3. This alternative would involve removal of three hotspot areas described in Section 9.3 followed by off-site disposal of Hotspots “A” and “B” soil/fill and on-site biotreatment of Hotspot “C” and “D” soil/fill (tarry materials, if present in hotspot “D” soil/fill, would need to be segregated and disposed off-site). An estimated 7,520 CY of impacted soil/fill would be excavated (although confirmation of this volume would be required prior to remedy implementation). As a condition of occupancy, Site developers would be required to cover all soil/fill areas that exceed the restricted-commercial SCOs through placement of asphalt, building, or landscape cover. The landscape cover would involve placement of at least 1 foot of clean soil followed by seeding to promote vegetative growth. The clean soil would be required to meet NYSDEC DER-10 standards for commercial sites (i.e., lower of Part 375 human health or groundwater protection values for restricted-commercial sites).

The 30-year present worth cost is estimated to be \$2.5 million with a projected \$1.8 million for capital expenditures and \$36,000 for annual groundwater monitoring, Site maintenance, and environmental easement certification.

### ***10.3.2 Asbestos Waste Alternatives***

The proposed remedy for the asbestos waste is Alternative 3 – Restricted Use as On-Site Soil/Fill Biotreatment Pad because it satisfies the RAOs for the Site, minimizes short-term impacts, is cost-feasible, and provides a beneficial use for this area of the Site.

The estimated capital cost for this alternative is \$60,000, which includes survey of the soaking pit building foundation to facilitate development of specific restrictions for this area under the environmental easement, site preparation, biotreatment pad preparation, and fencing.

## 11.0 POST-REMEDIAL REQUIREMENTS

### 11.1 Final Engineering Report

Following completion of the remedial measures, a Final Engineering Report (FER) will be submitted to the NYSDEC. The FER will include the following information and documentation, consistent with the NYSDEC regulations contained in 6 NYCRR Part 375-1.6(c):

- Background and Site description.
- Summary of the Site remedy that satisfied the remedial action objectives for the Site.
- Certification by a professional engineer to satisfy the requirements outlined in 6 NYCRR Part 375-1.6(c)(4).
- Description of engineering and institutional controls at the Site.
- Site map showing the areas remediated.
- Documentation of imported materials.
- Documentation of materials disposed off-site.
- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.
- Air monitoring data and reports.
- Photo documentation of remedial activities.
- Text describing the remedial activities performed; a description of any deviations from the Work Plan and associated corrective measures taken; and other pertinent information necessary to document that the site activities were carried out in accordance with this Work Plan.
- Analytical data packages and data usability summary reports (DUSRs).

### 11.2 Site Management Plan

A Site Management Plan (SMP) covering the entire Phase III Business Park Area will be prepared and submitted concurrent with the FER. The purpose of the Site Management Plan is to assure that proper procedures are in place to provide for long-term protection of human health and the environment after remedial construction is complete. The SMP is comprised of four main components:

- Engineering and Institutional Control Plan
- Site Monitoring Plan
- Operation and Maintenance Plan
- Inspections, Reporting, and Certifications

### **11.2.1 Engineering and Institutional Control Plan**

An institutional control in the form of a new Environmental Easement will be necessary to limit future use of the Site to restricted (commercial or industrial) applications and prevent groundwater use for potable purposes. An existing deed restriction is on file for the Tecumseh Site limiting reuse to commercial/industrial applications. However, industrial uses are loosely defined and allow incidental commercial-type facilities such as offices and laboratories, provided that they do not provide for occupancy by multiple numbers of persons under the age of 18. The deed restriction also prohibits construction or use of groundwater extraction wells (excluding monitoring and remediation wells).

Tecumseh will prepare an Engineering and Institutional Control (EC/IC) Plan that will include a complete description of all institutional and/or engineering controls employed at the Site, including the mechanisms that will be used to continually implement, maintain, monitor, and enforce such controls. The EC/IC Plan will include:

- A description of all EC/ICs on the site.
- The basic implementation and intended role of each EC/IC.
- A description of the key components of the ICs set forth in the Environmental Easement.
- A description of the features to be evaluated during each required inspection and periodic review, including the EC/IC certification, reporting, and Site monitoring.
- A description of plans and procedures to be followed for construction of the 12-inch soil cover as a condition of occupancy.
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

### **11.2.2 Site Monitoring Plan**

The Site Monitoring Plan will describe the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, including:

- Sampling and analysis of all appropriate media (e.g., groundwater).
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil.
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Site Monitoring Plan will provide information on:

- Sampling locations, protocol, and frequency.
- Information on all designed monitoring systems (e.g., well logs).
- Analytical sampling program requirements.
- Reporting requirements.
- Quality Assurance/Quality Control (QA/QC) requirements.
- Inspection and maintenance requirements for monitoring wells.
- Monitoring well decommissioning procedures.
- Annual inspection and periodic certification.

Semi-annual groundwater monitoring to assess overall reduction in contamination on-site and off-site will be conducted for the first two years. The frequency thereafter will be discussed with the NYSDEC. Trends in contaminant levels in groundwater in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals.

### **11.2.3 Operation and Maintenance Plan**

An Operation & Maintenance (O&M) plan governing maintenance of the cover system will include:

- Include the operation and maintenance activities necessary to allow individuals unfamiliar with the Site to maintain the soil cover system.
- Include an O&M contingency plan.
- Evaluate Site information periodically to confirm that the remedy continues to be effective for the protection of public health and the environment. If necessary,

the O&M Plan will be updated to reflect changes in Site conditions or the manner in which the cover system is maintained.

## **11.2.4 Inspections, Reporting, and Certifications**

### **11.2.4.1 Inspections**

Site-wide inspection will be conducted annually or as otherwise approved by the NYSDEC. All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in a Periodic Review Report.

### **11.2.4.2 Reporting**

The Periodic Review Report will be submitted to the NYSDEC annually, or as otherwise approved, beginning 18 months after the Certificate of Completion or equivalent document is issued. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. The Periodic Review Report will include:

- Identification, assessment and certification of all EC/ICs required by the remedy for the Site.
- Results of the required annual Site inspections and severe condition inspections, if applicable.
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format.
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format.
- A Site evaluation that includes the following:

- The compliance of the remedy with the requirements of the site-specific RAWP, ROD, or Decision Document.
- The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications.
- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Site Monitoring Plan for the media being monitored.
- Recommendations regarding any necessary changes to the remedy and/or Site Monitoring Plan.
- The overall performance and effectiveness of the remedy.

#### **11.2.4.3 Certification**

The signed EC/IC Certification will be included in the Periodic Review Report described in Section 4.2.4.2: For each institutional or engineering control identified for the Site, a Professional Engineer licensed to practice in New York State will certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction.
- The engineering and institutional controls employed at this Site are unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred that would impair the ability of the control to protect the public health and environment.
- Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control.
- Access to the Site will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document.
- Use of the Site is compliant with the Environmental Easement.
- The engineering control systems are performing as designed and are effective.
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices.

- The information presented in this report is accurate and complete.

#### ***11.2.4.4 Corrective Measures Plan***

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Plan until it is approved by the NYSDEC.

## 12.0 REFERENCES

1. *RCRA Facility Investigation (RFI) Report for the Former Bethlehem Steel Corporation Facility, Lackawanna, New York, Parts I through VII*, prepared for Bethlehem Steel Corporation by URS Consultants, Inc., January 2005.
2. *RCRA Facility Assessment (RFA) Report for the Bethlehem Steel Corporation Facility, Lackawanna, New York*. EPA-330/2-88-054. NEIC, Denver, CO. 1988.
3. *Remedial Investigation/Alternatives Analysis Report Work Plan for Phase III Business Park*, prepared for ArcelorMittal Tecumseh Redevelopment Inc. by TurnKey Environmental Restoration, LLC, May 2008.
4. *Remedial Investigation/Alternatives Analysis Report Work Plan for Steel Winds II Site*, prepared for BQ Energy, LLC by Benchmark Environmental Engineering & Science, PLLC, May 2008.
5. *DER-10/Technical Guidance for Site Investigation and Remediation*, prepared by New York State Department of Environmental Conservation, May 3, 2010.
6. *Solid Waste Management Unit (SWMU) Assessment Report for WQCS #3A*, prepared by Bethlehem Steel Corporation, 1989.
7. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. New York State Department of Health, Center for Environmental Health, Bureau of Environmental Exposure Investigation, October 2006. Revised June 25, 2007.

# TABLES



TABLE 1

CONSTITUENTS OF POTENTIAL CONCERN (COPCs)

Remedial Investigation / Alternatives Analysis Report  
 Phase III Business Park Area  
 Tecumseh Redevelopment Inc.  
 Lackawanna, New York

| COMPOUND  | CAS #     | COMPOUND   | CAS #      |
|---|-----------|--|------------|
| <b>Volatile Organic Compounds</b><br><i>(STARS Method 8021B)</i>                          |           | <b>TCL Semi-Volatile Organic Compounds (cont'd)</b><br><i>(Method 8270C - base/ neutrals only)</i> |            |
| Benzene   | 71-43-2   | Dimethyl phthalate   | 131-11-3   |
| n-Butylbenzene  | 104-51-8  | 2,4-Dinitrotoluene   | 121-14-2   |
| sec-Butylbenzene  | 135-98-8  | 2,6-Dinitrotoluene   | 606-20-2   |
| tert-Butylbenzene   | 98-06-6   | Di-n-octyl phthalate   | 117-84-0   |
| p-Cymene  | 99-87-6   | Fluoranthene   | 206-44-0   |
| Ethylbenzene  | 100-41-4  | Fluorene   | 86-73-7    |
| Isopropylbenzene  | 98-82-8   | Hexachlorobenzene  | 118-74-1   |
| Methyl tert butyl ether   | 1634-04-4 | Hexachlorobutadiene  | 87-68-3    |
| n-Propylbenzene   | 103-65-1  | Hexachlorocyclopentadiene  | 77-47-4    |
| Toluene   | 108-88-3  | Hexachloroethane   | 67-72-1    |
| 1,2,4-Trimethylbenzene  | 95-63-6   | Indeno(1,2,3-cd)pyrene   | 193-39-5   |
| 1,3,5-Trimethylbenzene  | 108-67-8  | Isophorone   | 78-59-1    |
| m-Xylene  | 95-47-6   | 2-Methylnaphthalene  | 91-57-6    |
| o-Xylene  | 106-42-3  | Naphthalene  | 91-20-3    |
| p-Xylene  | 108-38-3  | 2-Nitroaniline   | 88-74-4    |
| <b>TCL Semi-Volatile Organic Compounds</b><br><i>(Method 8270C - base/ neutrals only)</i> |           | 3-Nitroaniline   | 99-09-2    |
| Acenaphthene  | 83-32-9   | 4-Nitroaniline   | 100-01-6   |
| Acenaphthylene  | 208-96-8  | Nitrobenzene   | 95-95-3    |
| Anthracene  | 120-12-7  | N-Nitrosodiphenylamine   | 86-30-6    |
| Benzo(a)anthracene  | 56-55-3   | N-Nitroso-Di-n-propylamine   | 621-64-7   |
| Benzo(b)fluoranthene  | 205-99-2  | Phenanthrene   | 85-01-8    |
| Benzo(k)fluoranthene  | 207-08-9  | Pyrene   | 129-00-0   |
| Benzo(g,h,i)perylene  | 191-24-2  | 1,2,4-Trichlorobenzene   | 120-82-1   |
| Benzo(a)pyrene  | 50-32-8   | <b>Metals</b>  |            |
| Benzyl alcohol  | 100-51-6  | <i>(Method 6010B)</i>  |            |
| Bis(2-chloroethoxy) methane   | 111-91-1  | Arsenic  | 7440-38-2  |
| Bis(2-chloroethyl) ether  | 111-44-4  | Cadmium  | 7440-43-9  |
| 2,2'-Oxybis (1-Chloropropane)   | 108-60-1  | Chromium   | 7440-47-3  |
| Bis(2-ethylhexyl) phthalate   | 117-81-7  | Lead   | 7439-92-1  |
| 4-Bromophenyl phenyl ether  | 101-55-3  | Mercury <i>(Method 7470.A(water) and 7471.A(solid))</i>  | 7439-97-6  |
| Butyl benzyl phthalate  | 85-68-7   | <b>Wet Chemistry</b>   |            |
| 4-Chloroaniline   | 106-47-8  | Cyanide <i>(Method 9010B)</i>  |            |
| 2-Chloronaphthalene   | 91-58-7   |  |            |
| 4-Chlorophenyl phenyl ether   | 7005-72-3 | <b>PCBs</b>  |            |
| Chrysene  | 218-01-9  | <i>Method 8082</i>   |            |
| Dibenzo(a,h)anthracene  | 53-70-3   | Aroclor 1016   | 12674-11-2 |
| Dibenzofuran  | 132-64-9  | Aroclor 1221   | 11104-28-2 |
| Di-n-butyl phthalate  | 84-74-2   | Aroclor 1232   | 11141-16-5 |
| 1,2-Dichlorobenzene   | 95-50-1   | Aroclor 1242   | 53469-21-9 |
| 1,3-Dichlorobenzene   | 541-73-1  | Aroclor 1248   | 12672-29-6 |
| 1,4-Dichlorobenzene   | 106-46-7  | Aroclor 1254   | 11097-69-1 |
| 3,3'-Dichlorobenzidine  | 91-94-1   | Aroclor 1260   | 11096-82-5 |
| Diethyl phthalate   | 84-66-2   |  |            |



TABLE 2

EXPANDED PARAMETER LIST

Remedial Investigation / Alternatives Analysis Report  
 Phase III Business Park Area  
 Tecumseh Redevelopment Inc.  
 Lackawanna, New York

| Collected 1 per 10 samples per matrix (or as indicated on Table 3)                                |            |   |           |   |            |
|---|------------|---|-----------|---|------------|
| COMPOUND  | CAS #      | COMPOUND  | CAS #     | COMPOUND  | CAS #      |
| <b>TCL Volatile Organic Compounds</b><br><i>(Full List TCL VOCs plus STARS, via Method 8021B)</i> |            | <b>TCL Semi-Volatile Organic Compounds</b><br><i>(Method 8270C - base-neutrals and acid extractables)</i> |           | <b>TCL Semi-Volatile Organic Compounds</b><br><i>(Method 8270C - base-neutrals and acid extractables)</i> |            |
| Acetone   | 67-64-1    | Acenaphthene  | 83-32-9   | N-Nitrosodiphenylamine  | 86-30-6    |
| Benzene   | 71-43-2    | Acenaphthylene  | 208-96-8  | N-Nitroso-di-n-propylamine  | 621-64-7   |
| Bromoform   | 75-25-2    | Anthracene  | 120-12-7  | Pentachlorophenol   | 87-86-5    |
| Bromochloromethane  | 74-97-5    | Benzo(a)anthracene  | 56-55-3   | Phenanthrene  | 85-01-8    |
| Bromodichloromethane  | 75-27-4    | Benzo(a)pyrene  | 50-32-8   | Phenol  | 108-95-2   |
| Bromomethane (Methyl bromide)   | 74-83-9    | Benzo(b)fluoranthene  | 205-99-2  | Pyrene  | 129-00-0   |
| 2-Butanone (MEK)  | 78-93-3    | Benzo(g,h,i)perylene  | 191-24-2  | 1,2,4-Trichlorobenzene  | 120-82-1   |
| n-Butylbenzene  | 104-51-8   | Benzo(k)fluoranthene  | 207-08-9  | 2,4,5-Trichlorophenol   | 95-95-4    |
| sec-Butylbenzene  | 135-98-8   | Benzyl alcohol  | 100-51-6  | 2,4,6-Trichlorophenol   | 88-06-2    |
| tert-Butylbenzene   | 98-06-6    | bis(2-Chloroethoxy)methane  | 111-91-1  |   |            |
| Carbon disulfide  | 75-15-0    | bis(2-Chloroethyl)ether   | 111-44-4  | <b>TAL Metals</b>   |            |
| Carbon tetrachloride  | 56-23-5    | 2,2'-oxybis(1-chloropropane); bis(2-chloroisopropyl)ether   | 108-60-1  | <i>(Method 6010B)</i>   |            |
| Chlorobenzene   | 108-90-7   | bis(2-Ethylhexyl)phthalate  | 117-81-7  | Antimony  | 7440-38-2  |
| Chloroethane  | 75-00-3    | Butyl benzyl phthalate  | 85-68-7   | Arsenic   | 7440-38-2  |
| Chloroform  | 67-66-3    | 4-Bromophenyl phenyl ether  | 101-55-3  | Barium  | 7440-39-3  |
| Chloromethane (Methyl chloride)   | 74-87-3    | 4-Chloroaniline   | 106-47-8  | Beryllium   | 7440-39-3  |
| Cyclohexane   | 110-82-7   | 4-Chloro-3-methylphenol   | 59-50-7   | Cadmium   | 7440-43-9  |
| p-Cymene (p-isopropyltoluene)   | 99-87-6    | 2-Chloronaphthalene   | 91-58-7   | Calcium   | 7440-70-2  |
| 1,2-Dibromo-3-chloropropane   | 96-12-8    | 2-Chlorophenol  | 95-57-8   | Chromium  | 7440-47-3  |
| 1,2-Dibromoethane (EDB)   | 106-93-4   | 4-Chlorophenyl-phenylether  | 7005-72-3 | Cobalt  | 7440-48-4  |
| Dibromochloromethane  | 124-48-1   | Chrysene  | 218-01-9  | Copper  | 7440-50-8  |
| Dichlorodifluoromethane (Freon-12)  | 75-71-8    | Dibenzo(a,h)anthracene  | 53-70-3   | Iron  | 7439-89-6  |
| 1,2-Dichlorobenzene   | 95-50-1    | Dibenzofuran  | 132-64-9  | Lead  | 7439-92-1  |
| 1,3-Dichlorobenzene   | 541-73-1   | 3,3'-Dichlorobenzidine  | 91-94-1   | Mercury (Method 7470A(water) and 7471A(solid))  | 7439-97-6  |
| 1,4-Dichlorobenzene   | 106-46-7   | 2,4-Dichlorophenol  | 120-83-2  | Magnesium   | 7439-95-4  |
| 1,1-Dichloroethane  | 75-34-3    | 1,2-Dichlorobenzene   | 95-50-1   | Manganese   | 7439-96-5  |
| 1,2-Dichloroethane (EDC)  | 107-06-2   | 1,3-Dichlorobenzene   | 541-73-1  | Nickel  | 7440-02-0  |
| 1,1-Dichloroethylene (1,1-DCE)  | 75-35-4    | 1,4-Dichlorobenzene   | 106-46-7  | Potassium   | 7440-09-7  |
| trans-1,2-Dichloroethylene  | 156-60-5   | Diethyl phthalate   | 84-66-2   | Selenium  | 7782-49-2  |
| cis-1,2-Dichloroethylene  | 10061-01-5 | 2,4-Dimethylphenol  | 105-67-9  | Silver  | 7440-22-4  |
| cis-1,3-Dichloropropene   | 10061-02-6 | Dimethyl phthalate  | 131-11-3  | Sodium  | 7440-23-5  |
| trans-1,3-Dichloropropene   | 78-87-5    | Di-n-butyl phthalate  | 84-74-2   | Thallium  | 7440-28-0  |
| 1,2-Dichloropropane   | 78-87-5    | Di-n-octyl phthalate  | 117-84-0  | Vanadium  | 7440-62-2  |
| Ethylbenzene  | 100-41-4   | 4,6-Dinitro-2-methylphenol  | 534-52-1  | Zinc  | 7440-66-6  |
| 2-Hexanone  | 591-78-6   | 2,4-Dinitrophenol   | 51-28-5   |   |            |
| Isopropylbenzene (Cumene)   | 98-82-8    | 2,4-Dinitrotoluene  | 121-14-2  | <b>Wet Chemistry</b>  |            |
| Methyl acetate  | 79-20-9    | 2,6-Dinitrotoluene  | 606-20-2  | Cyanide (Method 9010B)  | 57-12-5    |
| Methylene chloride  | 75-09-2    | Fluoranthene  | 206-44-0  |   |            |
| Methylcyclohexane   | 108-87-2   | Fluorene  | 86-73-7   | <b>PCBs</b>   |            |
| 4-methyl-2-pentanone (MIBK)   | 108-10-1   | Hexachlorobenzene   | 118-74-1  | <b>Method 8082</b>  |            |
| Methyl tert butyl ether (MTBE)  | 1634-04-4  | Hexachlorobutadiene   | 87-68-3   | Aroclor 1016  | 12674-11-2 |
| n-Propylbenzene   | 103-65-1   | Hexachlorocyclopentadiene   | 77-47-4   | Aroclor 1221  | 11104-28-2 |
| Styrene   | 100-42-5   | Hexachloroethane  | 67-72-1   | Aroclor 1232  | 11141-16-5 |
| 1,1,1,2-Tetrachloroethane   | 630-20-6   | Indeno(1,2,3-cd)pyrene  | 193-39-5  | Aroclor 1242  | 53469-21-9 |
| Tetrachloroethylene (PCE)   | 127-18-4   | Isophorone  | 78-59-1   | Aroclor 1248  | 12672-29-6 |
| Toluene   | 108-88-3   | 2-Methylnaphthalene   | 91-57-6   | Aroclor 1254  | 11097-69-1 |
| 1,2,3-Trichlorobenzene  | 87-61-6    | 2-Methylphenol (o-Cresol)   | 95-48-7   | Aroclor 1260  | 11096-82-5 |
| 1,2,4-Trichlorobenzene  | 120-82-1   | 4-Methylphenol (p-Cresol)   | 106-44-5  |   |            |
| 1,1,1-Trichloroethane   | 71-55-6    | Naphthalene   | 91-20-3   |   |            |
| 1,1,2-Trichloroethane   | 79-00-5    | 2-Nitroaniline  | 88-74-4   |   |            |
| Trichloroethylene (TCE)   | 79-01-6    | 3-Nitroaniline  | 99-09-2   |   |            |
| Trichlorofluoromethane (Freon-11)   | 75-69-4    | 4-Nitroaniline  | 100-01-6  |   |            |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-117)   | 76-13-1    | Nitrobenzene  | 98-95-3   |   |            |
| 1,2,4-Trimethylbenzene  | 95-63-6    | 2-Nitrophenol   | 88-75-5   |   |            |
| 1,3,5-Trimethylbenzene  | 108-67-8   | 4-Nitrophenol   | 100-02-7  |   |            |
| Vinyl chloride  | 75-01-4    |   |           |   |            |
| m-Xylene  | 95-47-6    |   |           |   |            |
| o-Xylenes   | 106-42-3   |   |           |   |            |
| p-Xylene  | 108-38-3   |   |           |   |            |
| Total Xylenes   | 1330-20-7  |   |           |   |            |



TABLE 3a

ANALYTICAL PROGRAM SUMMARY FOR PHASE III BPA

Remedial Investigation/Alternatives Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| Test Pit/Monitoring Well Sample Identifier | Investigation Rationale                        | Depth Sampled/ Screened (fbgs) | Date Sampled | Analysis         |            |           |                                |              |            |         |         |          |         |      |         |          |            | Comments |    |          |           |             |
|--|--|--------------------------------|--------------|------------------|------------|-----------|--------------------------------|--------------|------------|---------|---------|----------|---------|------|---------|----------|------------|----------|----|----------|-----------|-------------|
|  |  |                                |              | TCL + STARS VOCs | STARS VOCs | TCL SVOCs | TCL SVOCs (Base Neutrals Only) | Total Metals | TAL Metals | Arsenic | Cadmium | Chromium | Cyanide | Lead | Mercury | TCL PCBs | Flashpoint |          | pH | TCLP VOC | TCLP SVOC | TCLP Metals |
| <b>Soil/Fill</b>                           |  |                                |              |                  |            |           |                                |              |            |         |         |          |         |      |         |          |            |          |    |          |           |             |
| BPA-3-TP-1                                 | General Coverage: No known or suspected impact | 0-2                            | 8/12/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | X        | --         | --       | -- | --       | --        |             |
| BPA-3-TP-2                                 | Area of multiple fuel, oil, and grease tanks   | 0-2                            | 8/13/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | X        | --         | --       | -- | --       | --        |             |
| BPA-3-TP-2                                 |  | 2-4                            | 8/13/2008    | X                | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | X        | X          | --       | X  | X        | X         |             |
| BPA-3-TP-3                                 |  | 3-6                            | 8/13/2008    | X                | --         | X         | --                             | --           | X          | --      | --      | --       | --      | --   | --      | X        | --         | --       | -- | --       | --        |             |
| BPA-3-TP-4                                 | Former Sinter Building                         | 0-2                            | 8/11/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-5                                 |  | 0-2                            | 8/11/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | X        | --         | --       | -- | --       | --        |             |
| BPA-3-TP-6                                 |  | 0-2                            | 8/11/2008    | X                | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-6                                 |  | 2-6                            | 8/11/2008    | X                | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-7                                 |  | 0-2                            | 8/13/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-8                                 | 0-2  | 8/18/2008                      | --           | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-9                                 | Area of existing WQCS #3a garage (SWMU-19)     | 0-2                            | 8/12/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-10                                | Former area of SWMU-25 and SWMU-26             | 0-2                            | 8/18/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-11                                | Former thaw house                              | 0-2                            | 8/15/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-12                                |  | 0-2                            | 8/15/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-13                                | Former stripper building                       | 0-2                            | 8/14/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-14                                | Portion of former Open Hearth No. 3            | 0-2                            | 8/18/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-15                                |  | 0-2                            | 8/15/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-16                                |  | 0-2                            | 8/15/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-17                                |  | 0-2                            | 8/20/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-18                                |  | 0-2                            | 8/20/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-19                                | 0-2  | 8/20/2008                      | --           | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-20                                | 0-2  | 8/20/2008                      | X            | --               | X          | --        | --                             | X            | --         | --      | --      | X        | --      | --   | X       | --       | --         | --       | -- | --       | MS/MSD    |             |
| BPA-3-TP-21                                | Area of former welfare building & transformers | 0-2                            | 8/20/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-22                                |  | 0-2                            | 8/19/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-23                                |  | 0-2                            | 8/20/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | X        | --         | --       | -- | --       | --        |             |
| BPA-3-TP-24                                |  | 0-2                            | 8/19/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-25                                |  | 3-7                            | 8/20/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-26                                | Former Open Hearth No. 3 substation            | 0-1                            | 8/15/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | X        | --         | --       | -- | --       | --        |             |
| BPA-3-TP-27                                |  | 0-2                            | 8/15/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-28                                |  | 0-2                            | 8/15/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-29                                | Area of SWMU-21 through SWMU-23                | 0-2                            | 8/18/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-30                                |  | 0-2                            | 8/18/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-31                                |  | 0-2                            | 8/19/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-32                                |  | 0-2                            | 8/19/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | Blind       |
| BPA-3-TP-33                                |  | 0-2                            | 8/19/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-34                                |  | 0-4                            | 8/19/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-35                                |  | 0-2                            | 8/18/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-36                                | 0-2  | 8/18/2008                      | --           | --               | --         | X         | --                             | --           | X          | X       | X       | X        | X       | X    | --      | --       | --         | --       | -- | --       | MS/MSD    |             |
| BPA-3-TP-37                                | General Coverage: No known or suspected impact | 0-2                            | 8/15/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-38                                | Area of 2,000 gal oil tank                     | 0-2                            | 8/19/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-39                                |  | 0-6                            | 8/19/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-40                                | Area of molding warming building               | 0-2                            | 8/21/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-41                                | General Coverage: No known or suspected impact | 0-2                            | 8/20/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-42                                |  | 0-2                            | 8/21/2008    | X                | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-42                                |  | Waste                          | 8/21/2008    | --               | --         | X         | --                             | --           | --         | --      | --      | --       | --      | --   | --      | X        | X          | --       | X  | --       | X         | Blind 2     |
| BPA-3-TP-43                                |  | 0-2                            | 8/21/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-44                                |  | 0-2                            | 8/21/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-45                                | Former Basic Oxygen Furnace (BOF) Plant        | 0-2                            | 8/21/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        |             |
| BPA-3-TP-46                                |  | 0-2                            | 8/22/2008    | --               | --         | --        | --                             | --           | --         | --      | --      | --       | --      | --   | --      | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-47                                |  | 0-2                            | 8/22/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-48                                |  | 0-2                            | 8/22/2008    | --               | --         | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-49                                |  | 0-2                            | 8/22/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | --          |
| BPA-3-TP-50                                |  | 0-2                            | 8/26/2008    | X                | --         | X         | --                             | --           | X          | --      | --      | --       | --      | --   | --      | X        | --         | --       | -- | --       | --        | Blind 3     |
| BPA-3-TP-51                                |  | 0-2                            | 8/26/2008    | --               | X          | --        | X                              | --           | --         | X       | X       | X        | X       | X    | X       | --       | --         | --       | -- | --       | --        | --          |





TABLE 3b

ANALYTICAL PROGRAM SUMMARY FOR PHASE IIIA BPA

Remedial Investigation/Alternatives Analysis Report  
 Phase IIIA Business Park Area  
 Tecumseh Redevelopment Inc.  
 Lackawanna, New York

| Test Pit/Monitoring Well Sample Identifier | Investigation Rationale   | Depth Sampled/ Screened (fbgs) | Date Sampled | Analysis         |            |           |                                |            |             |         |        |          |    | Comments |
|--|---|--------------------------------|--------------|------------------|------------|-----------|--------------------------------|------------|-------------|---------|--------|----------|----|----------|
|  |   |                                |              | TCL + STARS VOCs | STARS VOCs | TCL SVOCs | TCL SVOCs (Base Neutrals Only) | TAL Metals | COPC Metals | Cyanide | Barium | TCL PCBs | pH |          |
| <b>Soil/Fill</b>                           |   |                                |              |                  |            |           |                                |            |             |         |        |          |    |          |
| BPA-3A-TP-1                                | Downgradient of former Grease & Oil House and Acetylene Container Storage | 0-2                            | 11/18/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-2                                | Former Air Compressor Station near Soaking Pit Building foundation        | 0-2                            | 11/18/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-3                                | Downgradient of former Air Compressor Station near Soaking Pit Building   | 2-6                            | 11/18/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-4                                | Downgradient of Electric Department Building                              | 0-2                            | 11/18/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-5                                | No known or suspected impact  | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-6                                |   | 0-2                            | 11/18/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-7                                |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-8                                | No known or suspected impact  | 5-8                            | 11/18/2009   | X                | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-9                                |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-10                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-11                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-12                               | Former area of Track Scale House  | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-13                               | No known or suspected impact  | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-14                               |   | 4-6                            | 11/18/2009   | X                | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-15                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-16                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-17                               | Former Instrument Repair Shop   | 3-6                            | 11/20/2009   | X                | --         | X         | --                             | X          | --          | X       | --     | X        | -- | MS/MSD   |
| BPA-3A-TP-18                               | Former 15,000-gallon diesel oil AST                                       | 3-6                            | 11/20/2009   | --               | X          | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-19                               | Former Automotive Service Station   | 3-6                            | 11/20/2009   | X                | --         | X         | --                             | X          | --          | X       | --     | X        | -- |          |
| BPA-3A-TP-20                               | No known or suspected impact  | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-21                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-22                               |   | 0-2                            | 11/20/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-23                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-24                               | Downgradient of former Open Hearth No. 3 Building                         | 0-2                            | 11/20/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-25                               | Former 2,000-gallon fuel oil AST  | 3-5                            | 11/20/2009   | --               | X          | --        | X                              | --         | X           | --      | --     | --       | -- | Blind 1  |
| BPA-3A-TP-26                               | Former Fuel Oil Storage Building (2 ASTs)                                 | 0-2                            | 11/23/2009   | --               | X          | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-27                               | Former Oil House  | 0-2                            | 11/23/2009   | --               | X          | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-28                               | Former Transformer Substation 7E  | 0-2                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | X        | -- |          |
| BPA-3A-TP-29                               | Former Transformer Substation 7E  | 0-2                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | X        | -- |          |
| BPA-3A-TP-30                               | Former Precipitator Transformers  | 2-5                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | X        | -- |          |
| BPA-3A-TP-31                               | Former Precipitator Transformers  | 3-5                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | X        | -- |          |
| BPA-3A-TP-32                               | Former Precipitator Transformers  | 0-2                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | X        | -- |          |
| BPA-3A-TP-33                               | Former 1,500-gallon pitch AST   | 0-2                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-34                               | Former Tar Pump House   | 0-2                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-35                               | Downgradient of Water Treatment Pump House                                | 0-2                            | 11/23/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-36                               | No known or suspected impact  | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-37                               |   | 0-2                            | 11/24/2009   | X                | --         | X         | --                             | X          | --          | X       | --     | X        | -- |          |
| BPA-3A-TP-38                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-39                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-40                               | No known or suspected impact  | 0-2                            | 11/24/2009   | --               | --         | --        | X                              | --         | X           | --      | --     | --       | -- |          |
| BPA-3A-TP-41                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-42                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-43                               |   | --                             | --           | --               | --         | --        | --                             | --         | --          | --      | --     | --       | -- |          |
| BPA-3A-TP-44                               |   | Former Tar Pump House          | 7-8          | 11/24/2009       | X          | --        | X                              | --         | X           | --      | X      | --       | X  | --       |



TABLE 3b

ANALYTICAL PROGRAM SUMMARY FOR PHASE IIIA BPA

Remedial Investigation/Alternatives Analysis Report  
 Phase IIIA Business Park Area  
 Tecumseh Redevelopment Inc.  
 Lackawanna, New York

| Test Pit/Monitoring Well Sample Identifier | Investigation Rationale                     | Depth Sampled/Screened (fbgs) | Date Sampled | Analysis         |            |           |                                |            |             |           |          |           |          | Comments |                   |
|--|---|-------------------------------|--------------|------------------|------------|-----------|--------------------------------|------------|-------------|-----------|----------|-----------|----------|----------|-------------------|
|  |   |                               |              | TCL + STARS VOCs | STARS VOCs | TCL SVOCs | TCL SVOCs (Base Neutrals Only) | TAL Metals | COPC Metals | Cyanide   | Barium   | TCL PCBs  | pH       |          |                   |
| BPA-3A-TP-45                               | Former 1M cubic foot gas holder             | 0-2                           | 11/30/2009   | --               | --         | --        | X                              | --         | X           | X         | X        | X         | --       | --       | MS/MSD            |
| BPA-3A-TP-46                               | Former 1M cubic foot gas holder             | 0-2                           | 11/30/2009   | --               | --         | --        | X                              | --         | X           | X         | X        | X         | --       | --       |                   |
| BPA-3A-TP-47                               | Former 1M cubic foot gas holder             | 0-2                           | 11/30/2009   | --               | --         | --        | X                              | --         | X           | X         | X        | X         | --       | --       |                   |
| BPA-3A-TP-48                               | Former 1M cubic foot gas holder             | 0-2                           | 11/30/2009   | --               | --         | --        | X                              | --         | X           | X         | X        | X         | --       | --       |                   |
| BPA-3A-SS-49                               | Former gas holder pump house                |                               | 11/30/2009   | --               | --         | --        | X                              | --         | X           | X         | X        | X         | --       | --       |                   |
| BPA-3A-TP-49                               | Former gas holder pump house                | 0-2                           | 11/30/2009   | --               | --         | --        | X                              | --         | X           | X         | X        | X         | --       |          | Blind 2           |
| BPA-3A-TP-49                               | Former gas holder pump house                | 5-7                           | 11/30/2009   | --               | --         | --        | --                             | X          | --          | --        | --       | --        | X        |          |                   |
| BPA-3A-TP-50                               | Adjacent to SWMU P-12                       | 0-2                           | 11/30/2009   | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       | --       |                   |
| BPA-3A-TP-51                               | Adjacent to/downgradient of SWMU P-12       | 0-2                           | 11/30/2009   | X                | --         | X         | --                             | X          | --          | X         | --       | X         | --       |          |                   |
| BPA-3A-TP-52                               | Adjacent to SWMU P-12                       | 0-2                           | 12/2/2009    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          | MS/MSD            |
| BPA-3A-TP-53                               | Adjacent to SWMU P-12                       | 5-7                           | 12/1/2009    | X                | --         | X         | --                             | X          | --          | X         | --       | --        | --       |          |                   |
| BPA-3A-TP-54                               | Former Open Hearth No. 3 building footprint | 0-2                           | 12/2/2009    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| BPA-3A-TP-55                               | Former Open Hearth No. 3 building footprint | 0-2                           | 12/2/2009    | X                | --         | X         | --                             | X          | --          | X         | --       | X         | --       |          | Blind 3           |
| BPA-3A-TP-56                               | Former Open Hearth No. 3 building footprint | 0-2                           | 12/2/2009    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| BPA-3A-TP-57                               | No known or suspected impact                | 0-2                           | 11/24/2009   | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| BPA-3A-TP-58                               | Adjacent to Benzol Loading Dock             | 5-6                           | 11/30/2009   | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| <b>Totals</b>                              |   |                               |              | <b>9</b>         | <b>10</b>  | <b>7</b>  | <b>34</b>                      | <b>8</b>   | <b>34</b>   | <b>13</b> | <b>6</b> | <b>11</b> | <b>1</b> |          |                   |
| <b>Groundwater</b>                         |   |                               |              |                  |            |           |                                |            |             |           |          |           |          |          |                   |
| MWS-04                                     | General Site Coverage                       | --                            | 1/21/2010    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| MWN-19A                                    | General Site Coverage                       | --                            | 1/21/2010    | X                | --         | X         | --                             | X          | --          | X         | --       | --        | --       |          | MS/MSD, Blind Dup |
| MWN-19B                                    | General Site Coverage                       | --                            | 1/21/2010    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| MWN-30A                                    | General Site Coverage                       | --                            | 1/21/2010    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| MWS-31A                                    | General Site Coverage                       | --                            | 1/21/2010    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| MWN-61A                                    | General Site Coverage                       | --                            | 1/21/2010    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| MWN-62-D                                   | General Site Coverage                       | --                            | 1/21/2010    | --               | X          | --        | X                              | --         | X           | --        | --       | --        | --       |          |                   |
| <b>Totals</b>                              |   |                               |              | <b>1</b>         | <b>6</b>   | <b>1</b>  | <b>6</b>                       | <b>1</b>   | <b>6</b>    | <b>1</b>  | <b>0</b> | <b>0</b>  | <b>0</b> |          |                   |



TABLE 4

GROUNDWATER MONITORING WELL CONSTRUCTION DETAILS

Remedial Investigation/Alternatives Analysis Report  
 Phase III Business Park Area  
 Tecumseh Redevelopment Inc.  
 Lackawanna, New York

| Well I.D.                     | Northing    | Easting     | Ground Elev. (fmsl) | Stick-up (feet) | TOR Elev. (fmsl) | Total Depth (fbTOR) | Screen Length (feet) | Screened Interval (fbgs)                    |        | Riser / Screen Diam. (in.) | Riser / Screen Material | Screen Slot Size (in.) | Stratigraphic Unit Monitoring |
|-------------------------------|-------------|-------------|---------------------|-----------------|------------------|---------------------|----------------------|---|--------|----------------------------|-------------------------|------------------------|-------------------------------|
|                               |             |             |                     |                 |                  |                     |                      | top   | bottom |                            |                         |                        |                               |
| <b>MONITORING WELLS NORTH</b> |             |             |                     |                 |                  |                     |                      |   |        |                            |                         |                        |                               |
| MWN-10                        | 1026373.615 | 1075621.513 | 583.30              | 2.17            | 585.47           | 18.33               | 10                   | 6.00  | 16.00  | 4                          | PVC/SS                  | 0.010                  | F                             |
| MWN-19A                       | 1027566.513 | 1074436.041 | 583.07              | 2.22            | 585.29           | 18.24               | 10                   | 6.00  | 16.00  | 2                          | PVC/SS                  | 0.010                  | F,S,P                         |
| MWN-19B                       | 1027555.852 | 1074440.480 | 582.77              | 2.29            | 585.06           | 28.81               | 10                   | 16.00                                       | 26.00  | 2                          | PVC,SS/SS               | 0.010                  | P                             |
| MWN-30A                       | 1027642.623 | 1074640.826 | 582.67              | 2.92            | 585.59           | 20.95               | 15                   | 3.00  | 18.00  | 2                          | SS/SS                   | 0.010                  | F                             |
| MWN-40A                       | 1026195.305 | 1074615.333 | 587.86              | 2.10            | 589.96           | 19.00               | 10                   | 9.00  | 19.00  | 2                          | PVC/SS                  | 0.010                  | F                             |
| MWN-56A                       | 1027217.933 | 1075838.118 | 582.16              | 2.08            | 584.24           | 20.28               | 10                   | 8.00  | 18.00  | 2                          | PVC/PVC                 | 0.010                  | F                             |
| MWN-57A                       | 1027059.679 | 1075257.817 | 583.42              | 2.78            | 586.20           | 21.78               | 10                   | 8.00  | 18.00  | 2                          | PVC/PVC                 | 0.010                  | F                             |
| MWN-58A                       | 1025264.761 | 1076437.256 | 584.08              | 2.85            | 586.93           | 19.69               | 10                   | 8.00  | 18.00  | 2                          | PVC/PVC                 | 0.010                  | F                             |
| MWN-59A                       | 1024786.311 | 1075925.932 | 584.40              | 3.04            | 587.44           | 21.32               | 10                   | 8.00  | 18.00  | 2                          | PVC/PVC                 | 0.010                  | F                             |
| MWN-60A                       | 1024331.051 | 1076408.328 | 583.77              | 2.79            | 586.56           | 20.40               | 10                   | 8.00  | 18.00  | 2                          | PVC/PVC                 | 0.010                  | F                             |
| MWN-61A                       | 1025357.610 | 1075641.250 | 584.72              | 2.19            | 586.91           | 18.03               | 10                   | 6.00  | 16.00  | 2                          | PVC/PVC                 | 0.010                  | F                             |
| MWN-62D                       | 1026206.635 | 1074783.613 | 582.34              | 2.27            | 584.61           | 65.96               | 9                    | 54.00                                       | 63.00  | 2                          | PVC/PVC                 | 0.010                  | R                             |
| <b>MONITORING WELLS SOUTH</b> |             |             |                     |                 |                  |                     |                      |   |        |                            |                         |                        |                               |
| MWS-03                        | 1024939.229 | 1075241.079 | 585.70              | 1.72            | 587.42           | 20.43               | 10                   | 8.00  | 18.00  | 4                          | PVC/SS                  | 0.010                  | F                             |
| MWS-04                        | 1023844.145 | 1075429.974 | 583.61              | 2.44            | 586.05           | 20.43               | 10                   | 7.00  | 17.00  | 4                          | PVC/SS                  | 0.010                  | F                             |
| MWS-24A                       | 1024237.749 | 1074911.499 | 591.77              | 2.56            | 594.33           | 23.00               | 10                   | 13.00                                       | 23.00  | 2                          | PVC,SS/SS               | 0.020                  | F,S                           |
| MWS-24B                       | 1024246.099 | 1074904.119 | 591.79              | 2.59            | 594.38           | 39.20               | 10                   | 26.00                                       | 36.00  | 2                          | PVC,SS/SS               | 0.010                  | S,C                           |
| MWS-30A                       | 1023018.759 | 1076614.467 | 583.21              | 2.52            | 585.73           | 20.42               | 10                   | 8.00  | 18.00  | 2                          | PVC/SS                  | 0.010                  | F                             |
| MWS-31A                       | 1023875.581 | 1075671.716 | 583.98              | 2.64            | 586.62           | 14.28               | 7                    | 4.00  | 11.00  | 2                          | PVC/SS                  | 0.010                  | F                             |
| MWS-33A                       | 1023627.520 | 1076549.551 | 584.29              | 2.82            | 587.11           | 21.12               | 10                   | 8.00  | 18.00  | 2                          | PVC/SS                  | 0.010                  | F                             |
| MWS-34A                       | 1024438.871 | 1075824.708 | 584.57              | 2.56            | 587.13           | 21.31               | 10                   | 8.00  | 18.00  | 2                          | PVC/SS                  | 0.010                  | F                             |
| MWS-35A                       | 1023289.235 | 1075682.948 | 584.29              | 2.49            | 586.78           | 20.83               | 10                   | 8.00  | 18.00  | 2                          | PVC/SS                  | 0.010                  | F                             |
| <b>PIEZOMETERS</b>            |             |             |                     |                 |                  |                     |                      |   |        |                            |                         |                        |                               |
| P-38S                         | 1024722.409 | 1076613.560 | 584.37              | 1.41            | 585.78           | 14.00               | 10                   | 4.00  | 14.00  | 0.75                       | PVC/PVC                 | 0.010                  | F,CS                          |
| P-39S                         | 1024682.574 | 1076504.369 | 584.53              | 2.03            | 586.56           | 14.00               | 10                   | 4.00  | 14.00  | 0.75                       | PVC/PVC                 | 0.010                  | F,C                           |
| P-46S                         | 1026491.365 | 1076118.306 | 582.24              | 0.00            | 582.24           | 13.00               | 10                   | 3.00  | 13.00  | 0.75                       | PVC/PVC                 | 0.010                  | F                             |
| P-47S                         | 1026503.088 | 1076149.445 | 581.09              | 1.80            | 582.89           | 13.00               | 10                   | 3.00  | 13.00  | 0.75                       | PVC/PVC                 | 0.010                  | F                             |
| P-58S                         | 1025621.176 | 1075503.741 | 585.41              | 1.64            | 587.05           |                     |                      | <i>well construction data not available</i> |        |                            |                         |                        | F                             |
| P-59S                         | 1026211.884 | 1075300.838 | 584.28              | 2.44            | 586.72           |                     |                      | <i>well construction data not available</i> |        |                            |                         |                        | F                             |
| P-60S                         | 1026016.893 | 1075159.269 | 584.24              | 1.47            | 585.71           |                     |                      | <i>well construction data not available</i> |        |                            |                         |                        | F                             |

Notes:

- Monitoring well MWS-24A has an obstruction at approximately 6.35 fbTOR.

Stratigraphic Unit:

- F = fill unit
- S = Sand unit
- R = bedrock unit
- CS = Clayey Silt unit
- P = Peat unit
- C = Clay unit

Material:

- PVC = polyvinyl chloride
- SS = Stainless Steel



**TABLE 5**

**SUMMARY OF GROUNDWATER ELEVATIONS**

**Remedial Investigation / Alternatives Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York**

| Location                                    | Date     | Reference Point | Ref. Point Elevation <sup>1</sup> (fmsl) | Water Depth Below Ref. Pt. (feet) | Water Table Elevation <sup>1</sup> (fmsl) |
|---|----------|-----------------|--|-----------------------------------|---|
| <b>Phase Wells III Monitoring Wells(23)</b> |          |                 |  |                                   |   |
| MWN-10                                      | 01/29/10 | TOR             | 585.47                                   | 7.95                              | 577.52                                    |
| MWN-19A                                     | 01/29/10 | TOR             | 585.29                                   | 7.82                              | 577.47                                    |
| MWN-19B                                     | 01/29/10 | TOR             | 585.06                                   | 10.27                             | 574.79                                    |
| MWN-24A                                     | 01/29/10 | TOR             | 588.05                                   | 11.48                             | 576.57                                    |
| MWN-24B                                     | 01/29/10 | TOR             | 587.88                                   | 15.86                             | 572.02                                    |
| MWN-30A                                     | 01/29/10 | TOR             | 585.59                                   | 7.92                              | 577.67                                    |
| MWN-40A                                     | 01/29/10 | TOR             | 589.96                                   | 13.50                             | 576.46                                    |
| MWN-56A                                     | 01/29/10 | TOR             | 584.24                                   | 6.77                              | 577.47                                    |
| MWN-57A                                     | 01/29/10 | TOR             | 586.20                                   | 8.43                              | 577.77                                    |
| MWN-58A                                     | 01/29/10 | TOR             | 586.93                                   | 9.93                              | 577.00                                    |
| MWN-59A                                     | 01/29/10 | TOR             | 587.44                                   | 10.16                             | 577.28                                    |
| MWN-60A                                     | 01/29/10 | TOR             | 586.56                                   | 9.50                              | 577.06                                    |
| MWN-61A                                     | 01/29/10 | TOR             | 586.91                                   | 9.44                              | 577.47                                    |
| MWN-62D                                     | 01/29/10 | TOR             | 584.61                                   | 12.47                             | 572.14                                    |
| MWS-03                                      | 01/29/10 | TOR             | 587.42                                   | 13.23                             | 574.19                                    |
| MWS-04                                      | 01/29/10 | TOR             | 586.05                                   | 9.38                              | 576.67                                    |
| MWS-24A                                     | 01/29/10 | TOR             | 594.33                                   | Obstruction at 9.0 fbg            |   |
| MWS-24B                                     | 01/29/10 | TOR             | 594.38                                   | 20.11                             | 574.27                                    |
| MWS-30A                                     | 01/29/10 | TOR             | 585.73                                   | 8.71                              | 577.02                                    |
| MWS-31A                                     | 01/29/10 | TOR             | 586.62                                   | 10.05                             | 576.57                                    |
| MWS-33A                                     | 01/29/10 | TOR             | 587.11                                   | 10.88                             | 576.23                                    |
| MWS-34A                                     | 01/29/10 | TOR             | 587.14                                   | 11.32                             | 575.82                                    |
| MWS-35A                                     | 01/29/10 | TOR             | 586.78                                   | 9.87                              | 576.91                                    |
| <b>Phase III Piezometers (7)</b>            |          |                 |  |                                   |   |
| P-38S                                       | 01/29/10 | TOR             | 585.78                                   | 8.79                              | 576.99                                    |
| P-39S                                       | 01/29/10 | TOR             | 586.56                                   | 9.61                              | 576.95                                    |
| P-46S                                       | 01/29/10 | TOC             | Could not remove Bolts.                  |                                   |   |
| P-47S                                       | 01/29/10 | TOR             | 582.89                                   | 6.49                              | 576.40                                    |
| P-58S                                       | 01/29/10 | TOR             | 587.05                                   | 9.49                              | 577.56                                    |
| P-59S                                       | 01/29/10 | TOR             | 586.72                                   | 8.49                              | 578.23                                    |
| P-60S                                       | 01/29/10 | TOR             | 585.71                                   | Frozen J-plug                     |   |
| <b>Phase III Staff Gauges (5)</b>           |          |                 |  |                                   |   |
| SG-02                                       | 01/29/10 |                 | 582.07                                   | 11.31                             | 570.76                                    |
| SG-03                                       | 01/29/10 |                 | 583.72                                   | 12.79                             | 570.93                                    |
| SG-04                                       | 01/29/10 |                 | 586.12                                   | 11.14                             | 574.98                                    |
| SG-05                                       | 01/29/10 |                 | 582.35                                   | 7.08                              | 575.27                                    |

Notes:

1. Elevation is measured in feet; distance above mean sea level (fmsl).





Table 6a

SUMMARY OF SOIL ANALYTICAL DATA

Remedial Investigation/Alternatives Analysis Report
Phase III Business Park Area
Tecumseh Redevelopment Inc.
Lackawanna, New York

Table with columns for Parameter 1, Unrestricted SCOs (ppm), and Sample Location (TP-56 to TP-86, Blind 5, Blind 2, Blind 3, Blind 4). Rows include Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), PCBs, and Inorganic Compounds.

Notes:
1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non
2. Values per NYSDEC Part 375 Soil Cleanup Objectives (June 2006)
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparison to SCOs.
4. The total Chromium SCO was determined by adding the hexavalent and trivalent Chromium SCOs.
5. Blind collected from BPA-3-TP-32, Blind 2 collected from BPA-3-TP-42, Blind 3 collected from BPA-3-TP-50, Blind 4 collected from BPA-3-T

DEFINITIONS:
ND = Parameter not detected above laboratory detection limit.
NA = Sample not analyzed for parameter.
"--" = No SCO available.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
b = Analyte was detected in the associated blank as well as in the sample. Value is above the action level for consideration as being external c
B = Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
\* = Indicates the spike or duplicate analysis is not within the quality control limits.
D = All compounds were identified in an analysis at the secondary dilution factor.
N = Indicates spike sample recovery is not within the quality control limits.
P = Detected concentrations between the two GC columns is greater than 25%; lower value is reported and flagged (for CLP methodology only
J = Estimated value; result is less than the sample quantitation limit but greater than zero.

BOLD = result exceeds SCO.



TABLE 6b

## SUMMARY OF SOIL ANALYTICAL DATA

Remedial Investigation/Alternatives Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| Parameter <sup>1</sup>  | Commercial SCOs <sup>2</sup> (ppm) | Sample Location   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                     |                    |                    |                    |                    |                    |                    |                    |                        |                    |          |          |    |
|---|------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------------------|--------------------|----------|----------|----|
|   |                                    | BPA-3-TP-1 (0-2') | BPA-3-TP-2 (0-2') | BPA-3-TP-2 (2-4') | BPA-3-TP-3 (3-6') | BPA-3-TP-5 (0-2') | BPA-3-TP-6 (0-2') | BPA-3-TP-6 (2-6') | BPA-3-TP-7 (0-2') | BPA-3-TP-9 (0-2') | BPA-3-TP-12 (0-2') | BPA-3-TP-13 (0-2') | BPA-3-TP-16 (0-2') | BPA-3-TP-17 (0-2') | BPA-3-TP-20 (0-2') | BPA-3-TP-22 (0-2') | BPA-3-TP-23 (0-2') | BPA-3-TP-25 (3-7') | BPA-3-TP-26 (0-1') | BPA-3-TP-28 (0-2') | BPA-3-TP-30 (0-2') | BPA-3-TP-31 (0-2') | BPA-3-TP-32 (0-2') | BPA-3-TP-34 (0-4') | BPA-3-TP-36 (0-2') | BPA-3-TP-37 (0-2') | BPA-3-TP-38 (0-2') | BPA-3-TP-40 (0-2') | BPA-3-TP-42 (0-2') | BPA-3-TP-42 (waste) | BPA-3-TP-43 (0-2') | BPA-3-TP-45 (0-2') | BPA-3-TP-47 (0-2') | BPA-3-TP-48 (0-2') | BPA-3-TP-49 (0-2') | BPA-3-TP-50 (0-2') | BPA-3-TP-51 (2-9') | BPA-3-TP-54 (Sat Soil) | BPA-3-TP-54 (0-2') |          |          |    |
| <b>Volatile Organic Compounds (VOCs) - mg/kg <sup>3</sup></b>       |                                    |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                     |                    |                    |                    |                    |                    |                    |                    |                        |                    |          |          |    |
| Acetone   | 500                                | --                | --                | ND                | ND                | --                | ND                | ND                | 0.094             | --                | --                 | --                 | --                 | --                 | 0.006 J            | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.5                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.023 BJ           | --                     | --                 | 0.017 BJ | 0.008 BJ |    |
| Benzene   | 44                                 | --                | 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       |    |
| 2-Butanone (MEK)  | 500                                | --                | --                | ND                | ND                | --                | ND                | ND                | 0.013 J           | --                | --                 | --                 | --                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.0009 J           | --                  | 0.032 J            | --                 | --                 | --                 | --                 | --                 | --                 | --                     | --                 | ND       | ND       |    |
| Carbon disulfide  | --                                 | --                | --                | ND                | ND                | --                | ND                | ND                | ND                | --                | --                 | --                 | --                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                  | --                 | --                 | --                 | --                 | --                 | --                 | 0.002 BJ           | --                     | --                 | 0.002 J  | 0.002 J  |    |
| Ethylbenzene  | 390                                | --                | 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                 | ND                 | ND                     | ND                 | ND       | ND       |    |
| Isopropylbenzene (Cumene)   | --                                 | --                | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.012 J            | --                  | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                     | ND                 | --       | ND       | ND |
| Methylcyclohexane   | --                                 | --                | --                | ND                | ND                | --                | ND                | ND                | ND                | --                | --                 | --                 | --                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.017 J            | --                  | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                     | ND                 | --       | ND       | ND |
| Methylene chloride  | 500                                | --                | --                | 0.002 J           | 0.006             | --                | ND                | ND                | 0.012             | --                | --                 | --                 | --                 | --                 | 0.014              | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.057              | --                  | --                 | --                 | --                 | --                 | --                 | --                 | 0.013 BJ           | --                     | --                 | 0.019 J  | 0.015 B  |    |
| Toluene   | 500                                | --                | ND                | ND                | ND                | ND                | ND                | 0.002 J           | ND                | ND                | 0.004 J            | --                 | --                 | --                 | ND                 | 0.00029 J          | 0.003 J            | --                 | --                 | --                 | --                 | --                 | --                 | 0.0004 J           | --                 | --                 | --                 | --                 | ND                 | ND                  | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                     | ND                 | ND       | ND       | ND |
| Total Xylene  | 500                                | --                | 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 |
| o-Xylenes   | 500                                | --                | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.01 J             | --                  | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                     | --                 | ND       | ND       |    |
| m&p-Xylene  | 500                                | --                | ND                | 0.002 J           | 0.002 J           | ND                | ND                | ND                | 0.002 J           | ND                | ND                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.01 J             | --                  | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                     | --                 | ND       | ND       |    |
| n-Propylbenzene   | 500                                | --                | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.016 J            | --                 | --                  | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                     | ND                 | ND       |          |    |
| p-Cymene (p-isopropyltoluene)                                       | --                                 | --                | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.094              | --                 | --                  | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.006 J                | ND                 |          |          |    |
| 1,2,4-Trimethylbenzene  | 190                                | --                | ND                | 0.001 J           | 0.001 J           | ND                | ND                | ND                | 0.001 J           | ND                | ND                 | --                 | --                 | --                 | ND                 | ND                 | 0.009 J            | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.0009 J           | --                 | 0.68                | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                     | ND                 |          |          |    |
| 1,3,5-Trimethylbenzene  | 190                                | --                | ND                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.53                | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                     | ND                 |          |          |    |
| sec-Butylbenzene  | 500                                | --                | ND                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.085               | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                     | ND                 |          |          |    |
| tert-Butylbenzene   | 500                                | --                | ND                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.014 J             | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                     | ND                 |          |          |    |
| <b>Semi-Volatile Organic Compounds (SVOCs) - mg/kg <sup>3</sup></b> |                                    |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                     |                    |                    |                    |                    |                    |                    |                    |                        |                    |          |          |    |
| Acenaphthene  | 500                                | 2.8 J             | ND                | --                | 1.2 J             | 0.93 J            | 0.082 J           | --                | --                | ND                | ND                 | ND                 | ND                 | 0.11 J             | 0.79 J             | 0.17 J             | 0.32 J             | 0.22 J             | ND                 | ND                 | 1.8                | 0.037 J            | 0.099 J            | ND                 | 0.18 J             | ND                 | ND                 | ND                 | ND                 | ND                  | ND                 | 0.1 J              | 0.048 J            | 0.44 J             | 0.082 J            | ND                 | ND                 | ND                     | ND                 |          |          |    |
| Acenaphthylene  | 500                                | 1.5 J             | 0.45 J            | --                | 3.3 J             | 4.4               | 0.6 J             | --                | --                | 0.98 J            | ND                 | 0.39 J             | ND                 | 0.09 J             | 0.47 J             | 1.4 J              | 0.88 J             | 0.19 J             | 0.18 J             | 0.4 J              | 0.15 J             | 0.29 J             | 0.15 J             | 0.72 J             | ND                 | 4.7                | 0.16 J             | ND                 | 0.26 J             | 0.16 J              | 0.057 J            | 0.069 J            | 0.13 J             | 1.4                | 0.64 J             | ND                 | 0.16 J             | ND                     | ND                 |          |          |    |
| Acetophenone  | --                                 | 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                 | ND                     | ND                 | ND       |          |    |
| Anthracene  | 500                                | 11 J              | 0.86 J            | --                | 6.5 J             | 8.9               | 0.62 J            | --                | --                | 0.72 J            | 0.17 J             | 0.52 J             | 2 J                | 0.092 J            | 0.64 J             | 3.2                | 1                  | 0.8 J              | 0.51 J             | 0.57 J             | 0.17 J             | 7.3                | 0.17 J             | 0.82 J             | ND                 | 2.4                | 0.15 J             | ND                 | 0.19 J             | 0.11 J              | 0.047 J            | 0.28 J             | 0.1 J              | 1.7                | 0.52 J             | 0.3 J              | 0.16 J             | 0.17 J                 | --                 | ND       |          |    |
| Benzo(a)anthracene  | 5.6                                | 23                | 3 J               | --                | 12                | 25                | 2.9               | --                | --                | 2.1               | 0.88 J             | 1.7 J              | 37 J               | 0.36 J             | 1.8                | 7                  | 4.1                | 2.1                | 1.5 J              | 1.7 J              | 1.2 J              | 18                 | 0.8 J              | 3.6                | 0.92 J             | 12                 | 0.62 J             | 0.6 J              | 0.87 J             | 0.45 J              | 0.28 J             | 1.3                | 0.58 J             | 9.2                | 2.8                | 1                  | 0.65 J             | 0.91 J                 | --                 | 0.34 J   |          |    |
| Benzo(b)fluoranthene  | 5.6                                | 22                | 4.4               | --                | 11                | 25                | 4.4               | --                | --                | 4.2               | 1 J                | 2.5 J              | 65                 | 0.69 J             | 2.8                | 10                 | 9.2                | 3.1                | 1.7 J              | 2.1 J              | 1.7 J              | 20                 | 1.4                | 5.9                | 1.6 J              | 17                 | 0.91 J             | 1.2                | 1.7                | 1.1                 | 0.58 J             | 1.4                | 0.96               | 9.6                | 4                  | 1.4                | 0.75 J             | 1.2                    | --                 | 0.24 J   |          |    |
| Benzo(k)fluoranthene  | 56                                 | 10 J              | 1.4 J             | --                | 5.1 J             | 7.9               | 1.8 J             | --                | --                | 1.6 J             | 0.44 J             | 0.97 J             | 26 J               | 0.29 J             | 1.1                | 2.4                | 3.6                | 0.84 J             | 0.64 J             | 0.88 J             | 1 J                | 8.4                | 0.58 J             | 1.3 J              | 0.65 J             | 4.9                | 0.36 J             | 0.48 J             | 0.69 J             | 0.43 J              | 0.18 J             | 0.57 J             | 0.36 J             | 4.4                | 1.9                | 0.36 J             | 0.31 J             | 0.56 J                 | --                 | 0.19 J   |          |    |
| Benzo(g,h)perylene  | 500                                | 14 J              | 3 J               | --                | 7.6               | 15                | 3.9               | --                | --                | 3.8               | 0.86 J             | 1.2 J              | 57                 | 0.34 J             | 0.69 J             | 1.9                | 2.9                | 0.7 J              | 1.3 J              | 1.7 J              | 0.96 J             | 4.8                | 0.44 J             | 1.7 J              | 0.85 J             | 12                 | 0.33 J             | 0.66 J             | 0.81 J             | 0.36 J              | 0.26 J             | 0.92 J             | 0.64 J             | 4.5                | 2.2                | 0.85 J             | 0.48 J             | 0.92 J                 | --                 | 0.28 J   |          |    |
| Benzo(a)pyrene  | 1                                  | 18 J              | 2.7 J             | --                | 9.5               | 20                | 3.6               | --                | --                | 3.2               | 0.83 J             | 1.6 J              | 57                 | 0.44 J             | 1.8                | 6.5                | 6.4                | 2                  | 1.4 J              | 1.8 J              | 1.4 J              | 15                 | 0.89 J             | 3.9                | 1.2 J              | 13                 | 0.71 J             | 1                  | 1.1                | 0.67 J              | 0.34               | 1.2                | 0.77 J             | 7.3                | 3.1                | 0.91 J             | 0.63 J             | 1 J                    | --                 | 0.22 J   |          |    |
| Biphenyl  | --                                 | ND                | ND                | --                | 0.39 J            | 0.28 J            | ND                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.1                | ND                  | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                     | ND                 | ND       |          |    |
| bis(2-Ethylhexyl)phthalate  | --                                 | 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                 | ND                     | ND                 | ND       |          |    |
| 4-Chloroaniline   | --                                 | 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                 | ND                     | ND                 | ND       |          |    |
| Carbazole   | --                                 | --                | --                | --                | 2.9               | --                | --                | --                | --                | --                | --                 | --                 | --                 | --                 | 0.2 J              | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                  | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                     | --                 | 0.1 J    | --       |    |
| Chrysene  | 56                                 | 23 B              | 3.3 BJ            | --                | 10 B              | 21 B              | 3.1 B             | --                | --                | 2.8 B             | 1.2 BJ             | 2.7 BJ             | 44 B               | 0.42 BJ            | 1.9 B              | 6.5 B              | 4.1 B              | 2 B                | 1.6 BJ             | 2 BJ               | 1.4 BJ             | 15 B               | 0.87 BJ            | 3.5 B              | 1.4 BJ             | 10 B               | 0.66 BJ            | 0.8 BJ             | 1.1 B              | 0.61 BJ             | 0.47 BJ            | 1.2 B              | 0.61 BJ            | 7.8 B              | 2.8 B              | 1.1 B              | 0.96 BJ            | 0.8 BJ                 | --                 | 0.56 BJ  |          |    |
| Dibenzo(a,h)anthracene  | 0.56                               | 4.4 J             | 0.85 J            | --                | 2.2 J             | 3.8 J             | 0.73 J            | --                | --                | 0.94 J            | ND                 | 0.35 J             | 12 J               | 0.073 J            | 0.22 J             | 0.7 J              | 0.74 J             | 0.22 J             | ND                 | 0.46 J             | ND                 | 1.6                | 0.12 J             | 0.56 J             | 0.27 J             | 3 J                | 0.1 J              | 0.069 J            | 0.22 J             | 0.12 J              | 0.084 J            | 0.25 J             | 0.15 J             | 1.3                | 0.59 J             | 0.25 J             | ND                 | 0.2 J                  | --                 | ND       |          |    |
| Dibenzofuran  | --                                 | 3.3 J             | ND                | --                | 2.8 J             | 3 J               | 0.15 J            | --                | --                | 0.1 J             | ND                 | ND                 | ND                 | ND                 | 0.24 J             | 1.1 J              | 0.43 J             | 0.22 J             | ND                 | ND                 | ND                 | 1.2                | 0.039 J            | 0.2 J              | ND                 | 0.44 J             | 0.052 J            | ND                 | 0.048 J            | 0.043 J             | ND                 | 0.059 J            | ND                 | 0.71 J             | 0.086 J            | 0.12 J             | ND                 | 0.11 J                 | --                 | ND       |          |    |
| Fluoranthene  | 500                                | 50 B              | 3.1 J             | --                | 27                | 66                | 5.8               | --                | --                | 1.9 J             | 1.5 J              | 2.9 J              | 42                 | 0.52 J             | 3.8                | 16                 | 9.8                | 4.4                | 2.1 J              | 3 J                | 1.5 J              | 26 D               | 1.5                | 6.4                | 1 J                |                    |                    |                    |                    |                     |                    |                    |                    |                    |                    |                    |                    |                        |                    |          |          |    |



Table 6b

SUMMARY OF SOIL ANALYTICAL DATA

Remedial Investigation/Alternatives Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| Parameter <sup>1</sup>   | Commercial SCOs <sup>2</sup> (ppm) | Sample Location    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                      |                      |                      |        |        |        |        |         |         |    |
|--|------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|--------|--------|--------|--------|---------|---------|----|
|  |                                    | BPA-3-TP-56 (0-2') | BPA-3-TP-58 (0-2') | BPA-3-TP-59 (0-2') | BPA-3-TP-60 (0-2') | BPA-3-TP-62 (0-2') | BPA-3-TP-64 (0-2') | BPA-3-TP-65 (0-2') | BPA-3-TP-67 (0-4') | BPA-3-TP-69 (0-2') | BPA-3-TP-70 (0-2') | BPA-3-TP-71 (0-2') | BPA-3-TP-74 (2-8') | BPA-3-TP-75 (0-2') | BPA-3-TP-76 (2-7') | BPA-3-TP-77 (0-2') | BPA-3-TP-79 (0-2') | BPA-3-TP-80 (0-2') | BPA-3-TP-80 (2-7') | BPA-3-TP-81 (0-2') | BPA-3-TP-82 (0-2') | BPA-3-TP-83 (0-2') | BPA-3-TP-84 (0-2') | BPA-3-TP-85 (0-2') | BPA-3-TP-86 (0-2') | Blind <sup>5</sup> | Blind 2 <sup>5</sup> | Blind 3 <sup>5</sup> | Blind 4 <sup>5</sup> |        |        |        |        |         |         |    |
| <b>Volatiles Organic Compounds (VOCs) - mg/kg <sup>3</sup></b> |                                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                      |                      |                      |        |        |        |        |         |         |    |
| Acetone  | 500                                | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.043 J            | --                 | --                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                   | --                   | 0.021                | ND     | ND     | ND     | ND     | --      | 0.02 BJ | -- |
| Benzene  | 44                                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                   | --                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| 2-Butanone (MEK)   | 500                                | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.015 J            | --                 | --                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                   | --                   | --                   | --     | --     | --     | --     | --      | ND      | -- |
| Carbon disulfide   | --                                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.003 J            | --                 | --                 | --                 | 0.002 J            | --                 | 0.002 J            | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                   | --                   | --                   | --     | --     | --     | --     | --      | 0.003 J | -- |
| Ethylbenzene   | 390                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | 0.012              | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| Isopropylbenzene (Cumene)                                      | --                                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | ND                 | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| Methylcyclohexane  | --                                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | ND                 | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| Methylene chloride   | 500                                | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.015 B            | --                 | --                 | --                 | 0.01 B             | --                 | 0.005 B            | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                   | --                   | --                   | --     | --     | --     | --     | 0.012 B | --      |    |
| Toluene  | 500                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | 0.012              | ND                 | 0.0052 J           | 0.012              | 0.0005 J           | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| Total Xylene   | 500                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | 0.093              | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| o-Xylenes  | 500                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | 0.019              | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| m&p-Xylene   | 500                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | 0.074 <sup>1</sup> | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| n-Propylbenzene  | 500                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | ND                 | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| p-Cymene (p-isopropyltoluene)                                  | --                                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | ND                 | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| 1,2,4-Trimethylbenzene   | 190                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | 0.013              | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| 1,3,5-Trimethylbenzene   | 190                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | ND                 | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| sec-Butylbenzene   | 500                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | ND                 | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| tert-Butylbenzene  | 500                                | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | ND                 | ND                 | ND                 | --                   | ND                   | --                   | ND     | ND     | ND     | ND     | --      | ND      | -- |
| <b>Semi-Volatile Organic Compounds (SVOCs) - mg</b>            |                                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                      |                      |                      |        |        |        |        |         |         |    |
| Acenaphthene   | 500                                | ND                 | 5.8                | ND                 | 0.092 J            | 0.26 J             | ND                 | ND                 | ND                 | ND                 | 0.039 J            | 0.059 J              | ND                   | ND                   | ND     | ND     | ND     | ND     | ND      |         |    |
| Acenaphthylene   | 500                                | 0.85 J             | 1.8 J              | 0.29 J             | 0.22 J             | 0.29 J             | ND                 | ND                 | 0.3 J              | 0.22 J             | 0.22 J             | 0.5 J              | ND                 | ND                 | 0.18 J             | ND                 | 0.61 J             | ND                 | 0.98               | 1.2                | 0.34 J             | ND                 | 0.26 J             | 0.25 J             | 0.12 J             | 0.08 J             | 0.24 J               | 0.63 J               | 0.63 J               | 0.63 J | 0.63 J | 0.63 J | 0.63 J | 0.63 J  |         |    |
| Acetophenone   | --                                 | ND                   | ND                   | ND                   | ND     | ND     | ND     | ND     | ND      | ND      |    |
| Anthracene   | 500                                | 0.41 J             | 1.5 J              | 0.17 J             | 0.2 J              | 0.26 J             | 0.15 J             | ND                 | 11                 | 0.27 J             | 0.38 J             | 0.48 J             | ND                 | 0.17 J             | 0.43 J             | ND                 | 0.7 J              | ND                 | 0.61               | 1.6                | 0.25 J             | 0.16 J             | 0.23 J             | 0.18 J             | 0.21 J             | 0.17 J             | 0.3 J                | 0.75 J               | 0.75 J               | 0.75 J | 0.75 J | 0.75 J | 0.75 J | 0.75 J  |         |    |
| Benzo(a)anthracene   | 5.6                                | 1.6 J              | 5.9                | 1.1 J              | 1.2                | 1.2 J              | 0.72 J             | 0.23 J             | 21                 | 1.2 J              | 1.6 J              | 2.3 J              | 0.43 J             | 0.96 J             | 1 J                | 2.1 J              | 0.11 J             | 2.8 J              | 0.7 J              | 3.9                | 9.2                | 1.6 J              | 0.84 J             | 1.1 J              | 1.2 J              | 0.92 J             | 0.93 J               | 1.3                  | 4.6                  | 4.6    | 4.6    | 4.6    | 4.6    | 4.6     |         |    |
| Benzo(b)fluoranthene   | 5.6                                | 2.1 J              | 7.1                | 1.8 J              | 2                  | 1.4 J              | 0.93 J             | 0.31 J             | 20                 | 1.2 J              | 1.9 J              | 2.7 J              | 0.42 J             | 1 J                | 1.1 J              | 2.2 J              | 0.26 J             | 3.2 J              | 0.8 J              | 5.6                | 11                 | 1.9 J              | 1.2 J              | 1.8 J              | 1.4 J              | 1.9                | 1.3                  | 1.4 J                | 4.6                  | 4.6    | 4.6    | 4.6    | 4.6    |         |         |    |
| Benzo(k)fluoranthene   | 56                                 | 0.96 J             | 3.1 J              | 0.44 J             | 0.85 J             | 1 J                | 0.4 J              | ND                 | 5.2                | 0.59 J             | 0.86 J             | 1.2 J              | 0.24 J             | 0.52 J             | 0.43 J             | 0.96 J             | 0.077 J            | 1.1 J              | 0.39 J             | 1.6                | 4.4                | 0.88 J             | 0.47 J             | 0.85 J             | 0.54 J             | 0.47 J             | 0.59 J               | 2 J                  | 2 J                  | 2 J    | 2 J    | 2 J    | 2 J    |         |         |    |
| Benzo(g,h,i)perylene   | 500                                | 2 J                | 5.9                | 1.1 J              | 0.88 J             | 1.3 J              | 0.62 J             | 0.25 J             | 7.8                | 1 J                | 1.8 J              | 2.1 J              | 0.38 J             | 0.79 J             | 0.6 J              | 1.5 J              | 0.11 J             | 1.8 J              | 0.47 J             | 2.2                | 5.3                | 1.2 J              | 0.63 J             | 0.96 J             | 1 J                | 0.51 J             | 0.73 J               | 0.85 J               | 2.5 J                | 2.5 J  | 2.5 J  | 2.5 J  | 2.5 J  |         |         |    |
| Benzo(a)pyrene   | 1                                  | 1.9 J              | 6.4                | 1.2 J              | 1.3                | 1.4 J              | 0.66 J             | 0.2 J              | 15                 | 1.2 J              | 1.6 J              | 2.3 J              | 0.86 J             | 0.89 J             | 1.9 J              | 0.055 J            | 2.8 J              | 0.67 J             | 4.1                | 9                  | 1.2 J              | 0.84 J             | 1.2 J              | 1.1                | 0.95 J             | 0.97               | 3.8                  | 3.8                  | 3.8                  | 3.8    | 3.8    | 3.8    | 3.8    |         |         |    |
| Biphenyl   | --                                 | ND                   | ND                   | ND                   | ND     | ND     | ND     | ND     | ND      |         |    |
| bis(2-Ethylhexyl)phthalate                                     | --                                 | ND                   | ND                   | ND                   | ND     | ND     | ND     | ND     | ND      |         |    |
| 4-Chloroaniline  | --                                 | ND                   | ND                   | ND                   | ND     | ND     | ND     | ND     | ND      |         |    |
| Carbazole  | --                                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND                 | --                 | ND                 | --                 | 0.22 J             | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                   | 0.13 J               | --                   | --     | --     | --     | --     |         |         |    |
| Chrysene   | 56                                 | 2 BJ               | 5.8 B              | 1.6 BJ             | 1.2 B              | 1.6 BJ             | 1.2 BJ             | 0.54 BJ            | 18 B               | 1.4 BJ             | 1.8 BJ             | 2.6 BJ             | 0.82 BJ            | 1.3 BJ             | 1.1 BJ             | 2.2 BJ             | 0.33 BJ            | 3.1 BJ             | 1 BJ               | 3.8 B              | 8.6                | 1.8 BJ             | 1.2 BJ             | 1.8 BJ             | 1.3 BJ             | 0.99 B             | 1.2 B                | 1.3 B                | 4.2 B                | 4.2 B  | 4.2 B  | 4.2 B  | 4.2 B  |         |         |    |
| Dibenzo(a,h)anthracene   | 0.56                               | 0.46 J             | 1.4 J              | 0.31 J             | 0.2 J              | 0.35 J             | 0.19 J             | ND                 | 3.1 J              | 0.32 J             | 0.45 J             | 0.62 J             | ND                 | 0.28 J             | 0.2 J              | 0.5 J              | ND                 | 0.6 J              | 0.16 J             | 0.68 J             | 1.6                | 0.36 J             | ND                 | 0.3 J              | ND                 | 0.15 J             | 0.2 J                | 0.25 J               | 0.77 J               | 0.77 J | 0.77 J | 0.77 J | 0.77 J |         |         |    |
| Dibenzofuran   | --                                 | ND                 | 0.2 J              | ND                   | ND                   | ND                   | ND     | ND     | ND     | ND     | ND      |         |    |
| Fluoranthene   | 500                                | 2.7 J              | 11                 | 1.5 J              | 2.9                | 2.3 J              | 0.76 J             | 0.22 J             | 45                 | 1.8 J              | 2.6 J              | 3.8 J              | 0.58 J             | 1.3 J              | 1.6 J              | 3.1 J              | 0.22 J             | 5.1                | 1.1 J              | 7.2                | 16                 | 2.3 J              | 1.2 J              | 1.7 J              | 1.4 J              | 1.7                | 1.8 J                | 2.8                  | 7.8                  | 7.8    | 7.8    | 7.8    | 7.8    |         |         |    |
| Fluorene   | 500                                | ND                 | 0.35 J             | ND                 | 0.04 J             | ND                 | ND                 | ND                 | 6.2                | ND                 | 0.16 J             | ND                 | 0.19 J             | 0.34 J             | ND                 | ND                 | ND                 | ND                 | 0.047 J            | 0.059 J              | 0.08 J               | ND                   | ND     | ND     | ND     | ND     |         |         |    |
| Indeno(1,2,3-cd)pyrene   | 5.6                                | 1.6 J              | 5.2                | 1 J                | 0.8 J              | 1.1 J              | 0.51 J             | 0.19 J             | 7.9                | 0.94 J             | 1.4 J              | 1.8 J              | 0.32 J             | 0.71 J             | 0.65 J             | 1.4 J              | 0.11 J             | 1.9 J              | 0.45 J             | 2.3                | 5.2                | 1.2 J              | 0.53 J             | 0.94 J             | 0.92 J             | 0.49 J             | 0.6 J                | 0.78 J               | 2.3 J                | 2.3 J  | 2.3 J  | 2.3 J  | 2.3 J  |         |         |    |
| Isophorone   | --                                 | ND                   | ND                   | ND                   | ND     | ND     | ND     | ND     | ND      |         |    |
| 2-Methylnaphthalene  | --                                 | ND                 | 0.75 J             | ND                 | ND                 | ND                 | ND                 | ND                 | 0.16 J             | ND                 | ND                 | ND                 | 0.076 J            | 0.097 J            | ND                 | ND                 | ND                 | ND                 | ND                 | 0.046 J            | ND                   | 0.06 J               | ND                   | ND     | ND     | ND     | ND     |         |         |    |
| Naphthalene  | 500                                | ND                 | ND                 | ND                 | 0.044 J            | ND                 | ND                 | ND                 | 1.2 J              | ND                 | 0.092 J            | 0.13 J             | ND                 | ND                 | ND                 | ND                 | ND                 | 0.038 J            | 0.17 J               | ND                   | ND                   | ND     | ND     | ND     | ND     |         |         |    |
| N-Nitroso-di-n-propylamine                                     | --                                 | ND                   | ND                   | ND                   | ND     | ND     | ND     | ND     |         |         |    |
| Phenanthrene   | 500                                | 0.98 J             | 4.4                | 0.56 BJ            | 0.62 J             | 0.78 BJ            | 0.31 BJ            | ND                 | 41                 | 1.2 J              | 1.4 J              | 1.6 J              | 0.38 J             | 0.58 J             | 0.6 J              | 1.8 J              | 0.089 J            | 2.5 J              | 1 J                | 2.6                | 5.3                | 0.76 BJ            | 0.66 BJ            | 0.74 BJ            | 0.62 BJ            | 0.72 J             | 0.9 J                | 2                    | 2.8                  |        |        |        |        |         |         |    |



Table 7a  
Summary of Soil Analytical Data

Remedial Investigation/Alternatives Analysis Report  
Phase IIIA Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| PARAMETER <sup>1</sup>   | Unrestricted SCOs <sup>2</sup> (ppm) | Sample Location   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |          |    |
|--|--------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------|----|
|  |                                      | BPA-3A-TP-1 (0-2) | BPA-3A-TP-2 (0-2) | BPA-3A-TP-3 (2-6) | BPA-3A-TP-4 (0-2) | BPA-3A-TP-6 (0-2) | BPA-3A-TP-8 (5-8) | BPA-3A-TP-14 (4-6) | BPA-3A-TP-17 (3-6) | BPA-3A-TP-18 (0-2) | BPA-3A-TP-19 (0-2) | BPA-3A-TP-22 (0-2) | BPA-3A-TP-24 (0-2) | BPA-3A-TP-25 (3-5) | BPA-3A-TP-26 (0-2) | BPA-3A-TP-27 (0-2) | BPA-3A-TP-28 (0-2) | BPA-3A-TP-29 (0-2) | BPA-3A-TP-30 (2-5) | BPA-3A-TP-31 (3-5) | BPA-3A-TP-32 (0-2) | BPA-3A-TP-33 (0-2) | BPA-3A-TP-34 (0-2) | BPA-3A-TP-35 (0-2) | BPA-3A-TP-37 (0-2) | BPA-3A-TP-40 (0-2) | BPA-3A-TP-44 (7-8) | BPA-3A-TP-45 (0-2) |          |    |
| <b>Volatiles Organic Compounds (VOCs) (mg/Kg)<sup>3</sup></b>      |                                      |                   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |          |    |
| 1,2,4-Trimethylbenzene   | 3.6                                  | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 1.8 D,W1,N1        | --       |    |
| 1,3,5-Trimethylbenzene   | 8.4                                  | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.41 D,W1,N1       | --       |    |
| 2-Butanone (MEK)   | 0.12                                 | --                | --                | --                | --                | --                | 0.51 W,D,J        | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                 | --       |    |
| p-Cymene   | --                                   | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.33 D,W1,N1       | --       |    |
| Acetone  | 0.05                                 | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                 | --       |    |
| Benzene  | 0.06                                 | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.93 D,W1,N1       | --       |    |
| Chlorobenzene  | 1.1                                  | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                 | --       |    |
| Cyclohexane  | --                                   | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 0.69 D,W1,N1       | --       |    |
| Ethylbenzene   | 1                                    | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.19 D,W1,N1       | --       |    |
| Isopropylbenzene   | --                                   | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.31 D,W1,N1       | --       |    |
| Methylcyclohexane  | --                                   | --                | --                | --                | --                | --                | 0.061 W,D,J       | ND                 | ND                 | ND                 | ND                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | 1.7 D,W1,N1        | --       |    |
| Methylene chloride   | 0.05                                 | --                | --                | --                | --                | --                | 0.066 W,D,J       | 0.048 B            | 0.041 B            | 0.055 B            | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | ND                 | --                 | ND                 | --       |    |
| m-Xylene & p-Xylene  | 0.26                                 | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.62 D,W1,N1       | --       |    |
| n-Butylbenzene   | 12                                   | --                | --                | --                | --                | --                | 0.12 W,D,J        | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.87 D,W1,N1       | --       |    |
| n-Propylbenzene  | 3.9                                  | --                | --                | --                | --                | --                | 0.063 W,D,J       | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.46 D,W1,N1       | --       |    |
| o-Xylene   | 0.26                                 | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.38 D,W1,N1       | --       |    |
| sec-Butylbenzene   | 11                                   | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.27 D,W1,N1       | --       |    |
| Toluene  | 0.7                                  | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 0.00066 J          | --       |    |
| Total Xylenes  | 0.26                                 | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND                 | ND                 | --                 | --                 | ND                 | --                 | 1 D,W1,N1          | --       |    |
| <b>Semi-Volatile Organic Compounds (SVOCs) (mg/Kg)<sup>3</sup></b> |                                      |                   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |          |    |
| 2-Methylnaphthalene  | --                                   | ND                | ND                | ND                | ND                | ND                | 32 D              | ND                 | ND                 | ND                 | ND                 | 0.64 D,J           | ND                 | 65 T,D,J           | ND       |    |
| Acenaphthene   | 20                                   | ND                 | 2.3 D,J            | ND                 | ND                 | 1.8 D,J            | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.3 D,J            | ND                 | 3.2 D,J            | ND                 | ND       |    |
| Acenaphthylene   | 100                                  | ND                | ND                | ND                | ND                | 0.56 D,J          | ND                | 5.8 D,J            | ND                 | ND                 | ND                 | 0.39 D,J           | ND                 | ND                 | 2.1 D,J            | ND                 | 2.4 D,J            | 1.3 D,J            | ND                 | 0.36 D,J           | ND                 | 0.73 D,J           | ND                 | 0.91 D,J           | 3.2 D,J            | 0.41 D,J           | ND                 | ND                 | 0.74 D,J |    |
| Anthracene   | 1                                    | 7.7 T,D,J         | 1.6 D,J           | 1.8 D,J           | 4.1 T,D,J         | 2.5 D,J           | 0.81 D,J          | ND                 | 4 D,J              | 5.4 D              | ND                 | 6.4 D              | ND                 | ND                 | 3.4 D,J            | ND                 | ND                 | 1.1 D,J            | ND                 | 0.91 D,J           | 2 D,J              | 0.85 D,J           | 3.2 D,J            | 7.6 D,J            | 0.41 D,J           | ND                 | ND                 | 2.8 D              |          |    |
| Benzo(a)anthracene   | 1                                    | 6 T,D,J           | 1.5 D,J           | 2 D,J             | 4.4 T,D,J         | 2.2 D,J           | 0.29 D,J          | 29 D               | 8.1 D              | 0.018 J            | 1.4 D,J            | 8.1 D              | 0.85 D,J           | 0.16 D,J           | 15 D               | 0.38 D,J           | 3.2 D,J            | 6 D                | ND                 | 2.8 D              | 8.2 D,J            | 5.3 D              | 11 D,J             | 27 D               | 3.7 D,J            | 0.56 D,J           | ND                 | 2.8 D              |          |    |
| Benzo(a)pyrene   | 1                                    | 6 T,D,J           | 1.5 D,J           | 2 D,J             | 4.4 T,D,J         | 2.2 D,J           | 0.29 D,J          | 29 D               | 8.1 D              | 0.018 J            | 1.4 D,J            | 8.1 D              | 0.85 D,J           | 0.16 D,J           | 15 D               | 0.38 D,J           | 3.2 D,J            | 6 D                | ND                 | 2.8 D              | 8.2 D,J            | 5.3 D              | 11 D,J             | 27 D               | 3.7 D,J            | 0.56 D,J           | ND                 | 2.8 D              |          |    |
| Benzo(b)fluoranthene   | 1                                    | 6.6 T,D,J         | 1.8 D,J           | 2.5 D,J           | 5.3 T,D,J         | 4 D ID4           | 0.48 D,J          | 34 D               | 9.4 D              | 0.033 J            | 2.5 D,J            | 11 D               | 1.4 D ID4          | 0.22 D,J           | 14 D               | 0.43 D,J           | 6.1 D,J            | 7.2 D              | ND                 | 3.9 D              | 8.4 D,J            | 6.9 D              | 18 D ID4           | 28 D               | 7.9 D              | 1.2 D,J            | ND                 | 3.4 D              |          |    |
| Benzo(ghi)perylene   | 100                                  | 4.1 T,D,J         | 1 D,J             | 1.7 D,J           | 4.5 T,D,J         | 1.9 D,J           | 0.26 D,J          | 26 D               | 5.2 D              | 0.02 J             | 1.3 D,J            | 5.6 D              | 0.7 D,J            | 0.16 D,J           | 9.1 D,J            | 0.26 D,J           | 5.9 D,J            | 4.7 D              | ND                 | 3.1 D              | 5.5 D,J            | 4.3 D              | 18 D ID4           | 28 D               | 14 D,J             | 4.3 D              | 0.55 D,J           | ND                 | 2.1 D    |    |
| Benzo(k)fluoranthene   | 0.8                                  | 3.9 T,D,J         | 0.66 D,J          | 0.84 D,J          | 3.2 T,D,J         | ND                | 0.21 D,J          | 14 D               | 3.6 D,J            | ND                 | 0.82 D,J           | 3.9 D,J            | ND                 | 0.065 D,J          | 5.3 D,J            | 0.16 D,J           | 2.2 D,J            | 2.4 D,J            | ND                 | 1.4 D,J            | 5.4 D,J            | 3.9 D              | ND                 | 14 D,J             | 2.5 D,J            | 1.2 D,J            | ND                 | 1.4 D,J            |          |    |
| Biphenyl   | --                                   | ND                | ND                | ND                | ND                | ND                | 3.1 D             | ND                 | ND       |    |
| Bis(2-ethylhexyl) phthalate  | --                                   | ND                | ND                | ND                | ND                | ND                | 0.62 D,J,B        | ND                 | ND       |    |
| Carbazole  | --                                   | --                | --                | --                | --                | --                | --                | 1.6 D,J            | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --       |    |
| Chrysene   | 1                                    | 6.9 T,D,J         | 1.5 D,J           | 17 D,J            | 4.1 T,D,J         | 2.5 D,J           | 0.54 D,J          | 30 D               | 8.3 D              | 0.027 J            | 1.3 D,J            | 9.9 D              | 0.96 D,J           | 0.12 D,J           | 12 D               | 0.36 D,J           | 3.3 D,J            | 5.4 D              | ND                 | 2.9 D              | 7.8 D,J            | 5.2 D              | 12 D,J             | 24 D               | 3.8 D,J            | 0.62 D,J           | ND                 | 2.5 D              |          |    |
| Dibenzo(a,h)anthracene   | 0.33                                 | ND                | 0.28 D,J          | 0.44 D,J          | ND                | 0.45 D,J          | 0.075 D,J         | 5.9 D,J            | 1.1 D,J            | ND                 | ND                 | 1.5 D,J            | ND                 | 1.2 D,J            | ND                 | ND                 | ND                 | ND                 | ND                 | 1.4 D,J            | ND                 | ND                 | 0.67     |    |
| Dibenzofuran   | --                                   | ND                | ND                | ND                | ND                | ND                | ND                | 0.98 D,J           | ND                 | ND                 | ND                 | 1.9 D,J            | ND                 | ND       |    |
| Fluoranthene   | 100                                  | 15 T,D,J          | 3.3 D,J           | 2.6 D,J           | 6.8 T,D,J         | 5.2 D             | 1.1 D             | 38 D               | 26 D               | 0.018 J            | 1.4 D,J            | 23 D               | 1.2 D,J            | 0.19 D,J           | 32 D               | 0.5 D,J            | 2.6 D,J            | 9.4 D              | ND                 | 6.6 D              | 18 D               | 9.5 D              | 26 D,J             | 58 D               | 3.6 D,J,B          | 0.84 D,J,B         | 18 T,D,J,B         | 5.1 D              |          |    |
| Fluorene   | 30                                   | ND                | ND                | ND                | ND                | 6.6 D             | ND                | 2.1 D,J            | ND                 | ND                 | 2.9 D,J            | ND                 | ND                 | 1.1 D,J            | ND                 | ND                 | ND                 | ND                 | ND                 | 0.23 D,J           | ND                 | ND                 | ND                 | 3 D,J              | ND                 | ND                 | ND                 | 0.23 D,J           |          |    |
| Indeno(1,2,3-cd)pyrene   | 0.5                                  | 3.5 T,D,J         | 0.93 D,J          | 1.5 D,J           | 3.6 T,D,J         | 1.6 D,J           | 0.24 D,J          | 23 D               | 4.9 D              | ND                 | 1.3 D,J            | 5.8 D              | 0.66 D,J           | 0.14 D,J           | 8.1 D,J            | 0.21 D,J           | 4.2 D,J            | 4.4 D              | ND                 | 2.5 D              | 4.7 D,J            | 4 D                | 6.3 D,J            | 14 D,J             | 4.1 D              | 0.47 D,J           | ND                 | 1.9 D,J            |          |    |
| Naphthalene  | 12                                   | ND                | ND                | 0.53 D,J          | ND                | ND                | 5.4 D             | ND                 | ND                 | ND                 | ND                 | 0.63 D,J           | ND                 | ND       |    |
| Phenanthrene   | 100                                  | 13 T,D,J          | 2 D,J             | 1.6 D,J           | 3.3 T,D,J         | 2.5 D,J           | 16 D              | 9.3 D,J            | 21 D               | 0.021 J            | ND                 | 23 D               | 0.39 D,J           | 0.088 D,J          | 15 D               | 0.2 D,J            | ND                 | 3 D,J              | ND                 | 3.5 D              | 7.2 D,J            | 4.7 D              | 16 D,J             | 31 D               | 0.81 D,J,B         | 0.25 D,J,B         | 98 T,D,J,B         | 3                  |          |    |
| Pyrene   | 100                                  | 12 T,D,J          | 2.8 D,J           | 2.2 D,J           | 5.7 T,D,J         | 4.8 D             | 1.1 D             | ND                 | 20 D               | 0.014 J            | 1.3 D,J            | 16 D               | 1 D,J              | 0.17 D,J           | 26 D               | 0.43 D,J           | 3.4 D,J            | 8.1 D              | 0.089 D,J          | 5.3 D              | 14 D               | 7.8 D              | 20 D,J             | 42 D               | 3.6 D,J,B          | 0.67 D,J,B         | 93 T,D,J,B         | 4.1                |          |    |
| <b>TCL Polychlorinated Biphenyls (PCBs) (mg/Kg)<sup>3</sup></b>    |                                      |                   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |          |    |
| Aroclor 1242   | 0.1                                  | --                | --                | --                | --                | --                | --                | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | ND                 | 0.037              | ND                 | ND                 | 0.13 D             | --                 | --                 | --                 | ND                 | --                 | ND                 | --                 | ND                 | --       |    |
| Aroclor 1248   | 0.1                                  | --                | --                | --                | --                | --                | --                | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | ND                 | ND       | -- |
| Aroclor 1260   | 0.1                                  | --                | --                | --                | --                | --                | --                | ND                 | --                 | ND                 | --                 | --                 | --                 | --                 | --                 | 0.028 J            | 0.25               | ND                 | 0.25               | 1.5 D              | --                 | --                 | --                 | ND                 | --                 | ND                 | --                 | ND                 | --       |    |
| <b>Metals method (mg/Kg)</b>                                       |                                      |                   |                   |                   |                   |                   |                   |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |          |    |
| Aluminum, Total  | --                                   | 57.8              | 31.7              | 17.6              | 7.5               | 123               | 38.9              | 25.1               | 26.7               | 7890 J             | 7410 J             | --                 | --                 | --                 | 21.7               | 10                 | 5.4                | 24.5               | 18.7               | 132                | 15.4               | 20.6               | 5780 J             | --                 | 5500 J             | --                 | 5500 J             | --                 |          |    |
| Arsenic, Total   | 13                                   | --                | --                | --                | --                | --                | --                | --                 | --                 | 109 J              | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 99.3 J             | --                 | 66.6 J             | 131 J              | --                 |          |    |
| Barium, Total  | 350                                  | --                | --                | --                | --                | --                | --                | --                 | --                 | 0.708              | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 1.14               | --                 | 0.722              | --                 | --                 |          |    |
| Beryllium, Total   | 7.2                                  | --                | --                | --                | --                | --                | --                | --                 | --                 | 1.07               | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 1.72               | 1.41               | 0.474              | 1.86               | --                 |          |    |
| Cadmium, Total   | 2.5                                  | 4.12              | 1.64              | 2.03              | 1.06              | 1.73              | 3.59              | 0.941              | 1.3                | 0.999              | 5.98               | 2.43               | ND                 | 4.07               | 0.268              | 2.14               | 1.06               | 0.992              | 7.32               | 7.75               | 14.4               | 2.59               | 30.9               | --                 | --                 | --                 | --                 | --                 |          |    |
| Calcium, Total   | --                                   | --                | --                | --                | --                | --                | --                | --                 | --                 | 30100 J B1,B       | --                 | 25300 J B1,B       | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 35300 J            | --                 | 48400 J            | --                 | --                 |          |    |
| Chromium, Total <sup>4</sup>                                       | 31                                   | 148 J             | 372 J             | 234 J             | 91.2 J            | 52.8 J            | 22.6 J            | 125 J              | 75.8 J             | 18.1 J             | 20.7 J             | 125 J              | 29.9 J             | 30.8 J             | 34.9 J             | 56 J               | 19.7 J             | 108 J              | 195 J              | 33.4 J             | 125 J              | 203 J              | 49.2 J             | 145 J              | 17.9 J             | 590 J              | 192 J              | 101 J              |          |    |
| Cobalt, Total  | --                                   | --                | --                | --                | --                | --                | --                | --                 | --                 | 7 J                | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 6.91 J             | --                 | 3.64 J             | --                 | --                 |          |    |
| Copper, Total  | 50                                   | --                | --                | --                | --                | --                | --                | --                 | --                 | 72.1 J             | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 29.6 J             | --                 | 36 J               | --                 | --                 |          |    |
| Iron, Total  | --                                   | --                | --                | --                | --                | --                | --                | --                 | --                 | 46700 J            | --                 | 20600 J            | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 212000 D,J         | --                 | 47300 J            | --                 | --                 |          |    |
| Lead, Total  | 63                                   | 316               | 229               | 232               | 251               | 130               | 176               | 44.7 J             | 118 J              | 75.4 J             | 5                  |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |          |    |





Table 7b

## Summary of Soil Analytical Data

Remedial Investigation/Alternatives Analysis Report  
Phase IIIA Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| PARAMETER <sup>1</sup>  | Commercial SCOs <sup>2</sup> (ppm) | Sample Location   |                   |                   |                   |                   |                   |                    |                    |              |              |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |         |    |
|---|------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------|----|
|   |                                    | BPA-3A-TP-1 (0-2) | BPA-3A-TP-2 (0-2) | BPA-3A-TP-3 (2-6) | BPA-3A-TP-4 (0-2) | BPA-3A-TP-6 (0-2) | BPA-3A-TP-8 (5-8) | BPA-3A-TP-14 (4-6) | BPA-3A-TP-17 (3-6) | BPA-3A-TP-18 | BPA-3A-TP-19 | BPA-3A-TP-22 (0-2) | BPA-3A-TP-24 (0-2) | BPA-3A-TP-25 (3-5) | BPA-3A-TP-26 (0-2) | BPA-3A-TP-27 (0-2) | BPA-3A-TP-28 (0-2) | BPA-3A-TP-29 (0-2) | BPA-3A-TP-30 (2-5) | BPA-3A-TP-31 (3-5) | BPA-3A-TP-32 (0-2) | BPA-3A-TP-33 (0-2) | BPA-3A-TP-34 (0-2) | BPA-3A-TP-35 (0-2) | BPA-3A-TP-37 (0-2) | BPA-3A-TP-40 (0-2) | BPA-3A-TP-44 (7-8) | BPA-3A-TP-45 (0-2) |         |    |
| <b>Volatile Organic Compounds (VOCs) (mg/Kg) <sup>3</sup></b>       |                                    |                   |                   |                   |                   |                   |                   |                    |                    |              |              |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |         |    |
| 1,2,4-Trimethylbenzene  | 190                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 1.8 D,W1,N1        | --      |    |
| 1,3,5-Trimethylbenzene  | 190                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.41 D,W1,N1       | --      |    |
| 2-Butanone (MEK)  | 500                                | --                | --                | --                | --                | --                | 0.51 W,D,J        | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | --      |    |
| p-Cymene  | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.33 D,W1,N1       | --      |    |
| Acetone   | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | --      |    |
| Benzene   | 44                                 | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.93 D,W1,N1       | --                 |         |    |
| Chlorobenzene   | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | --      |    |
| Cyclohexane   | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.69 D,W1,N1       | --                 |         |    |
| Ethylbenzene  | 390                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.19 D,W1,N1       | --                 |         |    |
| Isopropylbenzene  | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.31 D,W1,N1       | --                 |         |    |
| Methylcyclohexane   | 500                                | --                | --                | --                | --                | --                | 0.061 W,D,J       | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 1.7 D,W1,N1        | --                 |         |    |
| Methylene chloride  | 500                                | --                | --                | --                | --                | --                | 0.066 W,D,J       | 0.048 B            | 0.041 B            | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | --      |    |
| m-Xylene & p-Xylene   | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.82 D,W1,N1       | --      |    |
| n-Butylbenzene  | 500                                | --                | --                | --                | --                | --                | 0.12 W,D,J        | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.87 D,W1,N1       | --                 |         |    |
| n-Propylbenzene   | 500                                | --                | --                | --                | --                | --                | 0.063 W,D,J       | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.46 D,W1,N1       | --                 |         |    |
| o-Xylene  | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.38 D,W1,N1       | --                 |         |    |
| sec-Butylbenzene  | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.27 D,W1,N1       | --                 |         |    |
| Toluene   | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.00066 J          | ND                 | --                 |         |    |
| Total Xylenes   | 500                                | --                | --                | --                | --                | --                | ND                | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 1 D,W1,N1          | --                 |         |    |
| <b>Semi-Volatile Organic Compounds (SVOCs) (mg/Kg) <sup>3</sup></b> |                                    |                   |                   |                   |                   |                   |                   |                    |                    |              |              |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |         |    |
| 2-Methylnaphthalene   | --                                 | ND                | ND                | ND                | ND                | ND                | 32 D              | ND                 | ND                 | ND           | ND           | 0.64 D,J           | ND                 | 65 T,D,J           | ND      |    |
| Acenaphthene  | 500                                | ND                 | 2.3 D,J            | ND           | ND           | 1.8 D,J            | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | 0.3 D,J            | ND                 | ND                 | 0.3 D,J            | ND                 | ND                 | 3.2 D,J            | ND                 | ND                 | ND                 | ND      |    |
| Acenaphthylene  | 500                                | ND                | ND                | ND                | ND                | 0.56 D,J          | ND                | 5.8 D,J            | ND                 | ND           | ND           | 0.39 D,J           | ND                 | ND                 | 2.1 D,J            | ND                 | 2.4 D,J            | 1.3 D,J            | 0.36 D,J           | ND                 | 0.73 D,J           | ND                 | 0.73 D,J           | ND                 | 1.2 D,J            | ND                 | ND                 | 0.39               | ND      |    |
| Anthracene  | 100                                | 3.3 T,D,J         | 0.42 D,J          | 0.37 D,J          | ND                | 0.81 D,J          | ND                | 4 D,J              | 5.4 D              | ND           | 6.4 D        | ND                 | ND                 | 3.4 D,J            | ND                 | ND                 | 1.1 D,J            | ND                 | 0.91 D,J           | 2 D,J              | 0.85 D,J           | 3.2 D,J            | 7.6 D,J            | 0.41 D,J           | ND                 | ND                 | 0.74 D,J           | ND                 |         |    |
| Benzo(a)anthracene  | 5.6                                | 7.7 T,D,J         | 1.5 D,J           | 1.8 D,J           | 4.1 T,D,J         | 2.5 D,J           | 0.4 D,J           | 29 D               | 9.9 D              | 0.018 J      | 1.2 D,J      | 10 D               | 0.8 D,J            | 0.17 D,J           | 15 D               | 0.39 D,J           | 3.2 D,J            | 6 D                | ND                 | 2.8 D              | 8.2 D,J            | 5.3 D              | 11 D,J             | 27 D               | 3.7 D,J            | 0.55 D,J           | ND                 | 2.8 D              |         |    |
| Benzo(b)fluoranthene  | 1                                  | 6 T,D,J           | 1.5 D,J           | 2 D,J             | 4.4 T,D,J         | 2.2 D,J           | 0.29 D,J          | 29 D               | 8.1 D              | 0.018 J      | 1.4 D,J      | 8.1 D              | 0.85 D,J           | 0.16 D,J           | 13 D               | 0.34 D,J           | 6.2 D,J            | 6.2 D              | ND                 | 3.1 D              | 8.4 D,J            | 5.8 D              | 10 D,J             | 25 D               | 5.9 D              | 0.62 D,J           | ND                 | 2.9 D              |         |    |
| Benzo(k)fluoranthene  | 5.6                                | 6.6 T,D,J         | 1.8 D,J           | 2.5 D,J           | 5.3 T,D,J         | 4 D ID4           | 0.48 D,J          | 34 D               | 9.4 D              | 0.033 J      | 2.5 D,J      | 11 D               | 1.4 D ID4          | 0.22 D,J           | 14 D               | 0.43 D,J           | 6.1 D,J            | 7.2 D              | ND                 | 3.9 D              | 8.4 D,J            | 6.9 D              | 18 D,J ID4         | 28 D               | 7.9 D              | 1.2 D,J            | ND                 | 3.4 D              |         |    |
| Benzo(g)helioperylene   | 500                                | 4.1 T,D,J         | 1 D,J             | 1.7 D,J           | 4.5 T,D,J         | 1.9 D,J           | 0.26 D,J          | 26 D               | 5.2 D              | 0.02 J       | 1.3 D,J      | 5.6 D              | 0.7 D,J            | 0.16 D,J           | 9.1 D,J            | 0.26 D,J           | 5.9 D,J            | 4.7 D              | ND                 | 3.1 D              | 5.5 D,J            | 4.3 D              | ND                 | 14 D,J             | 4.3 D              | 0.55 D,J           | ND                 | 2.1 D              |         |    |
| Benzo(k)fluoranthene  | 56                                 | 3.9 T,D,J         | 0.66 D,J          | 0.84 D,J          | 3.2 T,D,J         | ND                | 0.21 D,J          | 14 D               | 3.6 D,J            | ND           | 0.82 D,J     | 3.9 D,J            | ND                 | 0.085 D,J          | 5.3 D,J            | 0.16 D,J           | 2.2 D,J            | 2.4 D,J            | ND                 | 1.4 D,J            | 5.4 D,J            | 3.9 D              | ND                 | 14 D,J             | 2.5 D,J            | 1.2 D,J            | ND                 | 1.4 D,J            |         |    |
| Biphenyl  | --                                 | ND                | ND                | ND                | ND                | ND                | 3.1 D             | 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   | --                                 | ND                | ND                | ND                | ND                | ND                | 0.62 D,J,B        | ND                 | ND                 | ND           | ND           | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND                 | ND      |    |
| Carbazole   | --                                 | --                | --                | --                | --                | --                | --                | --                 | 1.6 D,J            | --           | --           | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --      |    |
| Chrysene  | 56                                 | 6.9 T,D,J         | 1.5 D,J           | 1.7 D,J           | 4.1 T,D,J         | 2.5 D,J           | 0.54 D,J          | 30 D               | 8.3 D              | 0.027 J      | 1.3 D,J      | 9.9 D              | 0.96 D,J           | 0.12 D,J           | 12 D               | 0.36 D,J           | 3.3 D,J            | 5.4 D              | ND                 | 2.9 D              | 7.8 D,J            | 5.2 D              | 12 D,J             | 24 D               | 3.8 D,J            | 0.62 D,J           | ND                 | 2.5 D              |         |    |
| Dibenzof(a,h)anthracene   | 0.56                               | ND                | 0.28 D,J          | 0.44 D,J          | ND                | 0.45 D,J          | 0.075 D,J         | 5.9 D,J            | 1.1 D,J            | ND           | ND           | 1.5 D,J            | ND                 | 1.2 D,J            | ND                 | ND                 | ND                 | ND                 | 1.4 D,J            | ND                 | ND                 | 0.67               | ND      |    |
| Dibenzofuran  | --                                 | ND                 | 0.98 D,J           | ND           | ND           | 1.9 D,J            | ND                 | ND      |    |
| Fluoranthene  | 500                                | 15 T,D,J          | 3.3 D,J           | 2.6 D,J           | 6.8 T,D,J         | 5.2 D             | 1.1 D             | 38 D               | 26 D               | 0.018 J      | 1.4 D,J      | 23 D               | 1.2 D,J            | 0.19 D,J           | 32 D               | 0.5 D,J            | 2.6 D,J            | 9.4 D              | 1.2 D,J            | 6.6 D              | 18 D               | 9.5 D              | 26 D,J             | 58 D               | 3.6 D,J,B          | 0.84 D,J,B         | 18 T,D,J,B         | 5.1 D              |         |    |
| Fluorene  | 500                                | ND                | ND                | ND                | ND                | ND                | 6.6 D             | ND                 | 2.1 D,J            | ND           | ND           | 2.9 D,J            | ND                 | ND                 | 1.1 D,J            | ND                 | ND                 | ND                 | ND                 | 0.23 D,J           | ND                 | ND                 | ND                 | 3 D,J              | ND                 | ND                 | ND                 | 0.23 D,J           | ND      |    |
| Indeno(1,2,3-cd)pyrene  | 5.6                                | 3.5 T,D,J         | 0.93 D,J          | 1.5 D,J           | 3.6 T,D,J         | 1.6 D,J           | 0.24 D,J          | 23 D               | 4.9 D              | ND           | 1.3 D,J      | 5.8 D              | 0.66 D,J           | 0.14 D,J           | 8.1 D,J            | 0.21 D,J           | 4.2 D,J            | 4.4 D              | ND                 | 2.5 D              | 8.1 D,J            | 4 D                | 4 D                | 4.1 D              | 2.5 D              | 0.47 D,J           | ND                 | 1.9 D,J            |         |    |
| Naphthalene   | 500                                | ND                | ND                | 0.53 D,J          | ND                | ND                | 5.4 D             | ND                 | ND                 | ND           | ND           | 0.63 D,J           | ND                 | 0.52 D,J           | ND                 | ND      |    |
| Phenanthrene  | 500                                | 13 T,D,J          | 2 D,J             | 1.6 D,J           | 3.3 T,D,J         | 2.5 D,J           | 16 D              | 9.3 D,J            | 21 D               | 0.021 J      | ND           | 23 D               | 0.39 D,J           | 0.088 D,J          | 15 D               | 0.2 D,J            | ND                 | 3 D,J              | ND                 | 3.5 D              | 7.2 D,J            | 4.7 D              | 16 D,J             | 31 D               | 0.81 D,J,B         | 0.25 D,J,B         | 98 T,D,J,B         | 3                  |         |    |
| Pyrene  | 500                                | 12 T,D,J          | 2.8 D,J           | 2.2 D,J           | 5.7 T,D,J         | 4.8 D             | 1.1 D             | ND                 | 20 D               | 0.014 J      | 1.3 D,J      | 16 D               | 1 D,J              | 0.17 D,J           | 26 D               | 0.43 D,J           | 3.4 D,J            | 8.1 D              | 0.089 D,J          | 5.3 D              | 14 D               | 7.8 D              | 20 D,J             | 42 D               | 3.6 D,J,B          | 0.67 D,J,B         | 93 T,D,J,B         | 4.1                |         |    |
| <b>TCL Polychlorinated Biphenyls (PCBs) (mg/Kg) <sup>3</sup></b>    |                                    |                   |                   |                   |                   |                   |                   |                    |                    |              |              |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |         |    |
| Aroclor 1242  | 1                                  | --                | --                | --                | --                | --                | --                | --                 | ND                 | --           | ND           | --                 | --                 | --                 | --                 | --                 | ND                 | 0.037              | ND                 | ND                 | 0.13 D             | --                 | --                 | --                 | ND                 | --                 | ND                 | --                 | --      |    |
| Aroclor 1248  | 1                                  | --                | --                | --                | --                | --                | --                | --                 | ND                 | --           | ND           | --                 | --                 | --                 | --                 | --                 | ND                 | --      | -- |
| Aroclor 1260  | 1                                  | --                | --                | --                | --                | --                | --                | --                 | ND                 | --           | ND           | --                 | --                 | --                 | --                 | --                 | 0.028 J            | 0.25               | ND                 | 0.25               | 1.5 D              | --                 | --                 | --                 | ND                 | --                 | ND                 | --                 | --      |    |
| <b>Metals method (mg/Kg)</b>  |                                    |                   |                   |                   |                   |                   |                   |                    |                    |              |              |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |         |    |
| Aluminum, Total   | --                                 | --                | --                | --                | --                | --                | --                | 7890 J             | --                 | 7410 J       | --           | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 5780 J             | --                 | 5500 J             | --      |    |
| Arsenic, Total  | 16                                 | 57.8              | 31.7              | 17.6              | 7.5               | 123               | 38.9              | 25.1               | 26.7               | ND           | 10           | 79.3               | 19.3               | 10.9               | 25.5               | 6.1                | 21.7               | 10                 | 5.4                | 24.5               | 18.7               | 132                | 15.4               | 20.6               | 121                | 38                 | 9.7                | 45.4 J             |         |    |
| Barium, Total   | 400                                | --                | --                | --                | --                | --                | --                | --                 | 109 J              | --           | 93.9 J       | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 99.3 J             | --                 | 66.6 J             | 131 J              | --      |    |
| Cadmium, Total  | 9.3                                | 4.12              | 1.64              | 2.03              | 1.06              | 1.73              | 3.59              | 0.941              | 1.3                | ND           | 0.999        | 5.98               | 2.43               | ND                 | 4.07               | 0.268              | 2.14               | 1.06               | 0.992              | 7.32               | 7.75               | 14.4               | 2.59               | 30.9               | 1.72               | 1.41               | 0.474              | 1.86               |         |    |
| Calcium, Total  | --                                 | --                | --                | --                | --                | --                | --                | --                 | 30100 J,B1,B       | --           | 25300 J,B1,B | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --      |    |
| Chromium, Total <sup>4</sup>  | 1900                               | 148 J             | 372 J             | 234 J             | 91.2 J            | 52.8 J            | 22.6 J            | 125 J              | 75.8 J             | 18.1 J       | 20.7 J       | 125 J              | 29.9 J             | 30.8 J             | 34.9 J             | 56 J               | 19.7 J             | 108 J              | 195 J              | 33.4 J             | 125 J              | 203 J              | 49.2 J             | 145 J              | 17.9 J             | 590 J              | 192                | 101 J              |         |    |
| Cobalt, Total   | --                                 | --                | --                | --                | --                | --                | --                | --                 | 7 J                | --           | 4.27 J       | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --      |    |
| Copper, Total   | 270                                | --                | --                | --                | --                | --                | --                | --                 | 72.1 J             | --           | 39 J         | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 6.91 J             | --                 | 3.64 J  | -- |
| Iron, Total   | --                                 | --                | --                | --                | --                | --                | --                | --                 | 46700 J            | --           | 20600 J      | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | --                 | 212000 D,J         | --                 | 47300 J | -- |
| Lead, Total   | 1000                               | 316               | 229               | 232               | 251               | 130               | 176               |                    |                    |              |              |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |         |    |



Table 7b

Summary of Soil Analytical Data

Remedial Investigation/Alternatives Analysis Report  
Phase IIIA Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| PARAMETER <sup>1</sup>  | Commercial<br>SCOs <sup>2</sup><br>(ppm) | Sample Location       |                       |                       |                  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | Blind 1       | Blind 2        | Blind 3 |
|---|--|-----------------------|-----------------------|-----------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------|----------------|---------|
|   |  | BPA-3A-TP-46<br>(0-2) | BPA-3A-TP-47<br>(0-2) | BPA-3A-TP-48<br>(0-2) | BPA-3A-SS-49     | BPA-3A-TP-49<br>(0-2) | BPA-3A-TP-49<br>(5-7) | BPA-3A-TP-50<br>(0-2) | BPA-3A-TP-51<br>(0-2) | BPA-3A-TP-52<br>(0-2) | BPA-3A-TP-53<br>(5-7) | BPA-3A-TP-54<br>(0-2) | BPA-3A-TP-55<br>(0-2) | BPA-3A-TP-56<br>(0-2) | BPA-3A-TP-57<br>(0-2) | BPA-3A-TP-58<br>(5-6) |               |                |         |
| <b>Volatile Organic Compounds (VOCs) (mg/Kg) <sup>3</sup></b>       |  |                       |                       |                       |                  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |               |                |         |
| 1,2,4-Trimethylbenzene  | 190                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | 0.0015 J              | <b>360 W1</b>         | 0.0022 J              | 0.0034 J              | 0.0018 J              | ND                    | ND                    | ND            | 0.0026 J       |         |
| 1,3,5-Trimethylbenzene  | 190                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | --                    | <b>280 W1</b>         | --                    | 0.0094 J              | --                    | --                    | --                    | --            | 0.0065 J       |         |
| 2-Butanone (MEK)  | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | --                    | ND                    | 0.0077 J              | --                    | --                    | --                    | --                    | --            | 0.0078 J       |         |
| p-Cymene  | --                                       | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | 0.81 W1               | ND                    | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Acetone   | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | --                    | ND                    | 0.051 J               | --                    | --                    | --                    | --                    | --            | 0.048 J        |         |
| Benzene   | 44                                       | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | ND                    | <b>490 W1</b>         | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Chlorobenzene   | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | 0.09 W1,J             | --                    | ND                    | --                    | --                    | --                    | --                    | --            | ND             |         |
| Cyclohexane   | --                                       | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | 0.37 W1               | --                    | ND                    | --                    | --                    | --                    | --                    | --            | ND             |         |
| Ethylbenzene  | 390                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | ND                    | 100                   | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Isopropylbenzene  | --                                       | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | ND                    | 4.4 W1                | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Methylcyclohexane   | --                                       | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | --                    | 2.2 W1                | --                    | ND                    | --                    | --                    | --                    | --            | ND             |         |
| Methylene Chloride  | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | 6.3 B                 | --                    | ND                    | --                    | --                    | --                    | --                    | --            | ND             |         |
| m-Xylene & p-Xylene   | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | 0.0016 J              | <b>820 W1</b>         | 0.0023 J              | 0.0032 J              | 0.002 J               | ND                    | ND                    | ND            | 0.0026 J       |         |
| n-Butylbenzene  | --                                       | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND            | ND             |         |
| n-Propylbenzene   | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | ND                    | 1.6 W1                | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| o-Xylene  | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | ND                    | 87 W1                 | ND                    | 0.00081               | ND                    | ND                    | ND                    | ND            | ND             |         |
| sec-Butylbenzene  | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | ND                    | 0.82 W1               | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Toluene   | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | ND                    | 47 W1                 | 0.00094 J             | ND                    | 0.00085 J             | ND                    | ND                    | ND            | 0.00066 J      |         |
| Total Xylenes   | 500                                      | --                    | --                    | --                    | --               | --                    | --                    | ND                    | ND                    | 0.0016 J              | <b>910 W1</b>         | 0.0023 J              | 0.004 J               | 0.002 J               | ND                    | ND                    | ND            | 0.0026 J       |         |
| <b>Semi-Volatile Organic Compounds (SVOCs) (mg/Kg) <sup>3</sup></b> |  |                       |                       |                       |                  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |               |                |         |
| 2-Methylnaphthalene   | --                                       | ND                    | ND                    | ND                    | ND               | ND                    | --                    | ND                    | 0.8 D,J               | ND                    | 73 T,D                | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Acenaphthene  | 500                                      | ND                    | ND                    | ND                    | ND               | 0.4 D,J               | --                    | ND                    | ND                    | ND                    | 29 T,D                | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Acenaphthylene  | 500                                      | ND                    | ND                    | 0.25 D,J              | 6 T,D,J          | ND                    | --                    | 0.46 D,J              | 0.33 D,J              | 0.28 D,J              | 7.9 T,D               | ND                    | ND                    | 1.1 D,J               | ND                    | ND                    | ND            | ND             |         |
| Anthracene  | 100                                      | 0.12 D,J              | ND                    | 0.29 D,J              | ND               | 1.1 D,J               | --                    | 0.35 D,J              | 1.9 D,J               | 0.52 J                | 6.9 T,D               | 0.15 D,J              | 0.016 J               | ND                    | 1.1 D,J               | 0.026 J               | ND            | 1.5 D,J        |         |
| Benzo(a)anthracene  | 5.6                                      | 1.2 D,J               | <b>6.4 D,J</b>        | 1.5 D,J               | <b>8.6 T,D,J</b> | 4.5 D                 | --                    | 2 D,J                 | <b>9.6 D</b>          | 1.4 D,J               | <b>7.9 T,D,J</b>      | 1 D,J                 | 0.29                  | 1.9 D,J               | 5.1 D                 | 0.065 J               | 0.14 D,J      | 4.7 D,J        |         |
| Benzo(a)pyrene  | 1  | 1.4 D,J               | <b>4.9 D,J</b>        | 1.4 D,J               | ND               | <b>4.2 D,J</b>        | --                    | 2.2 D,J               | <b>7.8 D</b>          | 1.2 D,J               | <b>4.2 T,D,J</b>      | 1.1 D,J               | 0.45                  | <b>2.9 D</b>          | <b>4.5 D</b>          | 0.046 J               | 0.15 D,J      | <b>4.3 D,J</b> |         |
| Benzo(b)fluoranthene  | 5.6                                      | 1.4 D,J               | <b>7.9 D,J</b>        | 1.9 D,J               | <b>12 T,D,J</b>  | <b>6 D</b>            | --                    | 2.6 D,J               | <b>10 D</b>           | 1.4 D,J               | <b>5.9 T,D,J</b>      | 1.6 D,J               | 0.54                  | 3.4 D                 | <b>5.8 D</b>          | 0.049 J               | 0.22 D,J      | <b>5.9 D,J</b> |         |
| Benzo(g)hperylene   | 500                                      | 0.73 D,J              | 4.7 D,J               | 1.1 D,J               | 5.8 T,D,J        | 4.5 D                 | --                    | 1.8 D,J               | 5.5 D                 | 0.83 D,J              | 2.4 T,D,J             | 0.99 D,J              | 0.46                  | 2.9 D                 | 3.2 D                 | 0.031 J               | 0.18 D,J      | 4.6 D,J        |         |
| Benzo(k)fluoranthene  | 56                                       | 0.55 D,J              | 3.5 D,J               | 0.71 D,J              | 4.5 T,D,J        | 2.3 D,J               | --                    | 1.5 D,J               | 3.2 D,J               | 0.47 D,J              | 2.9 T,D,J             | 0.58 D,J              | 0.23                  | 1.1 D,J               | 2 D                   | 0.029 J               | 0.062 D,J     | 3.1 D,J        |         |
| Biphenyl  | --                                       | ND                    | ND                    | ND                    | ND               | ND                    | --                    | ND                    | ND                    | ND                    | 7.5 T,D,J             | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Bis(2-ethylhexyl) phthalate   | --                                       | ND                    | ND                    | ND                    | ND               | ND                    | --                    | ND                    | ND            | ND             |         |
| Carbazole   | --                                       | --                    | --                    | --                    | --               | --                    | --                    | 0.54 D,J              | --                    | --                    | ND                    | --                    | 0.013 J               | --                    | --                    | --                    | --            | ND             |         |
| Chrysene  | 56                                       | 1.1 D,J               | 7.1 D,J               | 1.4 D,J               | 10 T,D,J         | 4.1 D,J               | --                    | 2.4 D,J               | 8.9 D                 | 1.3 D,J               | 6.3 T,D,J             | 1.3 D,J               | 0.34                  | 2.1 D                 | 5.1 D                 | 0.074 J               | 0.15 D,J      | 4.8 D,J        |         |
| Dibenz(a,h)anthracene   | 0.56                                     | ND                    | ND                    | 0.29 D,J              | ND               | <b>1.2 D,J</b>        | --                    | ND                    | <b>1.4 D,J</b>        | 0.25 D,J              | ND                    | 0.092 J               | <b>0.66 D,J</b>       | <b>0.81 D,J</b>       | ND                    | ND                    | ND            | 0.061 J        |         |
| Dibenzofuran  | --                                       | ND                    | ND                    | ND                    | ND               | ND                    | --                    | ND                    | 0.71 D,J              | 0.2 D,J               | 15 T,D,J              | ND                    | ND                    | ND                    | ND                    | ND                    | ND            | ND             |         |
| Fluoranthene  | 500                                      | 1.8 D,J               | 11 D,J                | 2.3 D                 | 17 T,D,J         | 6.7 D                 | --                    | 3 D,J                 | 16 D                  | 3.3 D                 | 22                    | 1.3 D,J               | 0.38                  | 2.1 D                 | 13 D,B                | 0.11 J                | 0.18 D,J      | 7.9 D,J        |         |
| Fluorene  | 500                                      | ND                    | ND                    | ND                    | ND               | 0.49 D,J              | --                    | ND                    | ND                    | 0.27 D,J              | ND                    | ND                    | ND                    | ND                    | 0.27 D,J              | ND                    | ND            | ND             |         |
| Indeno(1,2,3-cd)pyrene  | 5.6                                      | 0.61 D,J              | 4 D,J                 | 1 D,J                 | <b>5.8 T,D,J</b> | 3.9 D,J               | --                    | 1.5 D,J               | 4.6 D                 | 0.72 D,J              | ND                    | 0.67 D,J              | 0.35                  | 2.5 D                 | 2.9                   | 0.026 J               | 0.14 D,J      | 3.8 D,J        |         |
| Naphthalene   | 500                                      | ND                    | ND                    | ND                    | ND               | 0.77 D,J              | --                    | ND                    | ND                    | ND                    | <b>890 T,D,J,E</b>    | ND                    | ND                    | 0.16 D,J              | ND                    | ND                    | ND            | ND             |         |
| Phenanthrene  | 500                                      | 0.66 D,J              | 10 D,J                | 1.2 D,J               | 12 T,D,J         | 5.1 D                 | --                    | 1.6 D,J               | 8.3 D                 | 1.9 D,J               | 34 T,D                | 0.56 D,J              | 0.14 J                | 0.6 D,J               | 5 D,B                 | 0.065 J               | ND            | 6.8 D,J        |         |
| Pyrene  | 500                                      | 1.5 D,J               | 7.9 D,J               | 1.9 D                 | 11 T,D,J         | 5.8 D                 | --                    | 2.5 D,J               | 12 D                  | 2.8 D                 | 15 T,D,J              | 1.4 D,J               | 0.34                  | 1.9 D,J               | 9.7 D,B               | 0.097 J               | 0.15 D,J      | 6.9            |         |
| <b>TCL Polychlorinated Biphenyls (PCBs) (mg/Kg) <sup>3</sup></b>    |  |                       |                       |                       |                  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |               |                |         |
| Aroclor 1242  | 1  | --                    | --                    | --                    | --               | --                    | --                    | ND                    | --                    | --                    | --                    | --                    | ND                    | --                    | --                    | --                    | --            | ND             |         |
| Aroclor 1248  | 1  | --                    | --                    | --                    | --               | --                    | --                    | ND                    | --                    | --                    | --                    | --                    | 0.015 J               | --                    | --                    | --                    | --            | 0.015 J        |         |
| Aroclor 1260  | 1  | --                    | --                    | --                    | --               | --                    | --                    | ND                    | --                    | --                    | --                    | --                    | 0.018 J               | --                    | --                    | --                    | --            | 0.018 J        |         |
| <b>Metals method (mg/Kg)</b>  |  |                       |                       |                       |                  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |               |                |         |
| Aluminum, Total   | --                                       | --                    | --                    | --                    | --               | 16000 J               | --                    | 4120 J                | --                    | 2690 J                | --                    | 3270 J                | --                    | --                    | --                    | --                    | --            | 3360 J         |         |
| Arsenic, Total  | 16                                       | <b>62.9 J</b>         | <b>19.8 J</b>         | <b>30 J</b>           | <b>38.2 J</b>    | <b>26.3 J</b>         | 8.3 J                 | 9.4 J                 | 11.2                  | <b>31.7 J</b>         | <b>39.3</b>           | <b>27.2 J</b>         | 7.4                   | 12.5 J                | <b>35.3</b>           | 2.3 J                 | 13            | <b>25 J</b>    |         |
| Barium, Total   | 400                                      | 159 J                 | 36.8 J                | 138 J                 | 84.8 J           | 118 J                 | 25.4 J                | --                    | 66.9 J                | --                    | 101 J                 | 118 J                 | 19.5 J                | --                    | --                    | --                    | --            | 70.9           |         |
| Cadmium, Total  | 9.3                                      | ND                    | ND                    | 0.557                 | 2.1              | 4.13                  | ND                    | ND                    | 0.491 J               | 0.44                  | 7.21 J                | 0.914                 | 6.93 J                | ND                    | ND                    | ND                    | 5.87          | 1.32           |         |
| Calcium, Total  | --                                       | --                    | --                    | --                    | --               | 131000 J              | --                    | 38700 J               | --                    | 1850 J                | --                    | 261000                | --                    | --                    | --                    | --                    | --            | 210000 D,J     |         |
| Chromium, Total <sup>4</sup>  | 1900                                     | 13.7 J                | 19.5 J                | 25.8 J                | 48.4 J           | 42.1 J                | 13.3 J                | 7.67 J                | 7.43 J                | 13.5 J                | 356 J                 | 178 J                 | 260 J                 | 7.75 J                | 1.84 J                | 28.9 J                | 56.2 J        | 256 J          |         |
| Cobalt, Total   | --                                       | --                    | --                    | --                    | --               | 3.72 J                | --                    | 3.84 J                | --                    | 6.02 J                | --                    | 4.85 J                | --                    | --                    | --                    | --                    | --            | 4.48 J         |         |
| Copper, Total   | 270                                      | --                    | --                    | --                    | --               | 17.7 J                | --                    | 26.1 J                | --                    | 34.9 J                | --                    | 33.6 J                | --                    | --                    | --                    | --                    | --            | 48 J           |         |
| Iron, Total   | --                                       | --                    | --                    | --                    | --               | 25800 J               | --                    | 23400 J               | --                    | 43800 J               | --                    | 34200 J               | --                    | --                    | --                    | --                    | --            | 45700 B1,J     |         |
| Lead, Total   | 1000                                     | 158 J                 | 33.1 J                | 78.5 J                | 151 J            | 289 J                 | 27.8 J                | 49.8 J                | 41.7 J                | 218 J                 | 438 J                 | 101 J                 | 605 J                 | 11.9 J                | 4.4 J                 | 24.3 J                | 314 J         | 101 J          |         |
| Magnesium, Total  | --                                       | --                    | --                    | --                    | --               | 271000 D,J            | --                    | 8250 J                | --                    | 654 J                 | --                    | 151000 D,J            | --                    | --                    | --                    | --                    | --            | 136000 D,J     |         |
| Manganese, Total  | 10000                                    | --                    | --                    | --                    | --               | 357 J                 | --                    | 346                   | --                    | 469                   | --                    | 6540 D                | --                    | --                    | --                    | --                    | --            | 7090 D         |         |
| Nickel, Total   | 310                                      | --                    | --                    | --                    | --               | ND                    | --                    | 9.15 J                | --                    | 14.9 J                | --                    | 42.5 J                | --                    | --                    | --                    | --                    | --            | 50 J           |         |
| Potassium, Total  | --                                       | --                    | --                    | --                    | --               | 161 J                 | --                    | 722 J                 | --                    | 500 J                 | --                    | 242 J                 | --                    | --                    | --                    | --                    | --            | 220 J          |         |
| Sodium, Total   | --                                       | --                    | --                    | --                    | --               | ND                    | --                    | ND                    | --                    | 222 J                 | --                    | 193 J                 | --                    | --                    | --                    | --                    | --            | ND             |         |
| Thallium, Total   | --                                       | --                    | --                    | --                    | --               | ND                    | --                    | ND                    | --                    | ND                    | --                    | ND                    | --                    | --                    | --                    | --                    | --            | ND             |         |
| Vanadium, Total   | --                                       | --                    | --                    | --                    | --               | 34.3 J                | --                    | 11.7 J                | --                    | 16.3 J                | --                    | 71.3 J                | --                    | --                    | --                    | --                    | --            | 122            |         |
| Zinc, Total   | 10000                                    | --                    | --                    | --                    | --               | 80.2 J                | --                    | 69.5 J                | --                    | 158 J                 | --                    | 218 J                 | --                    | --                    | --                    | --                    | --            | 50 J           |         |
| Mercury, Total  | 2.8                                      | 0.0721                | <b>575 D</b>          | 0.301                 | <b>304 D</b>     | <b>6.98 D</b>         | --                    | 0.772                 | 0.334                 | ND                    | 0.0481                | 1.16 D                | 0.806                 | ND                    | ND                    | 0.0325                | <b>8.23 D</b> | 0.0897 J       |         |
| Cyanide   | 27                                       | ND                    | <b>119 D,J</b>        | ND                    | <b>628 D,J</b>   | <b>41</b>             | --                    | --                    | ND                    | --                    | ND                    | --                    | 1.6 J                 | --                    | --                    | --                    | --            | <b>40.9 J</b>  |         |
| <b>General Chemistry Parameters</b>                                 |  |                       |                       |                       |                  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |               |                |         |
| Ph, Leachable   | --                                       | --                    | --                    | --                    | --               | --                    | 10 HFT                | --                    | --                    | --                    | --                    | --                    | --                    | --                    | --                    | --                    | --            | --             |         |

**Notes:**  
1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.  
2. Values per NYSDEC draft Part 375 Soil Cleanup Objectives (June 2006)  
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparison to SCOs.  
4. The total Chromium SCO was determined by adding the hexavalent and trivalent Chromium SCOs.  
5. Blind 1 collected from BPA-3A-TP-25, Blind 2 collected from BPA-3A-TP-49, Blind 3 collected from BPA-3A-TP-55

**Definitions:**  
ND = Parameter not detected above laboratory detection limit.  
"--" = No SCO available/Sample not analyzed for parameter.  
J = Estimated value; result is less than the sample quantitation limit but greater than zero.  
D = Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.  
R = The data is unusable.

**BOLD** = result exceeds SCO.





TABLE 8

SUMMARY OF GROUNDWATER ANALYTICAL DATA - PHASE III BPA

Remedial Investigation/Alternatives Analysis Report  
 Phase III Business Park Area  
 Tecumseh Redevelopment Inc.  
 Lackawanna, New York

| PARAMETER <sup>1</sup> | GWQS <sup>2</sup> | MWN-56A | MWN-57A | MWN-10 | MWN-58A | MWN-59A | MWN-60A | MWS-34A | MWS-33A | MWS-30A | MWS-35A   | Blind Duplicate <sup>4</sup> | Trip Blank | Equipment Blank |
|------------------------|-------------------|---------|---------|--------|---------|---------|---------|---------|---------|---------|-----------|------------------------------|------------|-----------------|
| Naphthalene            | 10*               | ND      | 0.36 J  | ND     | ND      | ND      | ND      | ND      | 0.21 J  | ND      | 0.22 J    | ND                           | --         | ND              |
| Phenanthrene           | 50*               | ND      | 0.61 J  | ND     | ND      | ND      | 0.74 J  | 0.47 J  | ND      | ND      | 0.33 J    | 0.33 J                       | --         | ND              |
| Phenol                 | 1**               | ND      | ND      | ND     | ND      | ND      | ND      | ND      | ND      | ND      | <b>21</b> | <b>22</b>                    | --         | ND              |
| Pyrene                 | 50*               | ND      | 0.53 J  | ND     | ND      | ND      | 0.21 J  | ND      | ND      | ND      | 0.34 J    | 0.27 J                       | --         | ND              |

Notes:

1. Only those compounds detected above the method detection limit at a minimum of one sample location are reported in this table.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV) as per 6 NYCRR Part 703.
3. Field measurements were collected immediately before and after groundwater sample collection.
4. Blind Duplicate sample collected from MWN-35A.

Definitions:

- J = Estimated Value; result is less than the sample quantitation limit but greater than zero.
- B = Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
- NA = Not available
- ND = Indicates parameter was not detected above laboratory reporting limit.
- \* = The Guidance Value was used where a Standard has not been established.
- \*\* = The general standard of 1.0 ug/L for phenolic compounds was used.

**BOLD** = Result exceeds the GWQS/GV.



TABLE 9

SUMMARY OF GROUNDWATER ANALYTICAL DATA - PHASE IIIA BPA

Remedial Investigation/Alternatives Analysis Report  
 Phase IIIA Business Park Area  
 Tecumseh Redevelopment Inc.  
 Lackawanna, New York

| PARAMETER <sup>1</sup>                     | GWQS <sup>2</sup> | MWS-04      | MWS-31A | MWN-61A  | MWN-62D   | MWN-19B | MWN-19A | MWN-30A   | Blind Duplicate <sup>3</sup> | Trip Blank | Equipment Blank |         |        |         |        |         |        |    |    |    |        |
|--|-------------------|-------------|---------|----------|-----------|---------|---------|-----------|------------------------------|------------|-----------------|---------|--------|---------|--------|---------|--------|----|----|----|--------|
| <b>Field Measurements<sup>4</sup>:</b>     |                   |             |         |          |           |         |         |           |                              |            |                 |         |        |         |        |         |        |    |    |    |        |
| Sample No.                                 | --                | Initial     | Final   | Initial  | Final     | Initial | Final   | Initial   | Final                        | Initial    | Final           | Initial | Final  | Initial | Final  | Initial | Final  | NA | NA | NA | NA     |
| pH (units)                                 | 6.5 - 8.5         | 9.57        | 9.90    | 9.37     | 9.41      | 7.67    | 7.65    | 6.47      | 6.51                         | 5.89       | 5.81            | 6.55    | 6.49   | 7.74    | 7.75   | 6.55    | 6.49   | NA | NA | NA | NA     |
| Temperature (°C)                           | NA                | 10.5        | 10.1    | 8.7      | 9.0       | 9.5     | 9.4     | 10.4      | 9.2                          | 12.0       | 11.5            | 10.8    | 9.2    | 10.0    | 8.7    | 10.8    | 9.2    | NA | NA | NA | NA     |
| Sp. Conductance (uS)                       | NA                | 506.5       | 537.5   | 539.2    | 547       | 625.9   | 623.8   | 1633      | 1625                         | 1077       | 1050            | 1187    | 1205   | 1619    | 1674   | 1187    | 1205   | NA | NA | NA | NA     |
| Turbidity (NTU)                            | NA                | 33.50       | 25      | >1000    | 361       | 21      | 11.20   | 47.20     | 13.30                        | 128.00     | 91.40           | 14.60   | 7.91   | 56.40   | 83.90  | 14.60   | 7.91   | NA | NA | NA | NA     |
| Eh (mV)                                    | NA                | -121        | -149    | -64      | -63       | -145    | -136    | -85       | -92                          | -51        | -0              | -98     | -100   | -269    | -258   | -98     | -100   | NA | NA | NA | NA     |
| <b>Total Inorganic Compounds (mg/L):</b>   |                   |             |         |          |           |         |         |           |                              |            |                 |         |        |         |        |         |        |    |    |    |        |
| Aluminum - Total                           | --                | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | ND      | -      | -       | ND     | -       | ND     | NA | NA | NA | ND     |
| Arsenic - Total                            | 0.025             | 0.0225      | 0.0334  | ND       | ND        | 0.0141  | ND      | ND        | ND                           | ND         | ND              | ND      | ND     | ND      | ND     | ND      | ND     | NA | NA | NA | ND     |
| Barium - Total                             | 1                 | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 0.204   | -      | -       | 0.208  | -       | 0.208  | NA | NA | NA | ND     |
| Cadmium - Total                            | 0.005             | ND          | ND      | ND       | ND        | ND      | ND      | ND        | ND                           | ND         | ND              | ND      | ND     | ND      | ND     | ND      | ND     | NA | NA | NA | ND     |
| Calcium - Total                            | --                | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 87.1    | -      | -       | 88.9   | -       | 88.9   | NA | NA | NA | ND     |
| Chromium - Total                           | 0.05              | ND          | 0.0147  | ND       | ND        | ND      | ND      | ND        | ND                           | ND         | ND              | ND      | 0.0598 | -       | ND     | -       | ND     | NA | NA | NA | ND     |
| Iron - Total                               | 0.3               | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 13.1    | -      | -       | 13.3   | -       | 13.3   | NA | NA | NA | ND     |
| Lead - Total                               | 0.025             | ND          | 0.0213  | ND       | ND        | ND      | ND      | ND        | ND                           | ND         | ND              | ND      | ND     | ND      | ND     | ND      | ND     | NA | NA | NA | ND     |
| Magnesium - Total                          | 35*               | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 24.7    | -      | -       | 25.1   | -       | 25.1   | NA | NA | NA | ND     |
| Manganese - Total                          | 0.3               | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 0.523   | -      | -       | 0.533  | -       | 0.533  | NA | NA | NA | ND     |
| Potassium - Total                          | --                | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 5.9 J   | -      | -       | 6.03 J | -       | 6.03 J | NA | NA | NA | ND     |
| Sodium - Total                             | 20                | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 117     | -      | -       | 120    | -       | 120    | NA | NA | NA | ND     |
| Vanadium - Total                           | --                | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | ND      | -      | -       | ND     | -       | ND     | NA | NA | NA | ND     |
| Zinc - Total                               | 2*                | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | ND      | -      | -       | ND     | -       | ND     | NA | NA | NA | 0.0116 |
| Mercury - Total                            | 0.0007            | ND          | ND      | ND       | ND        | ND      | ND      | ND        | ND                           | ND         | ND              | ND      | ND     | ND      | ND     | ND      | ND     | NA | NA | NA | ND     |
| Cyanide - Total                            | 0.2               | -           | -       | -        | -         | -       | -       | -         | -                            | -          | -               | 0.0217  | -      | -       | 0.0278 | -       | 0.0278 | NA | NA | NA | ND     |
| <b>Soluble Inorganic Compounds (mg/L):</b> |                   |             |         |          |           |         |         |           |                              |            |                 |         |        |         |        |         |        |    |    |    |        |
| Arsenic - Total                            | 0.025             | NA          | 0.0208  | NA       | NA        | NA      | NA      | ND        | NA                           | NA         | NA              | ND      | NA     | ND      | NA     | NA      | NA     | NA | NA | NA | NA     |
| <b>Volatile Organic Compounds (ug/L):</b>  |                   |             |         |          |           |         |         |           |                              |            |                 |         |        |         |        |         |        |    |    |    |        |
| 1,2,4-Trimethylbenzene                     | 5                 | 0.76 D,J,NJ | ND      | ND       | 0.94 NJ   | ND D    | 22      | 190 D,NJ  | 23                           | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| 1,3,5 - Trimethylbenzene                   | 5                 | ND          | ND      | ND       | 0.34 NJ   | ND D    | 9.5     | ND        | 10                           | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Benzene                                    | 1                 | ND UJ       | ND      | ND       | ND        | ND D    | 990 D   | 7600 D,NJ | 1100 D                       | 0.56 J     | ND              |         |        |         |        |         |        |    |    |    |        |
| Chlorobenzene                              | 5                 | -           | -       | -        | -         | -       | ND      | -         | 0.42 J                       | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Cyclohexane                                | --                | -           | -       | -        | -         | -       | 0.96 J  | -         | 1.1                          | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Ethylbenzene                               | 5                 | ND UJ       | ND      | ND       | 0.17 J,NJ | ND D    | 9.9     | 170 D,NJ  | 10                           | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Isopropylbenzene                           | 5                 | ND UJ       | ND      | ND       | ND        | ND D    | 2       | ND        | 2.3                          | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Methyl-t-Butyl Ether (MTBE)                | 10                | ND UJ       | ND      | ND       | 0.33 J,NJ | ND D    | 0.5 J   | ND        | 0.54 J                       | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Methylcyclohexane                          | --                | -           | -       | -        | -         | -       | 0.61 J  | -         | 0.65 J                       | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| m-Xylene & p-Xylene                        | 10                | 1.2 D,J,NJ  | ND      | 7 D,J,NJ | 1 NJ      | ND D    | 36      | 220 D,NJ  | 37                           | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| o-Xylene                                   | 5                 | ND          | ND      | ND       | 0.3 NJ    | ND D    | 11      | 200 D,NJ  | 12                           | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Toluene                                    | 5                 | 1.1 D,J,NJ  | ND      | 6 D,J,NJ | 0.23 NJ   | ND D    | 2.3     | 130 D,NJ  | 2.4                          | ND         | ND              |         |        |         |        |         |        |    |    |    |        |
| Xylenes, total                             | 15                | 1.2 D,J,NJ  | ND      | 7 D,J,NJ | 0.13 NJ   | ND D    | 47      | 420 D,NJ  | 48                           | ND         | ND              |         |        |         |        |         |        |    |    |    |        |



TABLE 9

SUMMARY OF GROUNDWATER ANALYTICAL DATA - PHASE IIIA BPA

Remedial Investigation/Alternatives Analysis Report  
Phase IIIA Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| PARAMETER <sup>1</sup>                         | GWQS <sup>2</sup> | MWS-04       | MWS-31A       | MWN-61A       | MWN-62D      | MWN-19B      | MWN-19A      | MWN-30A         | Blind Duplicate <sup>3</sup> | Trip Blank | Equipment Blank |
|--|-------------------|--------------|---------------|---------------|--------------|--------------|--------------|-----------------|------------------------------|------------|-----------------|
| <b>Semi-Volatile Organic Compounds (ug/L):</b> |                   |              |               |               |              |              |              |                 |                              |            |                 |
| 2-Methylnaphthalene                            | --                | 1.8 J        | ND            | 63 D          | ND           | ND           | ND           | 110 D,J         | ND                           | NA         | ND              |
| 3-3'-Dichlorobenzidine                         | 5                 | ND L4 UJ     | ND L4 UJ      | ND L4 UJ      | ND L4 UJ     | ND L4 UJ     | ND L4 UJ     | ND L4 UJ        | ND L4 UJ                     | ND L4      | ND L4 UJ        |
| 4-Nitroaniline                                 | --                | ND L4        | ND L4 UJ      | ND L4 UJ      | ND L4 UJ     | ND L4 UJ     | ND L4        | ND L4 UJ        | ND L4 UJ                     | ND L4      | ND L4 UJ        |
| Acenaphthene                                   | 20                | 0.58 J       | ND            | 18 D,J        | ND           | ND           | 1.5 J        | 17 D,J          | 1.5 J                        | NA         | ND              |
| Acenaphthylene                                 | --                | 2.3 J        | ND            | 18 D,J        | ND           | ND           | ND           | 35 D,J          | 0.41 J                       | NA         | ND              |
| Acetophenone                                   | --                | ND           | ND            | ND            | ND           | ND           | 1.5 J        | ND              | 1.7 J                        | NA         | ND              |
| Anthracene                                     | 50                | ND           | ND            | 7.2 D,J       | ND           | ND           | ND           | ND              | ND                           | NA         | ND              |
| Benzo(a)anthracene                             | 0.002*            | ND           | ND            | <b>2 D,J</b>  | ND           | ND           | ND           | <b>18 D,J</b>   | ND                           | NA         | ND              |
| Biphenyl                                       | 5                 | ND           | ND            | <b>13 D,J</b> | ND           | ND           | ND           | ND              | ND                           | NA         | ND              |
| Bis(2-ethylhexyl) phthalate                    | 5                 | 2.3 J        | 2.5 J         | ND            | ND           | <b>6.7</b>   | ND           | ND              | 1.8 J                        | NA         | ND              |
| Carbazole                                      | --                | 9.1          | ND            | 37 D          | ND           | ND           | ND           | ND              | ND                           | NA         | ND              |
| Chrysene                                       | 0.002             | ND           | <b>0.33 J</b> | ND            | ND           | ND           | ND           | <b>16 D,J</b>   | ND                           | NA         | ND              |
| Dibenzofuran                                   | --                | 1.8 J        | ND            | 39 D,J        | ND           | ND           | ND           | 42 D,J          | ND                           | NA         | ND              |
| Fluoranthene                                   | 50*               | ND           | ND            | 12 D,J        | ND           | ND           | ND           | 44 D,J          | ND                           | NA         | ND              |
| Fluorene                                       | 50*               | 2.6 J        | ND            | 37 D          | ND           | ND           | ND           | ND              | ND                           | NA         | ND              |
| Naphthalene                                    | 10*               | <b>34</b>    | ND            | <b>290 D</b>  | ND           | ND           | ND           | <b>2200 D,J</b> | ND                           | NA         | 1.3 J           |
| Phenanthrene                                   | 50*               | 2.6 J        | ND            | <b>62 D</b>   | ND           | 0.54 J       | ND           | <b>110 D,J</b>  | ND                           | NA         | ND              |
| Phenol   | 1**               | ND           | ND            | ND            | ND           | ND           | <b>32</b>    | ND              | <b>33</b>                    | NA         | ND              |
| Pyrene   | 50*               | ND           | ND            | 7.4 D,J       | ND           | ND           | ND           | 18 D,J          | ND                           | NA         | ND              |
| <b>TOTAL SVOCs (ppm)</b>                       |                   | <b>0.057</b> | <b>0.003</b>  | <b>0.606</b>  | <b>0.000</b> | <b>0.007</b> | <b>0.035</b> | <b>2.6</b>      | <b>0.038</b>                 | NA         |                 |

Notes:

1. Only those compounds detected above the method detection limit at a minimum of one sample location are reported in this table.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV) as per 6 NYCRR Part 703.
3. Blind Duplicate and Matrix Spike/Matrix SpikeDuplicate (MS/MSD) analysis performed on groundwater sample collected from MWN-19A.
4. Field measurements were collected immediately before and after groundwater sample collection.

Definitions:

- J = Estimated Value; result is less than the sample quantitation limit but greater than zero.
- D = Sample required dilution due foaming or high concentration of target analyte(s).
- B = Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
- NA = Not available
- ND = Indicates parameter was not detected above laboratory reporting limit.
- ND L4 = Poor recovery of laboratory control sample and or laboratory control sample dup, recovery was below the acceptance limits. A low bias to sample results required SVOCs to be re-analyzed.
- \* = The Guidance Value was used where a Standard has not been established.
- \*\* = The general standard of 1.0 ug/L for phenolic compounds was used.

**BOLD** = Result exceeds the GWQS/GV.

**TABLE 10  
POTENTIAL CHEMICAL-SPECIFIC ARARs**

**PHASE III BUSINESS PARK SITE  
ALTERNATIVES ANALYSIS REPORT**

| <b>Standard, Requirement, Criteria or Limitation</b>  | <b>Citation or Reference</b>  | <b>Description/Comments</b>  |
|---|---|--|
| <b>Groundwater:</b>   |   |  |
| RCRA Groundwater Protection Standards and Maximum Concentration Limits                      | 40 CFR 264, Subpart F   | Establishes criteria for groundwater consumption. Groundwater is/will not be used for potable purposes. Potentially relevant for off-site groundwater quality.   |
| NYSDEC Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations | 6NYCRR Parts 701- 703   | Establishes groundwater and surface water quality criteria. Applicable to on-site and off-site groundwater quality, and runoff/groundwater migration. Establishes criteria for groundwater consumption.                        |
| Ambient Water Quality Standards and Guidance Values   | TOGS 1.1.1, October 1993  | Establishes groundwater and surface water quality standards and guidance values. Applicable to on-site and off-site groundwater quality  |
| <b>Air:</b>   |   |  |
| New York State Air Quality Classifications and Standards                                    | 6NYCRR Parts 256 and 257  | Establishes air quality standards protective of public health. Potentially applicable to disruptive activities.  |
| National Primary and Secondary Ambient Air Quality Standards (NAAQS)                        | 40 CFR Part 50  | Establishes primary and secondary ambient air quality standards to protect public health and welfare. Potentially applicable to disruptive activities.   |
| New York State DOH Soil Vapor Intrusion Guidance  | New York State Department of Health, Oct. 2006                              | Establishes sub-slab and indoor air thresholds for sites impacted by VOCs. Potentially relevant.   |
| <b>Soil:</b>  |   |  |
| NYSDEC Environmental Remedial Programs  | 6NYCRR Part 375   | Establishes procedures for inactive haz. waste site remedy selection & identifies Soil Cleanup Objectives based on human health, ecological protection, and groundwater protection. Applicable to site soil/fill.              |
| NYSDEC Technical Assistance and Guidance Memorandum 4046                                    | NYSDEC TAGM HWR-94-4046, November 1993                                      | Presents recommended soil cleanup objectives based on protection of health under a residential use condition, background levels, and protection of groundwater. Potentially relevant.  |
| USEPA Preliminary Remediation Goals   | EPA Region IX, Oct. 2002, updated per EPA Toxicity Guidance Memo (12/12/04) | Presents residential and non-residential soil cleanup goals based on human health criteria and groundwater protection. Potentially relevant.   |
| USEPA Soil Screening Guidance   | Technical Background Document and Users Guide, May 1996 revisions           | Presents a framework for developing risk-based, soil screening levels for protection of human health. Provides a tiered approach to site evaluation and screening level development for Superfund sites. Potentially relevant. |
| <b>Other:</b>   |   |  |
| USEPA Integrated Risk Information System (IRIS)   | <a href="http://www.epa.gov/iris">www.epa.gov/iris</a>                      | Database of human health effects that may result from exposure to various substances found in the environment.   |

**TABLE 11  
POTENTIAL LOCATION-SPECIFIC ARARs**

**PHASE III BUSINESS PARK SITE  
ALTERNATIVES ANALYSIS REPORT**

| Standard, Requirement, Criteria or Limitation | Citation or Reference | Description/Comments  |
|---|-----------------------|---|
| <b>Other:</b>                                 |                       |   |
| National Historic Preservation Act            | 16 CFR Part 470       | Requires avoiding impacts on cultural resources having historical significance. Potentially applicable to remedial alternatives involving soil/fill disruption. |
| NYSDEC Environmental Remedial Programs        | 6NYCRR Part 375       | Requires consideration of future land use in remedy selection and soil cleanup criteria. Applicable to site soil/fill.  |

**TABLE 12  
POTENTIAL ACTION-SPECIFIC ARARs**

**PHASE III BUSINESS PARK SITE  
ALTERNATIVES ANALYSIS REPORT**

| Standard, Requirement, Criteria or Limitation   | Citation or Reference        | Description/Comments  |
|---|------------------------------|---|
| <b>Groundwater:</b>   |                              |   |
| Clean Water Act, National Pretreatment Standards  | 40 CFR 403.5                 | General pretreatment regulations for discharge to POTWs – potentially applicable for soil excavation alternatives involving temporary discharges of storm water or perched groundwater to sanitary sewer.   |
| <b>Air:</b>   |                              |   |
| NYSDEC Guidance for Fugitive Dust Suppression and Particulate Monitoring at Inactive Hazardous Waste Sites. | NYSDEC TAGM 4031             | Establishes guidance for community air monitoring and controls to monitor and mitigate fugitive dusts during intrusive activities at NY State inactive hazardous waste sites – applicable to disruptive activities.   |
| OSHA General Industry Air Contaminants Standard   | 29 CFR 1910.1000             | Establishes Permissible Exposure Limits for workers exposed to airborne contaminants. Applicable to disruptive activities.  |
| <b>Solid, Hazardous, and Non-Hazardous Waste:</b>   |                              |   |
| NYSDEC Inactive Hazardous Waste Disposal Sites  | 6NYCRR Part 375              | Establishes procedures for inactive hazardous waste disposal site identification, classification, and investigation activities, as well as remedy selection and interim remedial actions. To be considered.   |
| NY State Solid Waste Transfer Permits   | 6NYCRR Part 364              | Establishes procedures to protect the environment from mishandling and mismanagement of all regulated waste transported from a site of generation to the site of ultimate treatment, storage, or disposal. Potentially applicable for alternatives involving off-site disposal. |
| DOT Rules for Hazardous Materials Transport   | (49 CFR 107, 171.1 - 171.5). | Establishes requirements for shipping of hazardous materials. Potentially applicable for alternatives involving off-site disposal   |
| Occupational Safety and Health Act (29 USC 651 <i>et seq.</i> )   | 29 CFR Part 1910 and 1926    | Describes procedures for maintaining worker safety. Applicable to site construction activities.   |
| NYSDEC Land Disposal Restrictions   | 6NYCRR Part 376              | Identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may be land disposed. Applicable to soil/fill disposal alternatives  |



**TABLE 13**

**SOIL/FILL ALTERNATIVE 2:  
EXCAVATION OF IMPACTED SOIL/FILL TO UNRESTRICTED SCO<sub>s</sub>**

**Remedial Investigation / Alternative Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York**

| Item  | Quantity | Units | Unit Cost    | Total Cost            |
|---|----------|-------|--------------|-----------------------|
| <b><u>Impacted Soil/Fill Removal</u></b>                  |          |       |              |                       |
| Clearing & Grubbing                                       | 149      | Acres | \$ 4,000     | \$ 596,000            |
| Soil/Fill Excavation & Dewatering (to 8 fbs)              | 1923093  | CY    | \$ 8         | \$ 15,384,747         |
| Transportation and Disposal at TSDf                       | 3269259  | TON   | \$ 35        | \$ 114,424,053        |
| Rail Relocation   | 1        | LS    | \$ 2,000,000 | \$ 2,000,000          |
| Verification Sampling                                     | 1        | LS    | \$ 50,000    | \$ 50,000             |
| <b>Subtotal:</b>  |          |       |              | <b>\$ 132,454,800</b> |
| <b><u>Site Restoration</u></b>                            |          |       |              |                       |
| Part 375 <sup>1</sup> Compliant Backfill, Place & Compact | 1802900  | CY    | \$ 15        | \$ 27,043,500         |
| 6" Topsoil  | 120193   | CY    | \$ 20        | \$ 2,403,867          |
| Seeding   | 149      | Acres | \$ 2,500     | \$ 372,500            |
| <b>Subtotal:</b>  |          |       |              | <b>\$ 29,819,867</b>  |
| <b>Subtotal Capital Cost</b>                              |          |       |              | <b>\$ 162,274,667</b> |
| Contractor Mobilization/Demobilization                    |          |       |              | \$ 100,000            |
| Health and Safety/Air Monitoring                          |          |       |              | \$ 150,000            |
| Engineering/Contingency                                   |          |       |              | \$ 16,227,467         |
| <b>Total Capital Cost</b>                                 |          |       |              | <b>\$ 178,752,130</b> |

|   |                       |
|---|-----------------------|
| <b>Total Present Worth (PW): Capital Cost + OM&amp;M PW</b> | <b>\$ 178,752,000</b> |
|---|-----------------------|

**Notes:**

1. Per 6NYCRR 375-6.7(d)(ii)(b)



TABLE 14

SOIL/FILL ALTERNATIVE 3:  
HOTSPOT REMOVAL & PLACEMENT OF A SOIL COVER SYSTEM PRIOR TO REDEVELOPMENT

Remedial Investigation / Alternative Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York

| Item   | Quantity | Units | Unit Cost | Total Cost          |
|--|----------|-------|-----------|---------------------|
| <b>Institutional Controls</b>                                    |          |       |           |                     |
| Develop Site Management Plan, Easement, Survey                   | 1        | LS    | \$ 25,000 | \$ 25,000           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 25,000</b>    |
| <b>Soil Excavation/Offsite Disposal- Hotspot A</b>               |          |       |           |                     |
| Soil/Fill Excavation   | 20       | CY    | \$ 8      | \$ 160              |
| Waste Profile  | 1        | LS    | \$ 3,000  | \$ 3,000            |
| Transport & Offsite Pb Stabilization/Disposal                    | 34       | Tons  | \$ 225    | \$ 7,650            |
| Verification Sampling  | 6        | Ea    | \$ 50     | \$ 300              |
| Slag Backfill (furnish, place, compact)                          | 34       | Tons  | \$ 10     | \$ 340              |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 11,450</b>    |
| <b>Soil Excavation/Offsite Disposal- Hotspot B</b>               |          |       |           |                     |
| Soil/Fill Excavation   | 2500     | CY    | \$ 8      | \$ 20,000           |
| Waste Profile  | 1        | LS    | \$ 3,000  | \$ 3,000            |
| Transport & Offsite Disposal (non-haz)                           | 4250     | Tons  | \$ 40     | \$ 170,000          |
| Verification Sampling  | 20       | Ea    | \$ 100    | \$ 2,000            |
| Slag Backfill (furnish, place, compact)                          | 4250     | Tons  | \$ 10     | \$ 42,500           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 237,500</b>   |
| <b>Soil Excavation/Onsite Biotreatment - Hotspot C</b>           |          |       |           |                     |
| Clearing & Grubbing  | 2        | Acres | \$ 4,000  | \$ 8,000            |
| Onsite Biopad Prep/Mulch   | 2500     | CY    | \$ 11.5   | \$ 28,750           |
| Soil/Fill Excavation & Dewatering <sup>1</sup>                   | 17500    | CY    | \$ 8      | \$ 140,000          |
| Onsite Hauling to/from biopad                                    | 5000     | CY    | \$ 5      | \$ 25,000           |
| Biotilling/fertilizing   | 1500     | Day   | \$ 2      | \$ 3,000            |
| Verification Sampling  | 30       | Ea    | \$ 150    | \$ 4,500            |
| Backfilling w/ uncompacted & treated Soil                        | 17500    | CY    | \$ 4      | \$ 70,000           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 279,250</b>   |
| <b>Soil Excavation/Onsite Biotreatment - Hotspot D</b>           |          |       |           |                     |
| Soil/Fill Excavation & Dewatering <sup>1</sup>                   | 25       | CY    | \$ 8      | \$ 200              |
| Onsite Hauling to/from biopad                                    | 25       | CY    | \$ 5      | \$ 125              |
| Biotilling/fertilizing   | 90       | Day   | \$ 2      | \$ 180              |
| Verification Sampling  | 6        | Ea    | \$ 50     | \$ 300              |
| Slag Backfill (furnish, place, compact)                          | 43       | Tons  | \$ 10     | \$ 425              |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 1,230</b>     |
| <b>Soil Cover System</b>   |          |       |           |                     |
| Clearing & Grubbing  | 149      | Acres | \$ 4,000  | \$ 596,000          |
| 6" Part 375 <sup>2</sup> Compliant Cover, Place & Compact        | 120193   | CY    | \$ 15     | \$ 1,802,900        |
| 6" Topsoil   | 120193   | CY    | \$ 20     | \$ 2,403,867        |
| Seeding  | 149      | Acres | \$ 2,500  | \$ 372,500          |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 5,175,267</b> |
| <b>Subtotal Remedial Cost</b>                                    |          |       |           |                     |
| Contractor Mobilization/Demobilization (5%)                      |          |       |           | \$ 286,485          |
| Health and Safety (2%)   |          |       |           | \$ 114,594          |
| Engineering/Contingency  |          |       |           | \$ 150,000          |
| <b>Total Capital Remediation Cost</b>                            |          |       |           | <b>\$ 6,280,775</b> |
| <b>Environmental-Based Redevelopment Costs</b>                   |          |       |           |                     |
| Clear/Remove & Transport Existing Cover Soil <sup>3</sup>        | 192309   | CY    | \$ 5      | \$ 961,547          |
| Off-site Transportation and Staging Offsite                      | 192309   | CY    | \$ 10     | \$ 1,923,093        |
| Air Monitoring during Intrusive Work                             | 1        | LS    | \$ 15,000 | \$ 15,000           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 2,899,640</b> |
| <b>TOTAL CAPITAL COSTS</b>                                       |          |       |           | <b>\$ 9,180,415</b> |
| <b>Annual Operation Maintenance &amp; Monitoring (OM&amp;M):</b> |          |       |           |                     |
| Site Maintenance and Mowing                                      | 2        | Yr    | \$ 9,000  | \$ 18,000           |
| Groundwater Sampling / Reporting                                 | 2        | Yr    | \$ 7,500  | \$ 15,000           |
| Annual Certification   | 1        | Yr    | \$ 3,000  | \$ 3,000            |
| <b>Total Annual OM&amp;M Cost</b>                                |          |       |           | <b>\$ 36,000</b>    |
| Number of Years ( n ):   |          |       |           | 30                  |
| Interest Rate ( i ):   |          |       |           | 3%                  |
| p/A value:   |          |       |           | 19.6004             |
| <b>OM&amp;M Present Worth (PW):</b>                              |          |       |           | <b>\$ 705,614</b>   |
| <b>Total Present Worth (PW): Capital Cost + OM&amp;M PW</b>      |          |       |           | <b>\$ 9,886,000</b> |

Notes:

- Includes 5-feet of overlying soil/fill at Hotspot "A"
- Per 6NYCRR 375-6.7(d)(ii)(b)
- Assumes 20% of vegetated cover remains in place



TABLE 15

**SOIL/FILL ALTERNATIVE 4:  
HOTSPOT REMOVAL & DEFERRED SOIL COVER SYSTEM DURING REDEVELOPMENT**

**Remedial Investigation / Alternative Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York**

| Item   | Quantity | Units | Unit Cost | Total Cost          |
|--|----------|-------|-----------|---------------------|
| <b>Institutional Controls</b>                                    |          |       |           |                     |
| Develop Site Management Plan, Easement, Survey                   | 1        | LS    | \$ 25,000 | \$ 25,000           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 25,000</b>    |
| <b>Soil Excavation/Offsite Disposal- Hotspot A</b>               |          |       |           |                     |
| Soil/Fill Excavation   | 20       | CY    | \$ 8      | \$ 160              |
| Waste Profile  | 1        | LS    | \$ 3,000  | \$ 3,000            |
| Transport & Offsite Pb Stabilization/Disposal                    | 34       | Tons  | \$ 225    | \$ 7,650            |
| Verification Sampling  | 6        | Ea    | \$ 50     | \$ 300              |
| Slag Backfill (furnish, place, compact)                          | 34       | Tons  | \$ 10     | \$ 340              |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 11,450</b>    |
| <b>Soil Excavation/Offsite Disposal- Hotspot B</b>               |          |       |           |                     |
| Soil/Fill Excavation   | 2500     | CY    | \$ 8      | \$ 20,000           |
| Waste Profile  | 1        | LS    | \$ 3,000  | \$ 3,000            |
| Transport & Offsite Disposal (non-haz)                           | 4250     | Tons  | \$ 40     | \$ 170,000          |
| Verification Sampling  | 20       | Ea    | \$ 100    | \$ 2,000            |
| Slag Backfill (furnish, place, compact)                          | 4250     | Tons  | \$ 10     | \$ 42,500           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 237,500</b>   |
| <b>Soil Excavation/Onsite Biotreatment - Hotspot C</b>           |          |       |           |                     |
| Clearing & Grubbing  | 2        | Acres | \$ 4,000  | \$ 8,000            |
| Onsite Biopad Prep/Mulch   | 2500     | CY    | 11.5      | \$ 28,750           |
| Soil/Fill Excavation & Dewatering <sup>1</sup>                   | 17500    | CY    | \$ 8      | \$ 140,000          |
| Onsite Hauling to/from biopad                                    | 5000     | CY    | \$ 5      | \$ 25,000           |
| Biotilling/fertilizing   | 1500     | Day   | \$ 2      | \$ 3,000            |
| Verification Sampling  | 30       | Ea    | \$ 150    | \$ 4,500            |
| Backfilling w/ umimpacted & treated Soil                         | 17500    | CY    | \$ 4      | \$ 70,000           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 279,250</b>   |
| <b>Soil Excavation/Onsite Biotreatment - Hotspot D</b>           |          |       |           |                     |
| Soil/Fill Excavation & Dewatering <sup>1</sup>                   | 25       | CY    | \$ 8      | \$ 200              |
| Onsite Hauling to/from biopad                                    | 25       | CY    | \$ 5      | \$ 125              |
| Biotilling/fertilizing   | 90       | Day   | \$ 2      | \$ 180              |
| Verification Sampling  | 6        | Ea    | \$ 50     | \$ 300              |
| Slag Backfill (furnish, place, compact)                          | 43       | Tons  | \$ 10     | \$ 425              |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 1,230</b>     |
| <b>Soil Cover System<sup>1</sup></b>                             |          |       |           |                     |
| Clearing & Grubbing  | 149      | Acres | \$ 4,000  | \$ 596,000          |
| 6" Part 375 <sup>2</sup> Compliant Cover, Place & Compact        | 24039    | CY    | \$ 15     | \$ 360,580          |
| 6" Topsoil   | 24039    | CY    | \$ 20     | \$ 480,773          |
| Seeding  | 30       | Acres | \$ 2,500  | \$ 74,500           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 1,511,853</b> |
| <b>Subtotal Remedial Cost</b>                                    |          |       |           |                     |
| Contractor Mobilization/Demobilization (5%)                      |          |       |           | \$ 103,314          |
| Health and Safety (2%)   |          |       |           | \$ 41,326           |
| Engineering/Contingency  |          |       |           | \$ 150,000          |
| <b>Total Capital Remediation Cost</b>                            |          |       |           | <b>\$ 2,360,923</b> |
| <b>Environmental-Based Redevelopment Costs</b>                   |          |       |           |                     |
| Air Monitoring during Intrusive Work                             | 1        | LS    | \$ 15,000 | \$ 15,000           |
| <b>Subtotal:</b>   |          |       |           | <b>\$ 15,000</b>    |
| <b>TOTAL CAPITAL COSTS</b>                                       |          |       |           | <b>\$ 2,375,923</b> |
| <b>Annual Operation Maintenance &amp; Monitoring (OM&amp;M):</b> |          |       |           |                     |
| Site Maintenance and Mowing                                      | 2        | Yr    | \$ 9,000  | \$ 18,000           |
| Groundwater Sampling / Reporting                                 | 2        | Yr    | \$ 7,500  | \$ 15,000           |
| Annual Certification   | 1        | Yr    | \$ 3,000  | \$ 3,000            |
| <b>Total Annual OM&amp;M Cost</b>                                |          |       |           | <b>\$ 36,000</b>    |
| Number of Years ( n ):   |          |       |           | 30                  |
| Interest Rate ( i ):   |          |       |           | 3%                  |
| p/A value:   |          |       |           | 19.6004             |
| <b>OM&amp;M Present Worth (PW):</b>                              |          |       |           | <b>\$ 705,614</b>   |
| <b>Total Present Worth (PW): Capital Cost + OM&amp;M PW</b>      |          |       |           | <b>\$ 3,081,538</b> |

Notes:  
 1. Assumed to cover 20% of the Site (remainder covered by building, pavement, etc.)  
 2. Per 6NYCRR 375-6.7(d)(ii)(b)



**TABLE 16**

**ASBESTOS WASTE ALTERNATIVE 1:  
ASBESTOS EXCAVATION WITH OFF-SITE DISPOSAL**

**Remedial Investigation / Alternative Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York**

| Item  | Quantity | Units | Unit Cost | Total Cost          |
|---|----------|-------|-----------|---------------------|
| <b><u>Excavation and Disposal of Asbestos Waste</u></b>                 |          |       |           |                     |
| Permits   | 1        | LS    | \$ 3,000  | \$ 3,000            |
| Excavate, Size-Reduce & Wet Asbestos Waste <sup>1</sup>                 | 50       | Day   | \$ 4,000  | \$ 200,000          |
| Transportation and Disposal at TSDF                                     | 9000     | Ton   | \$ 100    | \$ 900,000          |
| Third Party Asbestos Air Monitoring                                     | 50       | Day   | \$ 800    | \$ 40,000           |
| <b>Subtotal:</b>  |          |       |           | <b>\$ 1,143,000</b> |
| <b><u>Restoration</u></b>   |          |       |           |                     |
| Slag Backfill (furnish, place, compact) <sup>2</sup>                    | 15000    | Ton   | \$ 10     | \$ 150,000          |
| <b>Subtotal:</b>  |          |       |           | <b>\$ 150,000</b>   |
| <b>Subtotal Capital Cost</b>  |          |       |           | <b>\$ 1,293,000</b> |
| Contractor Mobilization/Demobilization (5%)                             |          |       |           | \$ 64,650           |
| Health and Safety (5%)  |          |       |           | \$ 64,650           |
| Engineering/Contingency (10%)   |          |       |           | \$ 129,300          |
| <b>Total Capital Cost</b>   |          |       |           | <b>\$ 1,551,600</b> |
| <b>Total Present Worth (PW): Capital Cost + OM&amp;M PW<sup>3</sup></b> |          |       |           | <b>\$ 1,552,000</b> |

**Notes:**

1. Assumes bulkier debris, 1.2 ton per CY
2. Assumes 2 ton per CY
3. Assumes OM&M remains with soil/fill alternatives



**TABLE 17**

**ASBESTOS WASTE ALTERNATIVE 2:  
RESTRICTED USE WITH NO FURTHER DEVELOPMENT**

**Remedial Investigation / Alternative Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York**

| <b>Item</b>   | <b>Quantity</b> | <b>Units</b> | <b>Unit Cost</b> | <b>Total Cost</b> |
|---|-----------------|--------------|------------------|-------------------|
| <b><u>Institutional Controls</u></b>                |                 |              |                  |                   |
| Prepare Foundation Metes & Bounds Survey            | 1               | LS           | \$ 4,000         | \$ 4,000          |
| Prepare Location-Specific Restrictions for Easement | 1               | LS           | \$ 1,000         | \$ 1,000          |
| <b>Subtotal:</b>                                    |                 |              |                  | <b>\$ 5,000</b>   |
| <b>Subtotal Capital Cost</b>                        |                 |              |                  | <b>\$ 5,000</b>   |
| Engineering/Contingency (10%)                       |                 |              |                  | \$ 500            |
| <b>Total Capital Cost</b>                           |                 |              |                  | <b>\$ 5,500</b>   |

|   |  |  |  |                 |
|---|--|--|--|-----------------|
| <b>Total Present Worth (PW): Capital Cost + OM&amp;M PW<sup>1</sup></b> |  |  |  | <b>\$ 6,000</b> |
|---|--|--|--|-----------------|

**Notes:**

1. Assumes OM&M remains with Soil/Fill Alternatives



**TABLE 18**

**ASBESTOS WASTE ALTERNATIVE 3:  
RESTRICTED USE AS ON-SITE SOIL/FILL BIOTREATMENT PAD**

**Remedial Investigation / Alternative Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York**

| Item  | Quantity | Units | Unit Cost | Total Cost       |
|---|----------|-------|-----------|------------------|
| <b><u>Institutional Controls</u></b>                |          |       |           |                  |
| Prepare Foundation Metes & Bounds Survey            | 1        | LS    | \$ 4,000  | \$ 4,000         |
| Prepare Location-Specific Restrictions for Easement | 1        | LS    | \$ 1,000  | \$ 1,000         |
| <b>Subtotal:</b>                                    |          |       |           | <b>\$ 5,000</b>  |
| <b><u>Biotreatment Area Construction</u></b>        |          |       |           |                  |
| Subgrade Preparation (clearing/ filling gaps, etc)  | 1        | LS    | \$ 2,500  | \$ 2,500         |
| 1' Wood Chips or Sand, Delivered and Placed         | 389      | CY    | \$ 20     | \$ 7,778         |
| Fencing, Installed with double gate & signs         | 1440     | LF    | \$ 25     | \$ 36,000        |
| <b>Subtotal:</b>                                    |          |       |           | <b>\$ 46,278</b> |
| <b>Subtotal Capital Cost</b>                        |          |       |           | <b>\$ 51,278</b> |
| Contractor Mobilization/Demobilization (5%)         |          |       |           | \$ 2,564         |
| Health and Safety/Air Monitoring (2%)               |          |       |           | \$ 1,026         |
| Engineering/Contingency (10%)                       |          |       |           | \$ 5,128         |
| <b>Total Capital Cost</b>                           |          |       |           | <b>\$ 60,000</b> |

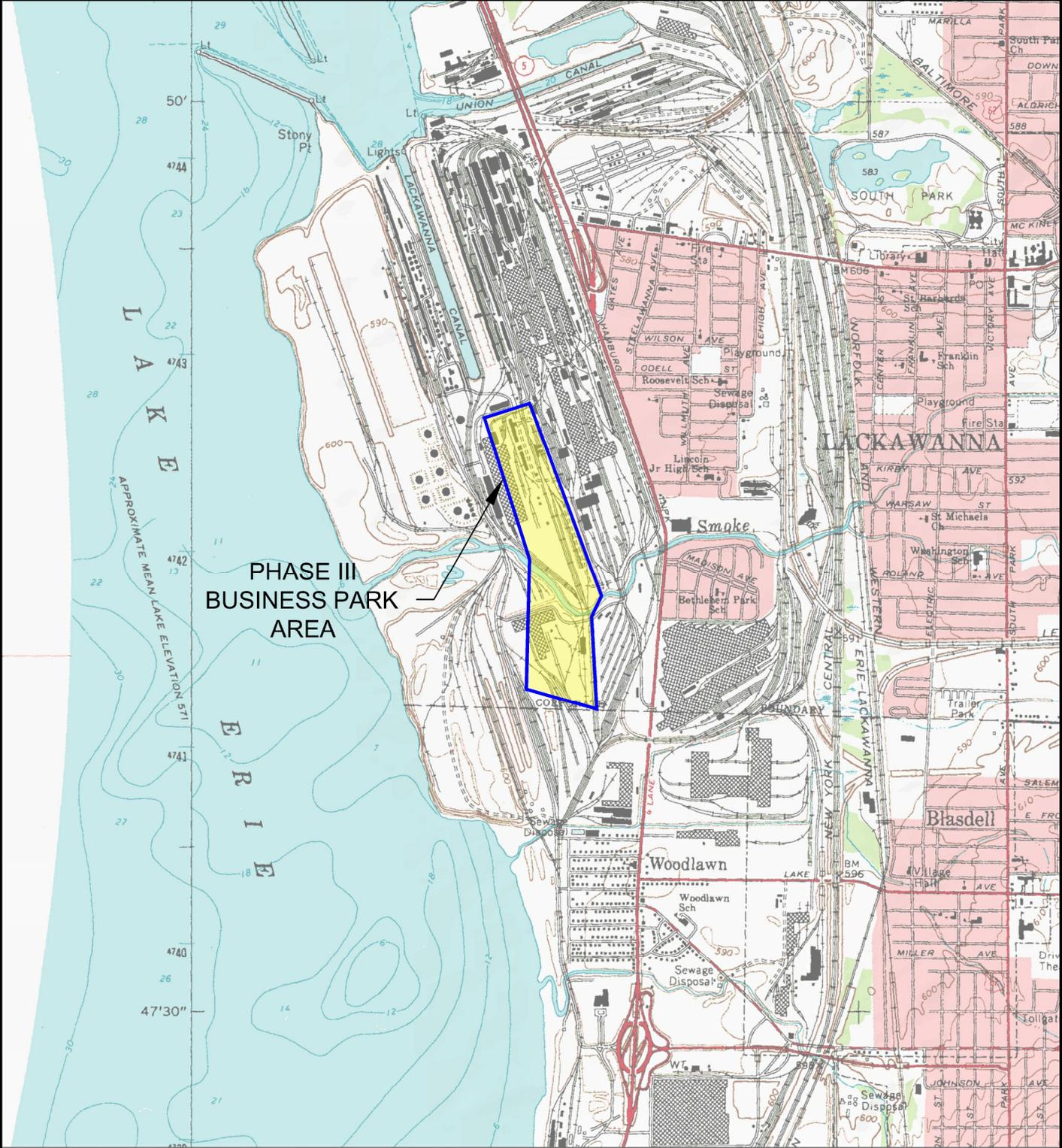
|   |                  |
|---|------------------|
| <b>Total Present Worth (PW): Capital Cost + OM&amp;M PW<sup>1</sup></b> | <b>\$ 60,000</b> |
|---|------------------|

**Notes:**

1. Assumes OM&M remains with Soil/Fill Alternatives

# FIGURES

FIGURE 1



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2558 HAMBURG TURNPIKE  
SUITE 300  
BUFFALO, NY 14218  
(716) 856-0635

**SITE LOCATION & VICINITY MAP**  
R/AA REPORT

PHASE III BUSINESS PARK AREA  
LACKAWANNA, NEW YORK

PREPARED FOR  
TECUMSEH REDEVELOPMENT, INC.

|                           |
|---------------------------|
| PROJECT NO.: 0071-009-320 |
| DATE: SEPTEMBER 2011      |
| DRAFTED BY: JCT           |



**STEEL WINDS I**  
BCP SITE NO. C915205  
(8 existing BCP turbines)  
± 29.01 ACRES

**PHASE IA BPA**  
BCP SITE NO. C915218  
± 9.81 ACRES

**PHASE III BPA**  
BCP SITE NO. C915199  
± 148.81 ACRES

**PHASE I BPA**  
BCP SITE NO. C915197  
± 101.85 ACRES

**PHASE II BPA**  
BCP SITE NO. C915198  
± 144.11 ACRES

- LEGEND:**
- TECUMSEH PROPERTY BOUNDARY
  - EXISTING BUILDING / STRUCTURE
  - RAILROAD TRACK
  - APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ASSESSMENT
  - APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES NO FURTHER ACTION
  - CMS SITE BOUNDARY
  - BROWNFIELD CLEANUP PROGRAM AREAS
  - APPROXIMATE BOUNDARY OF SWMU
  - EXISTING STEEL WINDS I FACILITY WIND TURBINE (WT)

SCALE: 1 INCH = 500 FEET  
SCALE IN FEET  
(approximate)

| SWMU ID | UNIT DESCRIPTION                               | SWMU ID | UNIT DESCRIPTION   |
|---------|--|---------|--|
| P-01    | Quench Water PB, Wash Station                  | S-01    | Surface Impoundment A                                      |
| P-02    | Quench Water PB, Wash Station                  | S-02    | Surface Impoundment B                                      |
| P-03    | Quench Water PB, Wash Station                  | S-03    | Surface Impoundment C (In-process Waste Management Unit 2) |
| P-04    | Quench Water PB, Wash Station                  | S-04    | Surface Impoundment D                                      |
| P-05    | Quench Water PB, Wash Station                  | S-05    | Surface Impoundment E                                      |
| P-06    | Line Storage Tank/Storage Area                 | S-06    | Surface Impoundment F                                      |
| P-07    | Abandoned Line Storage Tank/Storage Area       | S-07    | Surface Impoundment G                                      |
| P-08    | Waste Oil Storage Tank (in Tank Farm)          | S-08    | Surface Impoundment H (not used)                           |
| P-09    | Abandoned Tank Storage Area                    | S-09    | Waste Pond   |
| P-10    | Controlled Solid Area Near Hot Mill            | S-10    | Sludge Storage Area 1                                      |
| P-11    | Controlled Solid Storage Area                  | S-11    | Sludge Storage Area 2                                      |
| P-12    | Sludge Storage Area                            | S-12    | Sludge Storage Area 3                                      |
| P-13    | Blow Forward Ash Primary Tank                  | S-13    | Coal Tar Sludge (In-process Waste Management Unit 1)       |
| P-14    | Blow Forward Oil Primary Tank                  | S-14    | General Public Landfill                                    |
| P-15    | Blow Forward Fuel Primary Tank                 | S-15    | General Public Landfill                                    |
| P-16    | Blow Forward Oil Primary Tank                  | S-16    | Sludge Storage Area (Adjacent to SWMU S-04)                |
| P-17    | Blow Forward Fuel Primary Tank                 | S-17    | Vacuum Carbonates (In-process Waste Management Unit 1)     |
| P-18    | Blow Forward Sludge Tank and Hot Oil Catchment | S-18    | Line Area and Hot Oil Catchment                            |
| P-19    | Blow Forward Tank                              | S-19    | Moisture Material Landfill                                 |
| P-20    | Blow Forward Tank                              | S-20    | Drilling Area for Sludge from Impoundment F                |
| P-21    | Blow Forward Tank                              | S-21    | Sludge Storage Area  |
| P-22    | Blow Forward Tank                              | S-22    | Sludge Storage Area  |
| P-23    | Blow Forward Tank                              | S-23    | Sludge Storage Area  |
| P-24    | Blow Forward Tank                              | S-24    | Sludge Storage Area  |
| P-25    | Blow Forward Tank                              | S-25    | Sludge Storage Area  |
| P-26    | Blow Forward Tank                              | S-26    | Sludge Storage Area  |
| P-27    | Blow Forward Tank                              | S-27    | Sludge Storage Area  |
| P-28    | Blow Forward Tank                              | S-28    | Sludge Storage Area  |
| P-29    | Blow Forward Tank                              | S-29    | Sludge Storage Area  |
| P-30    | Blow Forward Tank                              | S-30    | Sludge Storage Area  |
| P-31    | Blow Forward Tank                              | S-31    | Sludge Storage Area  |
| P-32    | Blow Forward Tank                              | S-32    | Sludge Storage Area  |
| P-33    | Blow Forward Tank                              | S-33    | Sludge Storage Area  |
| P-34    | Blow Forward Tank                              | S-34    | Sludge Storage Area  |
| P-35    | Blow Forward Tank                              | S-35    | Sludge Storage Area  |
| P-36    | Blow Forward Tank                              | S-36    | Sludge Storage Area  |
| P-37    | Blow Forward Tank                              | S-37    | Sludge Storage Area  |
| P-38    | Blow Forward Tank                              | S-38    | Sludge Storage Area  |
| P-39    | Blow Forward Tank                              | S-39    | Sludge Storage Area  |
| P-40    | Blow Forward Tank                              | S-40    | Sludge Storage Area  |
| P-41    | Blow Forward Tank                              | S-41    | Sludge Storage Area  |
| P-42    | Blow Forward Tank                              | S-42    | Sludge Storage Area  |
| P-43    | Blow Forward Tank                              | S-43    | Sludge Storage Area  |
| P-44    | Blow Forward Tank                              | S-44    | Sludge Storage Area  |
| P-45    | Blow Forward Tank                              | S-45    | Sludge Storage Area  |
| P-46    | Blow Forward Tank                              | S-46    | Sludge Storage Area  |
| P-47    | Blow Forward Tank                              | S-47    | Sludge Storage Area  |
| P-48    | Blow Forward Tank                              | S-48    | Sludge Storage Area  |
| P-49    | Blow Forward Tank                              | S-49    | Sludge Storage Area  |
| P-50    | Blow Forward Tank                              | S-50    | Sludge Storage Area  |
| P-51    | Blow Forward Tank                              | S-51    | Sludge Storage Area  |
| P-52    | Blow Forward Tank                              | S-52    | Sludge Storage Area  |
| P-53    | Blow Forward Tank                              | S-53    | Sludge Storage Area  |
| P-54    | Blow Forward Tank                              | S-54    | Sludge Storage Area  |
| P-55    | Blow Forward Tank                              | S-55    | Sludge Storage Area  |
| P-56    | Blow Forward Tank                              | S-56    | Sludge Storage Area  |
| P-57    | Blow Forward Tank                              | S-57    | Sludge Storage Area  |
| P-58    | Blow Forward Tank                              | S-58    | Sludge Storage Area  |
| P-59    | Blow Forward Tank                              | S-59    | Sludge Storage Area  |
| P-60    | Blow Forward Tank                              | S-60    | Sludge Storage Area  |
| P-61    | Blow Forward Tank                              | S-61    | Sludge Storage Area  |
| P-62    | Blow Forward Tank                              | S-62    | Sludge Storage Area  |
| P-63    | Blow Forward Tank                              | S-63    | Sludge Storage Area  |
| P-64    | Blow Forward Tank                              | S-64    | Sludge Storage Area  |
| P-65    | Blow Forward Tank                              | S-65    | Sludge Storage Area  |
| P-66    | Blow Forward Tank                              | S-66    | Sludge Storage Area  |
| P-67    | Blow Forward Tank                              | S-67    | Sludge Storage Area  |
| P-68    | Blow Forward Tank                              | S-68    | Sludge Storage Area  |
| P-69    | Blow Forward Tank                              | S-69    | Sludge Storage Area  |
| P-70    | Blow Forward Tank                              | S-70    | Sludge Storage Area  |
| P-71    | Blow Forward Tank                              | S-71    | Sludge Storage Area  |
| P-72    | Blow Forward Tank                              | S-72    | Sludge Storage Area  |
| P-73    | Blow Forward Tank                              | S-73    | Sludge Storage Area  |
| P-74    | Blow Forward Tank                              | S-74    | Sludge Storage Area  |
| P-75    | Blow Forward Tank                              | S-75    | Sludge Storage Area  |
| P-76    | Blow Forward Tank                              | S-76    | Sludge Storage Area  |
| P-77    | Blow Forward Tank                              | S-77    | Sludge Storage Area  |
| P-78    | Blow Forward Tank                              | S-78    | Sludge Storage Area  |
| P-79    | Blow Forward Tank                              | S-79    | Sludge Storage Area  |
| P-80    | Blow Forward Tank                              | S-80    | Sludge Storage Area  |
| P-81    | Blow Forward Tank                              | S-81    | Sludge Storage Area  |
| P-82    | Blow Forward Tank                              | S-82    | Sludge Storage Area  |
| P-83    | Blow Forward Tank                              | S-83    | Sludge Storage Area  |
| P-84    | Blow Forward Tank                              | S-84    | Sludge Storage Area  |
| P-85    | Blow Forward Tank                              | S-85    | Sludge Storage Area  |
| P-86    | Blow Forward Tank                              | S-86    | Sludge Storage Area  |
| P-87    | Blow Forward Tank                              | S-87    | Sludge Storage Area  |
| P-88    | Blow Forward Tank                              | S-88    | Sludge Storage Area  |
| P-89    | Blow Forward Tank                              | S-89    | Sludge Storage Area  |
| P-90    | Blow Forward Tank                              | S-90    | Sludge Storage Area  |
| P-91    | Blow Forward Tank                              | S-91    | Sludge Storage Area  |
| P-92    | Blow Forward Tank                              | S-92    | Sludge Storage Area  |
| P-93    | Blow Forward Tank                              | S-93    | Sludge Storage Area  |
| P-94    | Blow Forward Tank                              | S-94    | Sludge Storage Area  |
| P-95    | Blow Forward Tank                              | S-95    | Sludge Storage Area  |
| P-96    | Blow Forward Tank                              | S-96    | Sludge Storage Area  |
| P-97    | Blow Forward Tank                              | S-97    | Sludge Storage Area  |
| P-98    | Blow Forward Tank                              | S-98    | Sludge Storage Area  |
| P-99    | Blow Forward Tank                              | S-99    | Sludge Storage Area  |
| P-100   | Blow Forward Tank                              | S-100   | Sludge Storage Area  |

255B HAMBURG TURNPIKE  
BUFFALO, NY 14218  
(716) 856-0635  
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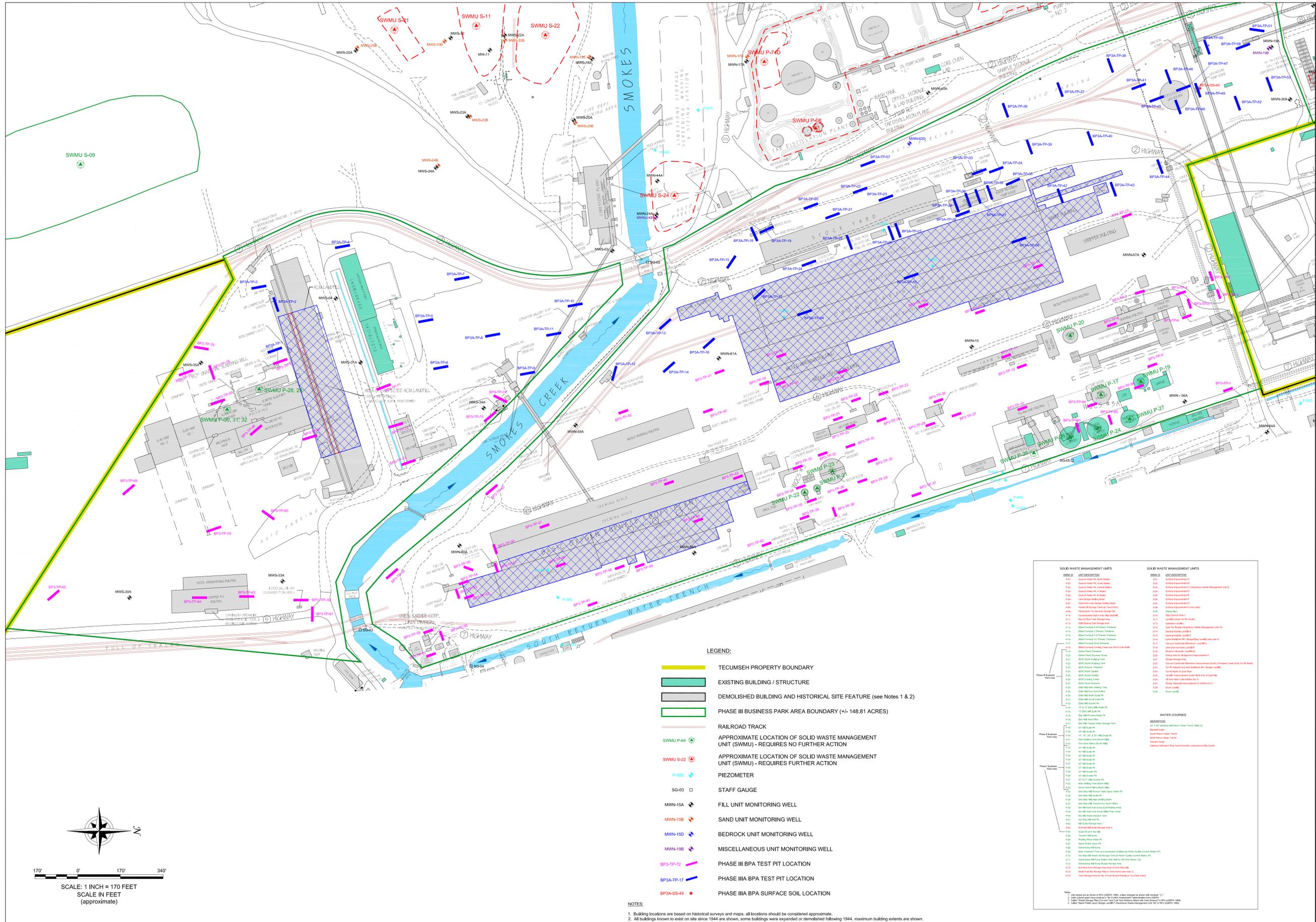
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DRAWN BY: BCH  
DATE: SEPTEMBER 2010  
CHECKED BY:  
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**SITE PLAN**  
REMEDIAL INVESTIGATION / ALTERNATIVES ANALYSIS REPORT  
PHASE III BUSINESS PARK AREA  
LACKAWANNA, NEW YORK

PREPARED FOR:  
TECUMSEH REDEVELOPMENT INC.

**FIGURE 2**



- LEGEND:**
- TECUMSEH PROPERTY BOUNDARY
  - EXISTING BUILDING / STRUCTURE
  - DEMOLISHED BUILDING AND HISTORICAL SITE FEATURE (see Notes 1 & 2)
  - PHASE III BUSINESS PARK AREA BOUNDARY (+/- 148.81 ACRES)
  - RAILROAD TRACK
  - APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES NO FURTHER ACTION
  - APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ACTION
  - P-SMS + PIEZOMETER
  - SG-03 □ STAFF GAUGE
  - MWN-15A + FILL UNIT MONITORING WELL
  - MWN-15B + SAND UNIT MONITORING WELL
  - MWN-15D + BEDROCK UNIT MONITORING WELL
  - MWN-19B + MISCELLANEOUS UNIT MONITORING WELL
  - BPS3-TP-72 + PHASE IIIA BPA TEST PIT LOCATION
  - BPS3A-SS-49 + PHASE IIIA BPA SURFACE SOIL LOCATION

**NOTES:**  
 1. Building locations are based on historical surveys and maps, all locations should be considered approximate.  
 2. All buildings known to exist on site since 1944 are shown, some buildings were expanded or demolished following 1944, maximum building extents are shown.

| SWMU USE ORIGINATOR                  | SWMU USE ORIGINATOR       |
|--------------------------------------|---------------------------|
| 7-01 On-site Waste Transfer Station  | 8-01 Surface Impoundment  |
| 7-02 On-site Waste Transfer Station  | 8-02 Surface Impoundment  |
| 7-03 On-site Waste Transfer Station  | 8-03 Surface Impoundment  |
| 7-04 On-site Waste Transfer Station  | 8-04 Surface Impoundment  |
| 7-05 On-site Waste Transfer Station  | 8-05 Surface Impoundment  |
| 7-06 On-site Waste Transfer Station  | 8-06 Surface Impoundment  |
| 7-07 On-site Waste Transfer Station  | 8-07 Surface Impoundment  |
| 7-08 On-site Waste Transfer Station  | 8-08 Surface Impoundment  |
| 7-09 On-site Waste Transfer Station  | 8-09 Surface Impoundment  |
| 7-10 On-site Waste Transfer Station  | 8-10 Surface Impoundment  |
| 7-11 On-site Waste Transfer Station  | 8-11 Surface Impoundment  |
| 7-12 On-site Waste Transfer Station  | 8-12 Surface Impoundment  |
| 7-13 On-site Waste Transfer Station  | 8-13 Surface Impoundment  |
| 7-14 On-site Waste Transfer Station  | 8-14 Surface Impoundment  |
| 7-15 On-site Waste Transfer Station  | 8-15 Surface Impoundment  |
| 7-16 On-site Waste Transfer Station  | 8-16 Surface Impoundment  |
| 7-17 On-site Waste Transfer Station  | 8-17 Surface Impoundment  |
| 7-18 On-site Waste Transfer Station  | 8-18 Surface Impoundment  |
| 7-19 On-site Waste Transfer Station  | 8-19 Surface Impoundment  |
| 7-20 On-site Waste Transfer Station  | 8-20 Surface Impoundment  |
| 7-21 On-site Waste Transfer Station  | 8-21 Surface Impoundment  |
| 7-22 On-site Waste Transfer Station  | 8-22 Surface Impoundment  |
| 7-23 On-site Waste Transfer Station  | 8-23 Surface Impoundment  |
| 7-24 On-site Waste Transfer Station  | 8-24 Surface Impoundment  |
| 7-25 On-site Waste Transfer Station  | 8-25 Surface Impoundment  |
| 7-26 On-site Waste Transfer Station  | 8-26 Surface Impoundment  |
| 7-27 On-site Waste Transfer Station  | 8-27 Surface Impoundment  |
| 7-28 On-site Waste Transfer Station  | 8-28 Surface Impoundment  |
| 7-29 On-site Waste Transfer Station  | 8-29 Surface Impoundment  |
| 7-30 On-site Waste Transfer Station  | 8-30 Surface Impoundment  |
| 7-31 On-site Waste Transfer Station  | 8-31 Surface Impoundment  |
| 7-32 On-site Waste Transfer Station  | 8-32 Surface Impoundment  |
| 7-33 On-site Waste Transfer Station  | 8-33 Surface Impoundment  |
| 7-34 On-site Waste Transfer Station  | 8-34 Surface Impoundment  |
| 7-35 On-site Waste Transfer Station  | 8-35 Surface Impoundment  |
| 7-36 On-site Waste Transfer Station  | 8-36 Surface Impoundment  |
| 7-37 On-site Waste Transfer Station  | 8-37 Surface Impoundment  |
| 7-38 On-site Waste Transfer Station  | 8-38 Surface Impoundment  |
| 7-39 On-site Waste Transfer Station  | 8-39 Surface Impoundment  |
| 7-40 On-site Waste Transfer Station  | 8-40 Surface Impoundment  |
| 7-41 On-site Waste Transfer Station  | 8-41 Surface Impoundment  |
| 7-42 On-site Waste Transfer Station  | 8-42 Surface Impoundment  |
| 7-43 On-site Waste Transfer Station  | 8-43 Surface Impoundment  |
| 7-44 On-site Waste Transfer Station  | 8-44 Surface Impoundment  |
| 7-45 On-site Waste Transfer Station  | 8-45 Surface Impoundment  |
| 7-46 On-site Waste Transfer Station  | 8-46 Surface Impoundment  |
| 7-47 On-site Waste Transfer Station  | 8-47 Surface Impoundment  |
| 7-48 On-site Waste Transfer Station  | 8-48 Surface Impoundment  |
| 7-49 On-site Waste Transfer Station  | 8-49 Surface Impoundment  |
| 7-50 On-site Waste Transfer Station  | 8-50 Surface Impoundment  |
| 7-51 On-site Waste Transfer Station  | 8-51 Surface Impoundment  |
| 7-52 On-site Waste Transfer Station  | 8-52 Surface Impoundment  |
| 7-53 On-site Waste Transfer Station  | 8-53 Surface Impoundment  |
| 7-54 On-site Waste Transfer Station  | 8-54 Surface Impoundment  |
| 7-55 On-site Waste Transfer Station  | 8-55 Surface Impoundment  |
| 7-56 On-site Waste Transfer Station  | 8-56 Surface Impoundment  |
| 7-57 On-site Waste Transfer Station  | 8-57 Surface Impoundment  |
| 7-58 On-site Waste Transfer Station  | 8-58 Surface Impoundment  |
| 7-59 On-site Waste Transfer Station  | 8-59 Surface Impoundment  |
| 7-60 On-site Waste Transfer Station  | 8-60 Surface Impoundment  |
| 7-61 On-site Waste Transfer Station  | 8-61 Surface Impoundment  |
| 7-62 On-site Waste Transfer Station  | 8-62 Surface Impoundment  |
| 7-63 On-site Waste Transfer Station  | 8-63 Surface Impoundment  |
| 7-64 On-site Waste Transfer Station  | 8-64 Surface Impoundment  |
| 7-65 On-site Waste Transfer Station  | 8-65 Surface Impoundment  |
| 7-66 On-site Waste Transfer Station  | 8-66 Surface Impoundment  |
| 7-67 On-site Waste Transfer Station  | 8-67 Surface Impoundment  |
| 7-68 On-site Waste Transfer Station  | 8-68 Surface Impoundment  |
| 7-69 On-site Waste Transfer Station  | 8-69 Surface Impoundment  |
| 7-70 On-site Waste Transfer Station  | 8-70 Surface Impoundment  |
| 7-71 On-site Waste Transfer Station  | 8-71 Surface Impoundment  |
| 7-72 On-site Waste Transfer Station  | 8-72 Surface Impoundment  |
| 7-73 On-site Waste Transfer Station  | 8-73 Surface Impoundment  |
| 7-74 On-site Waste Transfer Station  | 8-74 Surface Impoundment  |
| 7-75 On-site Waste Transfer Station  | 8-75 Surface Impoundment  |
| 7-76 On-site Waste Transfer Station  | 8-76 Surface Impoundment  |
| 7-77 On-site Waste Transfer Station  | 8-77 Surface Impoundment  |
| 7-78 On-site Waste Transfer Station  | 8-78 Surface Impoundment  |
| 7-79 On-site Waste Transfer Station  | 8-79 Surface Impoundment  |
| 7-80 On-site Waste Transfer Station  | 8-80 Surface Impoundment  |
| 7-81 On-site Waste Transfer Station  | 8-81 Surface Impoundment  |
| 7-82 On-site Waste Transfer Station  | 8-82 Surface Impoundment  |
| 7-83 On-site Waste Transfer Station  | 8-83 Surface Impoundment  |
| 7-84 On-site Waste Transfer Station  | 8-84 Surface Impoundment  |
| 7-85 On-site Waste Transfer Station  | 8-85 Surface Impoundment  |
| 7-86 On-site Waste Transfer Station  | 8-86 Surface Impoundment  |
| 7-87 On-site Waste Transfer Station  | 8-87 Surface Impoundment  |
| 7-88 On-site Waste Transfer Station  | 8-88 Surface Impoundment  |
| 7-89 On-site Waste Transfer Station  | 8-89 Surface Impoundment  |
| 7-90 On-site Waste Transfer Station  | 8-90 Surface Impoundment  |
| 7-91 On-site Waste Transfer Station  | 8-91 Surface Impoundment  |
| 7-92 On-site Waste Transfer Station  | 8-92 Surface Impoundment  |
| 7-93 On-site Waste Transfer Station  | 8-93 Surface Impoundment  |
| 7-94 On-site Waste Transfer Station  | 8-94 Surface Impoundment  |
| 7-95 On-site Waste Transfer Station  | 8-95 Surface Impoundment  |
| 7-96 On-site Waste Transfer Station  | 8-96 Surface Impoundment  |
| 7-97 On-site Waste Transfer Station  | 8-97 Surface Impoundment  |
| 7-98 On-site Waste Transfer Station  | 8-98 Surface Impoundment  |
| 7-99 On-site Waste Transfer Station  | 8-99 Surface Impoundment  |
| 7-100 On-site Waste Transfer Station | 8-100 Surface Impoundment |

**TURNKEY**  
 Environmental, LLC  
 2558 HAMBURG TURNPIKE  
 SUITE 1000  
 LACKAWANNA, NY 14218  
 (716) 856-0635  
 JOB NO.: 0071-009-320

**REVISIONS**

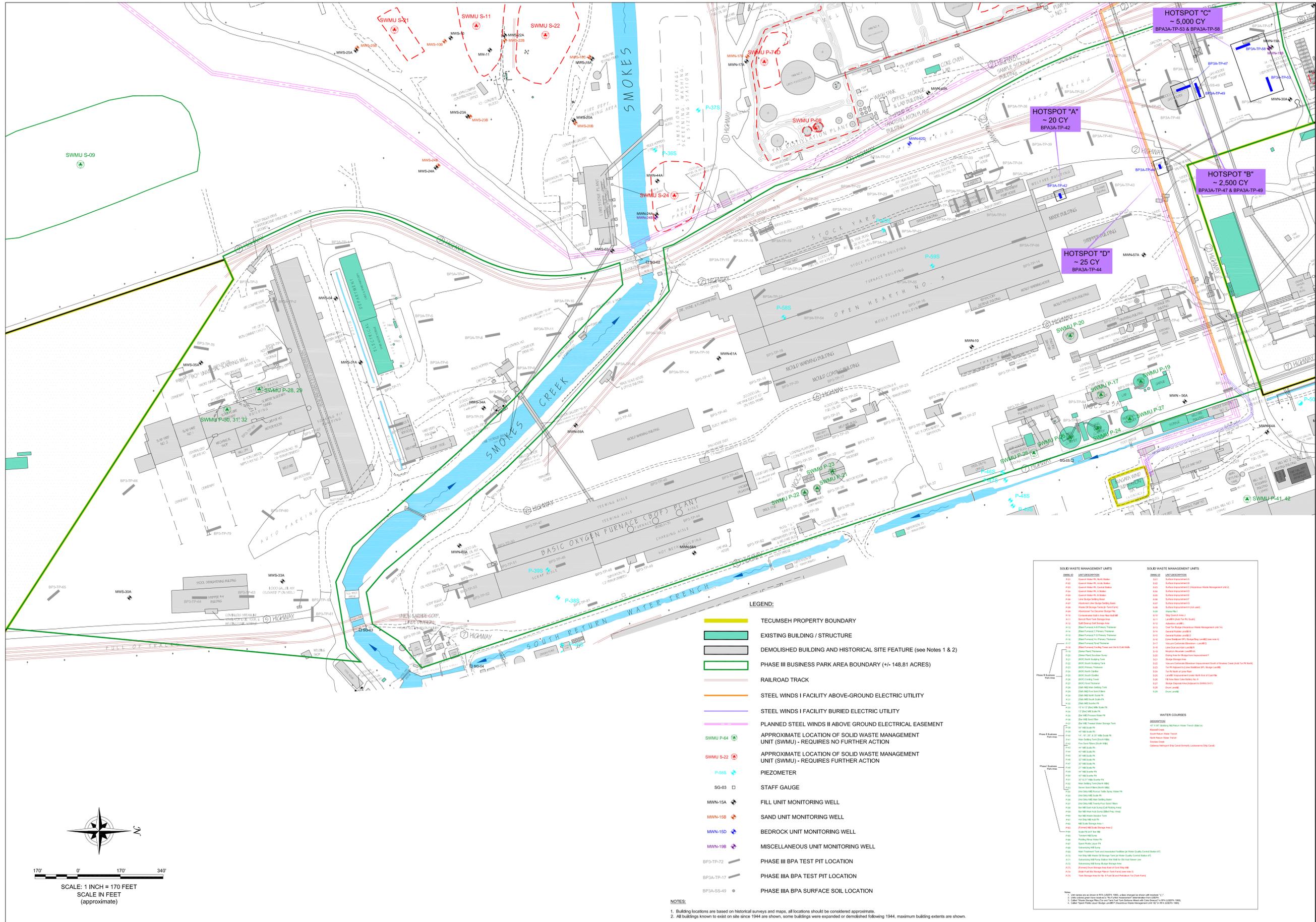
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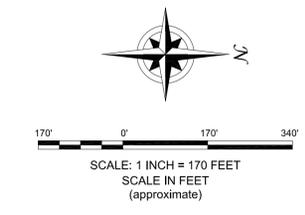
**SAMPLE LOCATIONS**  
 REMEDIAL INVESTIGATION / ALTERNATIVES ANALYSIS REPORT  
 PHASE III BUSINESS PARK AREA  
 LACKAWANNA, NEW YORK  
 PREPARED FOR  
 TECUMSEH REDEVELOPMENT INC.  
**FIGURE 3**





| SOIL WASTE MANAGEMENT UNITS | USE ORIGIN | SOIL WASTE MANAGEMENT UNITS | USE ORIGIN |
|-----------------------------|------------|-----------------------------|------------|
| SWMU S-1                    | ...        | SWMU S-22                   | ...        |
| SWMU S-11                   | ...        | SWMU S-23                   | ...        |
| SWMU S-22                   | ...        | SWMU S-24                   | ...        |
| SWMU P-7                    | ...        | SWMU P-17                   | ...        |
| SWMU P-8                    | ...        | SWMU P-18                   | ...        |
| SWMU P-19                   | ...        | SWMU P-19                   | ...        |
| SWMU P-20                   | ...        | SWMU P-20                   | ...        |
| SWMU P-21                   | ...        | SWMU P-21                   | ...        |
| SWMU P-22                   | ...        | SWMU P-22                   | ...        |
| SWMU P-23                   | ...        | SWMU P-23                   | ...        |
| SWMU P-24                   | ...        | SWMU P-24                   | ...        |
| SWMU P-25                   | ...        | SWMU P-25                   | ...        |
| SWMU P-26                   | ...        | SWMU P-26                   | ...        |
| SWMU P-27                   | ...        | SWMU P-27                   | ...        |
| SWMU P-28                   | ...        | SWMU P-28                   | ...        |
| SWMU P-29                   | ...        | SWMU P-29                   | ...        |
| SWMU P-30                   | ...        | SWMU P-30                   | ...        |
| SWMU P-31                   | ...        | SWMU P-31                   | ...        |
| SWMU P-32                   | ...        | SWMU P-32                   | ...        |
| SWMU P-33                   | ...        | SWMU P-33                   | ...        |
| SWMU P-34                   | ...        | SWMU P-34                   | ...        |
| SWMU P-35                   | ...        | SWMU P-35                   | ...        |
| SWMU P-36                   | ...        | SWMU P-36                   | ...        |
| SWMU P-37                   | ...        | SWMU P-37                   | ...        |
| SWMU P-38                   | ...        | SWMU P-38                   | ...        |
| SWMU P-39                   | ...        | SWMU P-39                   | ...        |
| SWMU P-40                   | ...        | SWMU P-40                   | ...        |
| SWMU P-41                   | ...        | SWMU P-41                   | ...        |
| SWMU P-42                   | ...        | SWMU P-42                   | ...        |
| SWMU P-43                   | ...        | SWMU P-43                   | ...        |
| SWMU P-44                   | ...        | SWMU P-44                   | ...        |
| SWMU P-45                   | ...        | SWMU P-45                   | ...        |
| SWMU P-46                   | ...        | SWMU P-46                   | ...        |
| SWMU P-47                   | ...        | SWMU P-47                   | ...        |
| SWMU P-48                   | ...        | SWMU P-48                   | ...        |
| SWMU P-49                   | ...        | SWMU P-49                   | ...        |
| SWMU P-50                   | ...        | SWMU P-50                   | ...        |
| SWMU P-51                   | ...        | SWMU P-51                   | ...        |
| SWMU P-52                   | ...        | SWMU P-52                   | ...        |
| SWMU P-53                   | ...        | SWMU P-53                   | ...        |
| SWMU P-54                   | ...        | SWMU P-54                   | ...        |
| SWMU P-55                   | ...        | SWMU P-55                   | ...        |
| SWMU P-56                   | ...        | SWMU P-56                   | ...        |
| SWMU P-57                   | ...        | SWMU P-57                   | ...        |
| SWMU P-58                   | ...        | SWMU P-58                   | ...        |
| SWMU P-59                   | ...        | SWMU P-59                   | ...        |
| SWMU P-60                   | ...        | SWMU P-60                   | ...        |
| SWMU P-61                   | ...        | SWMU P-61                   | ...        |
| SWMU P-62                   | ...        | SWMU P-62                   | ...        |
| SWMU P-63                   | ...        | SWMU P-63                   | ...        |
| SWMU P-64                   | ...        | SWMU P-64                   | ...        |
| SWMU P-65                   | ...        | SWMU P-65                   | ...        |
| SWMU P-66                   | ...        | SWMU P-66                   | ...        |
| SWMU P-67                   | ...        | SWMU P-67                   | ...        |
| SWMU P-68                   | ...        | SWMU P-68                   | ...        |
| SWMU P-69                   | ...        | SWMU P-69                   | ...        |
| SWMU P-70                   | ...        | SWMU P-70                   | ...        |
| SWMU P-71                   | ...        | SWMU P-71                   | ...        |
| SWMU P-72                   | ...        | SWMU P-72                   | ...        |
| SWMU P-73                   | ...        | SWMU P-73                   | ...        |
| SWMU P-74                   | ...        | SWMU P-74                   | ...        |
| SWMU P-75                   | ...        | SWMU P-75                   | ...        |
| SWMU P-76                   | ...        | SWMU P-76                   | ...        |
| SWMU P-77                   | ...        | SWMU P-77                   | ...        |
| SWMU P-78                   | ...        | SWMU P-78                   | ...        |
| SWMU P-79                   | ...        | SWMU P-79                   | ...        |
| SWMU P-80                   | ...        | SWMU P-80                   | ...        |
| SWMU P-81                   | ...        | SWMU P-81                   | ...        |
| SWMU P-82                   | ...        | SWMU P-82                   | ...        |
| SWMU P-83                   | ...        | SWMU P-83                   | ...        |
| SWMU P-84                   | ...        | SWMU P-84                   | ...        |
| SWMU P-85                   | ...        | SWMU P-85                   | ...        |
| SWMU P-86                   | ...        | SWMU P-86                   | ...        |
| SWMU P-87                   | ...        | SWMU P-87                   | ...        |
| SWMU P-88                   | ...        | SWMU P-88                   | ...        |
| SWMU P-89                   | ...        | SWMU P-89                   | ...        |
| SWMU P-90                   | ...        | SWMU P-90                   | ...        |
| SWMU P-91                   | ...        | SWMU P-91                   | ...        |
| SWMU P-92                   | ...        | SWMU P-92                   | ...        |
| SWMU P-93                   | ...        | SWMU P-93                   | ...        |
| SWMU P-94                   | ...        | SWMU P-94                   | ...        |
| SWMU P-95                   | ...        | SWMU P-95                   | ...        |
| SWMU P-96                   | ...        | SWMU P-96                   | ...        |
| SWMU P-97                   | ...        | SWMU P-97                   | ...        |
| SWMU P-98                   | ...        | SWMU P-98                   | ...        |
| SWMU P-99                   | ...        | SWMU P-99                   | ...        |
| SWMU P-100                  | ...        | SWMU P-100                  | ...        |

- LEGEND:**
- TECUMSEH PROPERTY BOUNDARY
  - EXISTING BUILDING / STRUCTURE
  - DEMOLISHED BUILDING AND HISTORICAL SITE FEATURE (see Notes 1 & 2)
  - PHASE III BUSINESS PARK AREA BOUNDARY (+/- 148.81 ACRES)
  - RAILROAD TRACK
  - STEEL WINDS I FACILITY ABOVE-GROUND ELECTRIC UTILITY
  - STEEL WINDS I FACILITY BURIED ELECTRIC UTILITY
  - PLANNED STEEL WINDS II ABOVE GROUND ELECTRICAL EASEMENT
  - APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES NO FURTHER ACTION
  - APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ACTION
  - P-585 PIEZOMETER
  - SG-03 STAFF GAUGE
  - MWN-15A FILL UNIT MONITORING WELL
  - MWN-15B SAND UNIT MONITORING WELL
  - MWN-15D BEDROCK UNIT MONITORING WELL
  - MWN-19B MISCELLANEOUS UNIT MONITORING WELL
  - BP3-TP-72 PHASE III BPA TEST PIT LOCATION
  - BP3A-TP-17 PHASE IIIA BPA TEST PIT LOCATION
  - BP3A-S5-49 PHASE IIIA BPA SURFACE SOIL LOCATION



**NOTES:**  
 1. Building locations are based on historical surveys and maps, all locations should be considered approximate.  
 2. All buildings known to exist on site since 1944 are shown, some buildings were expanded or demolished following 1944, maximum building extents are shown.

**TURNKEY**  
 Environmental, LLC

2558 HAMBURG TURNPIKE  
 SUITE 100  
 RUFFALO, NY 14218  
 (716) 856-0635

JOB NO.: 0071-009-320

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**DATE:** OCTOBER 2010

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**SOIL/FILL HOTSPOT AREAS TO BE EXCAVATED**

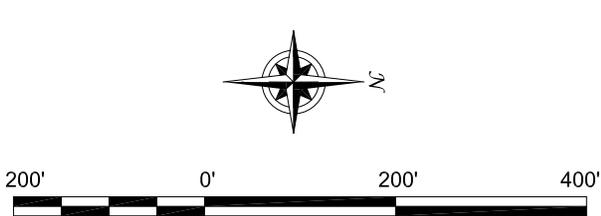
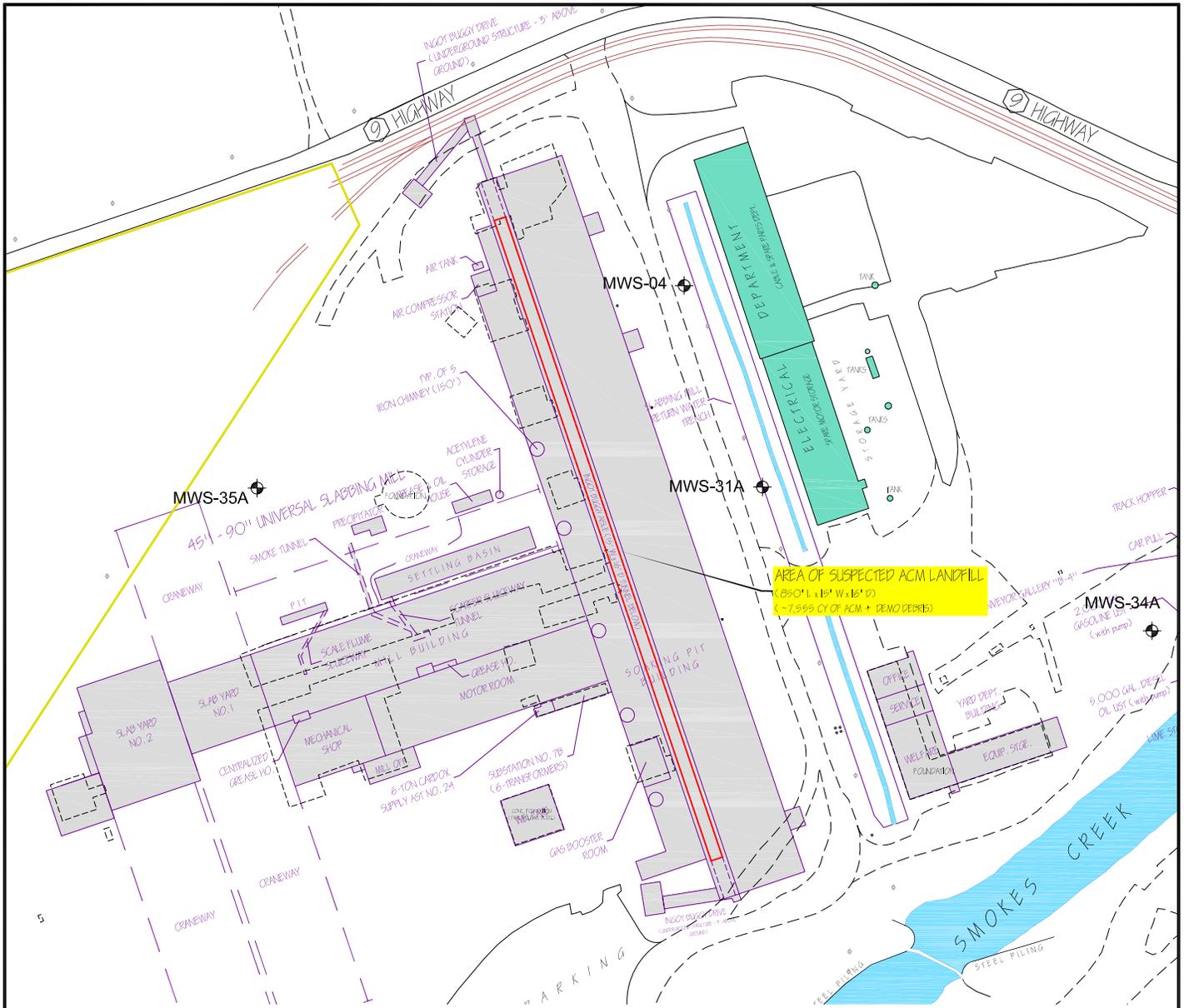
REMEDIAL INVESTIGATION / ALTERNATIVES ANALYSIS REPORT

PHASE III BUSINESS PARK AREA

LACKAWANNA, NEW YORK

PREPARED FOR:  
 TECUMSEH REDEVELOPMENT INC.

**FIGURE 5**



- LEGEND:**
- TECUMSEH PROPERTY BOUNDARY
  - EXISTING BUILDING / STRUCTURE
  - DEMOLISHED BUILDING AND HISTORICAL SITE FEATURE (see Note 1)
  - RAILROAD TRACK
  - MWN-15A ◆ FILL UNIT MONITORING WELL

- NOTES:**
1. All buildings known to exist on site since 1944 are shown, some buildings were expanded or demolished following 1944, maximum building extents are shown.



2558 HAMBURG TURNPIKE  
SUITE 300  
BUFFALO, NY 14218  
(716) 856-0635

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PROJECT NO.: 0071009-320

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DATE: NOVEMBER 2010

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DRAFTED BY: BCH

**ACM CONCRETE-LINED TUNNEL**  
RI/AA REPORT

PHASE III BUSINESS PARK AREA  
LACKAWANNA, NEW YORK

PREPARED FOR  
**TECUMSEH REDEVELOPMENT INC.**

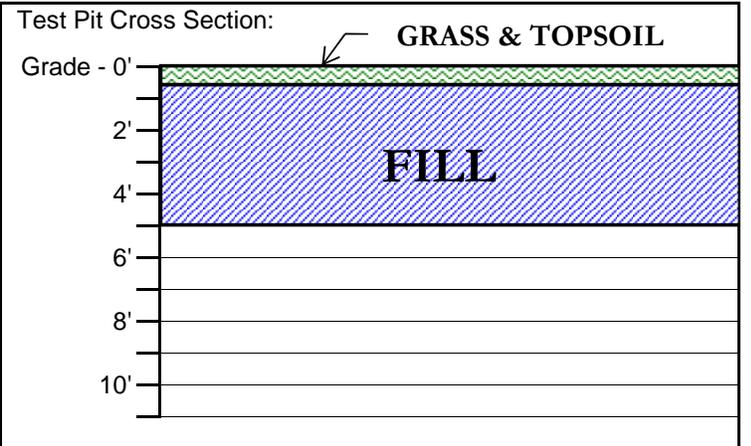
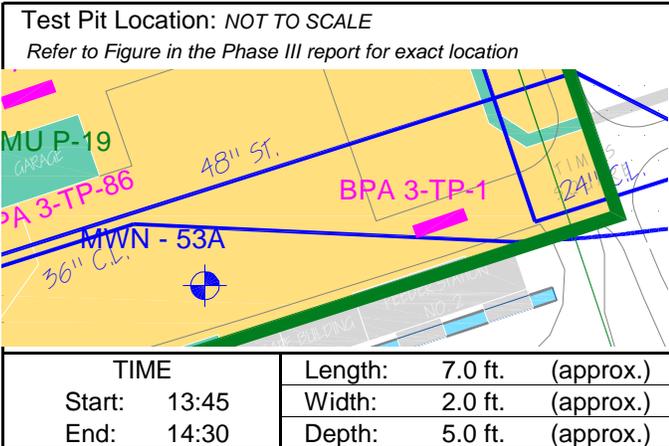
# APPENDIX A

## TEST PIT EXCAVATION LOGS & MONITORING WELL SAMPLING LOGS



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-1</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/12/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish Brown, moist, silt with some slag, loose  | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with macadam layer on top, very dense, loose when disturbed                                       | 0.2                 | Y            | YES                      |
| 2.0 - 5.0    | <b>Fill:</b><br>Banded colors of reddish brown, gray and black, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 0.2                 | Y            | NO                       |
| 5.0          | End of Test Pit  |                     |              |                          |

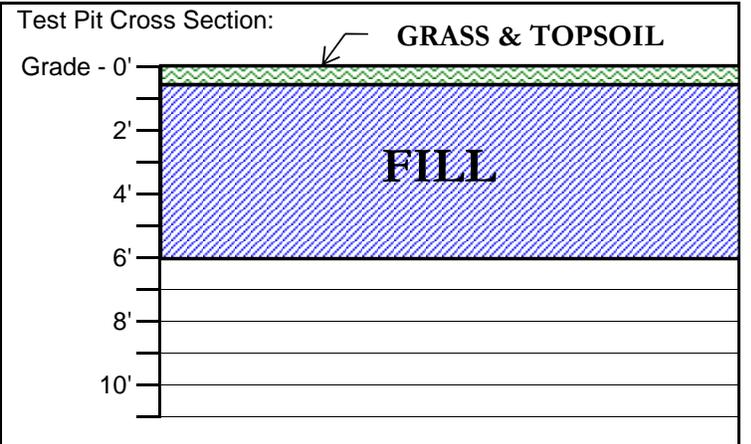
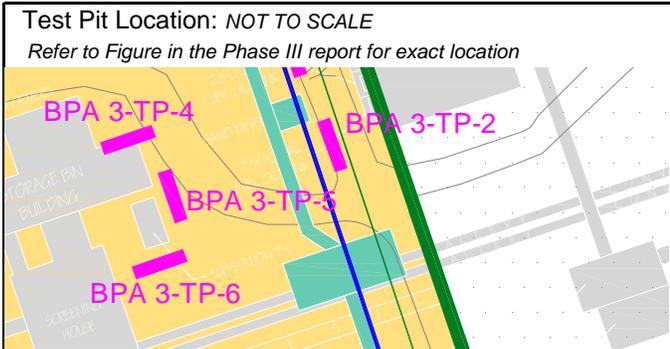
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 5'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-1 (0-2')          |
|                              |   | Sample I.D.:         |                      |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-2</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/13/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



|              |         |         |           |
|--------------|---------|---------|-----------|
| TIME         | Length: | 7.0 ft. | (approx.) |
| Start: 10:00 | Width:  | 2.0 ft. | (approx.) |
| End: 11:50   | Depth:  | 6.0 ft. | (approx.) |

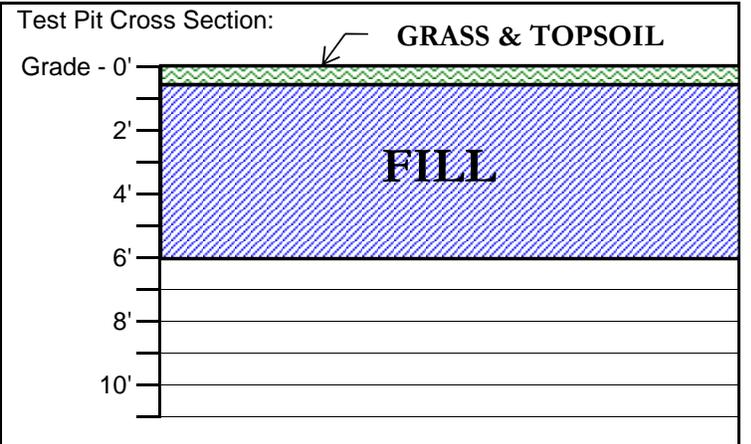
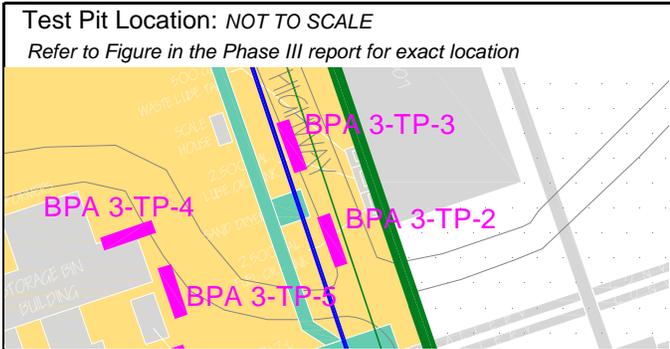
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 2.0    | <b>Fill:</b><br>Gray and brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed                      | 6.5                 | Y            | YES                      |
| 2.0 - 4.0    | <b>Fill:</b><br>Gray and brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed, petroleum like odor | 50.1                | Y            | YES                      |
| 4.0 - 6.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed                               | <50.1               | Y            | No                       |
| 6.0          | End of Test Pit   |                     |              |                          |

|                              |   |                               |             |  |
|------------------------------|---|-------------------------------|-------------|--|
| COMMENTS:                    |   |                               |             |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 6'       |             |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                     |             |  |
| OLFACTORY OBSERVATIONS:      | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe: Petroleum like odor |             |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick          |             |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                     |             |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:                  | TP-2 (0-2') |  |
|                              |   | Sample I.D.:                  | TP-2 (2-4') |  |
|                              |   | Sample I.D.:                  |             |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-3</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/13/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



|              |         |         |           |
|--------------|---------|---------|-----------|
| <b>TIME</b>  | Length: | 7.0 ft. | (approx.) |
| Start: 11:30 | Width:  | 2.0 ft. | (approx.) |
| End: 13:45   | Depth:  | 6.0 ft. | (approx.) |

| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | NA                  | Y            | NO                       |
| 0.5 - 3.0    | <b>Fill:</b><br>Yellowish brown, moist, Slag fill with macadam layer at 1.5' to 2.0', very dense, loose when disturbed | 0.3                 | Y            | NO                       |
| 3.0 - 6.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed                        | NA                  | Y            | YES                      |
| 6.0          | End of Test Pit  |                     |              |                          |

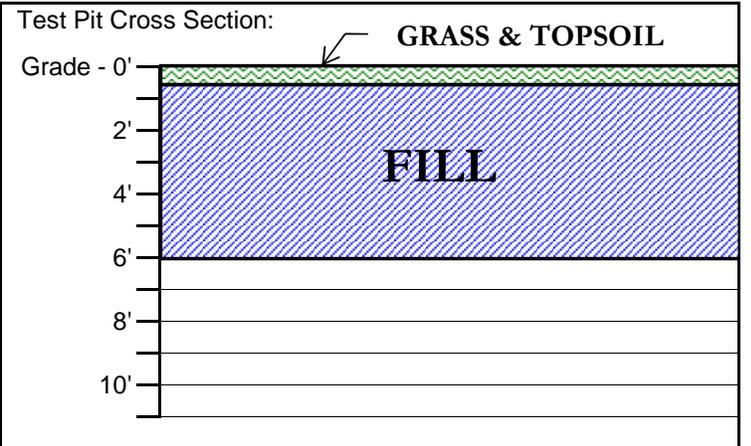
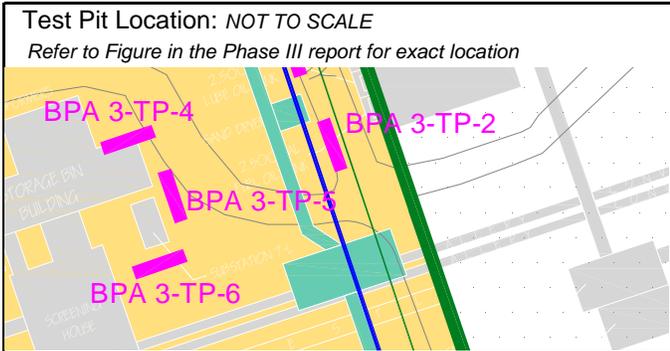
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-3 (3-6')          |
|                              |   | Sample I.D.:         |                      |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-4</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/11/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



|              |         |         |           |
|--------------|---------|---------|-----------|
| <b>TIME</b>  | Length: | 7.0 ft. | (approx.) |
| Start: 15:00 | Width:  | 2.0 ft. | (approx.) |
| End: 16:15   | Depth:  | 6.0 ft. | (approx.) |

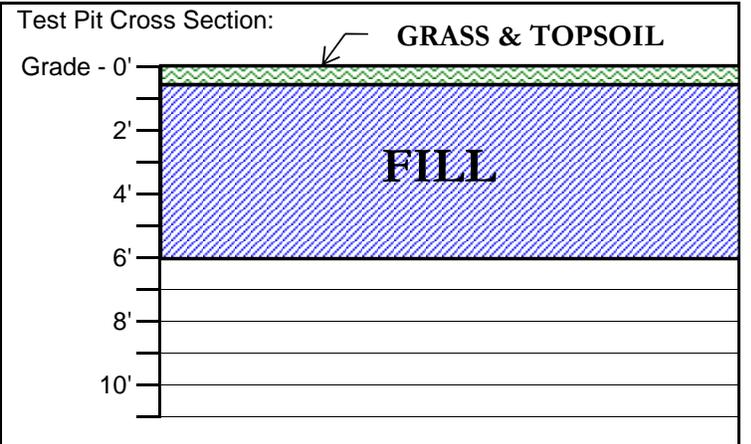
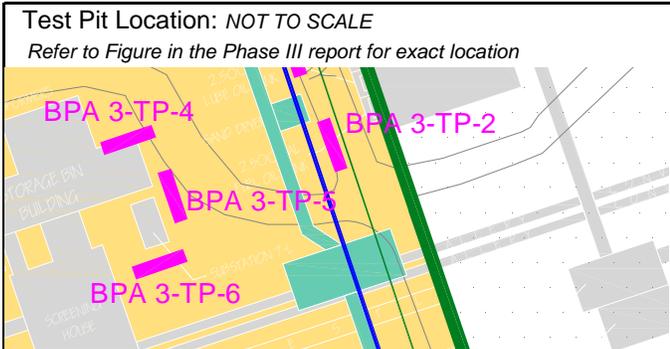
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose  | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Reddish brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed                                  | 0.6                 | Y            | YES                      |
| 2.0 - 6.0    | <b>Fill:</b><br>Banded colors of reddish brown, gray and black, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 3.5                 | Y            | NO                       |
| 6.0          | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| <b>COMMENTS:</b>             |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 6'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-4 (0-2')          |
|                              |   |  | Sample I.D.:         |                      |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-5</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/11/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



|              |         |         |           |
|--------------|---------|---------|-----------|
| <b>TIME</b>  | Length: | 7.0 ft. | (approx.) |
| Start: 10:00 | Width:  | 2.0 ft. | (approx.) |
| End: 11:50   | Depth:  | 6.0 ft. | (approx.) |

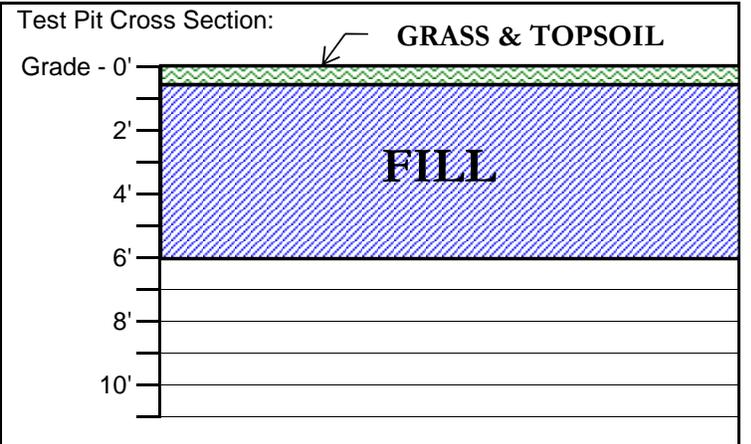
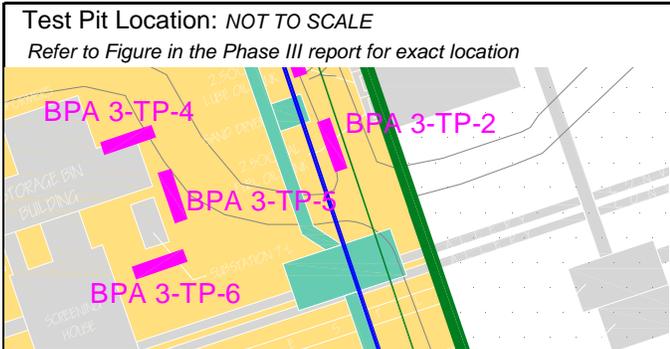
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with macadam layer on top, very dense, loose when disturbed                                       | 0.2                 | Y            | YES                      |
| 2.0 - 6.0    | <b>Fill:</b><br>Banded colors of reddish brown, gray and black, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 2.3                 | Y            | NO                       |
| 6.0          | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| <b>COMMENTS:</b>             |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 6'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-5 (0-2')          |
|                              |   |  | Sample I.D.:         |                      |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-6</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/11/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



|              |         |         |           |
|--------------|---------|---------|-----------|
| <b>TIME</b>  | Length: | 7.0 ft. | (approx.) |
| Start: 10:00 | Width:  | 2.0 ft. | (approx.) |
| End: 11:50   | Depth:  | 6.0 ft. | (approx.) |

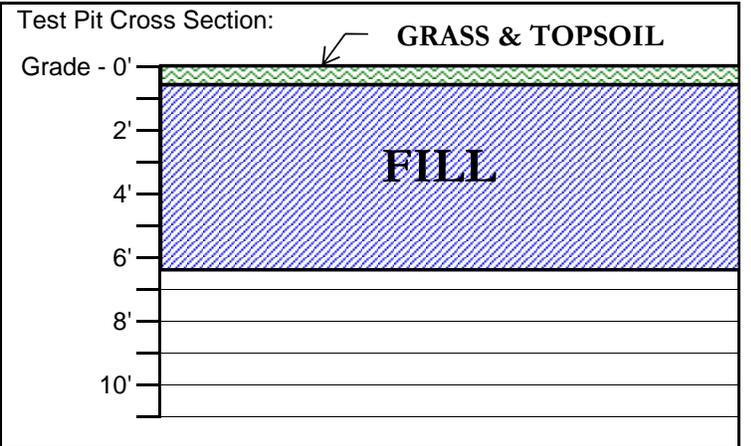
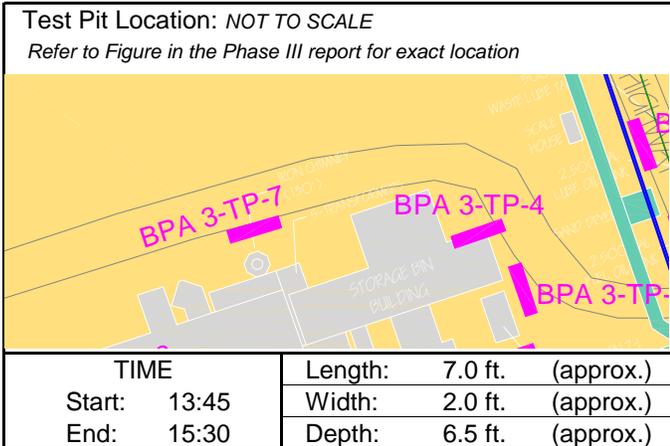
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Reddish brown, moist, Slag fill with cindery ash and brick, very dense, loose when disturbed                             | 2.7                 | Y            | YES                      |
| 2.0 - 6.0    | <b>Fill:</b><br>Banded colors of reddish brown, gray and black, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 3.6                 | Y            | NO                       |
| 6.0          | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| <b>COMMENTS:</b>             |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 6'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-6 (0-2')          |
|                              |   |  | Sample I.D.:         |                      |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-7</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/13/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish Brown, moist, silt with some slag, loose  | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed  | 0.7                 | Y            | YES                      |
| 2.0 - 6.5    | <b>Fill:</b><br>Banded colors of gray, Yellowish brown and black, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 1.1                 | Y            | NO                       |
| 6.5          | End of Test Pit  |                     |              |                          |

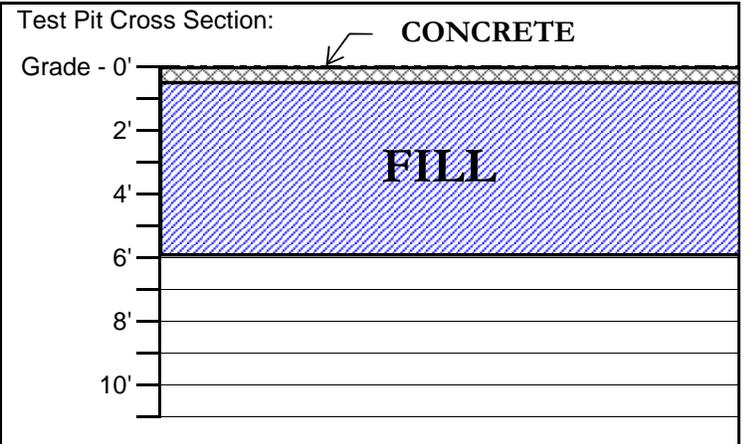
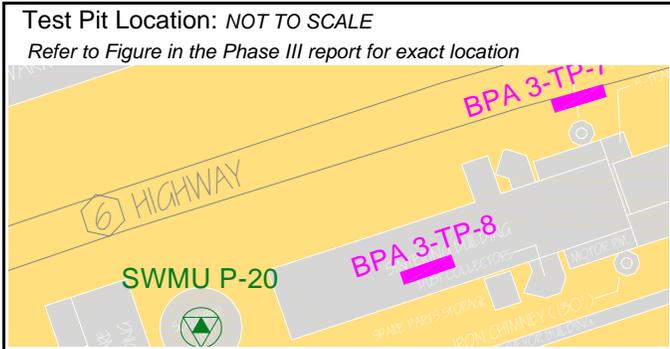
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6.25'                |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-7 (0-2')          |
|                              |   | Sample I.D.:         |                      |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-8</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/18/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030         |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



|             |                            |
|-------------|----------------------------|
| <b>TIME</b> | Length: 10.0 ft. (approx.) |
| Start: 9:40 | Width: 3.0 ft. (approx.)   |
| End: 11:10  | Depth: 6.0 ft. (approx.)   |

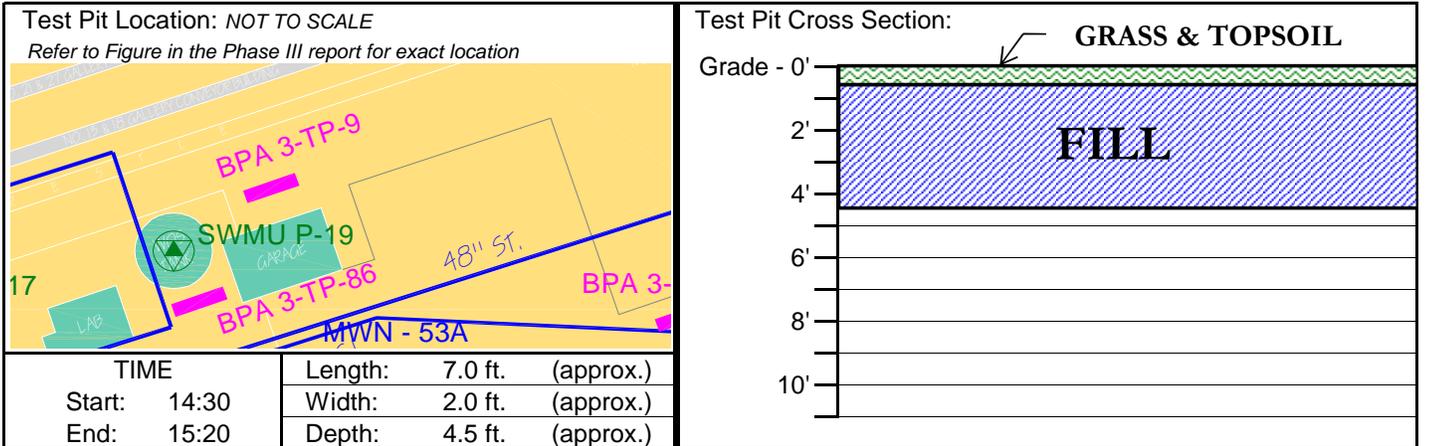
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Concrete with Rebar:</b>   | NA                  | Y            | NO                       |
| 0.5 - 7.0    | <b>Fill:</b><br>Dark brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.6                 | Y            | YES                      |
| 7.0          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

|                              |   |                      |              |  |
|------------------------------|---|----------------------|--------------|--|
| <b>COMMENTS:</b>             |   |                      |              |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6.0'         |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag and ash |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-8 (0-2')  |  |
|                              |   | Sample I.D.:         |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-9</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/12/08          |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430        |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH             |



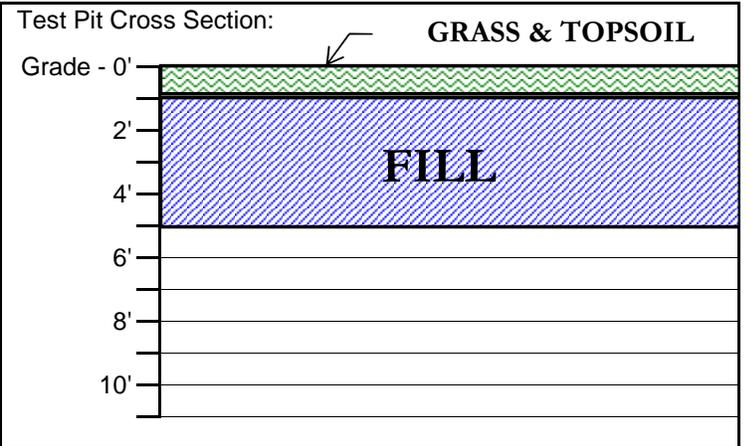
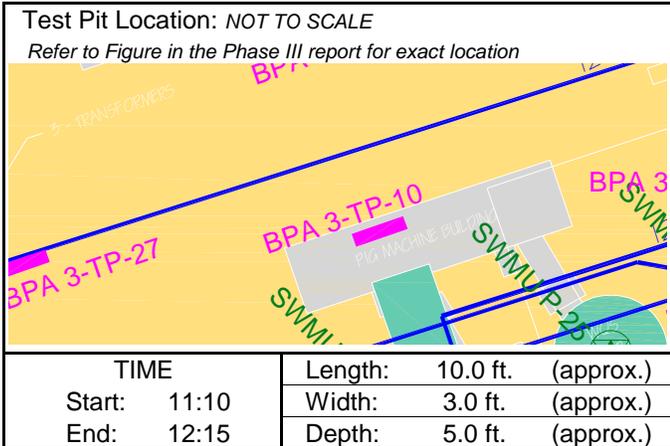
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                           | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill, dense, loose when disturbed                             | 0.0                 | Y            | YES                      |
| 2.0 - 4.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 0.0                 | Y            | NO                       |
| 4.5          | End of Test Pit   |                     |              |                          |

|                              |   |                           |             |  |
|------------------------------|---|---------------------------|-------------|--|
| COMMENTS:                    |   |                           |             |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 4.5' |             |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |             |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |             |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |             |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |             |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:              | TP-9 (0-2') |  |
|                              |   | Sample I.D.:              |             |  |
|                              |   | Sample I.D.:              |             |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-10</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/18/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 1.0    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                               | 0.6                 | Y            | YES                      |
| 1.0 - 2.0    | <b>Fill:</b><br>Dark brown, moist, Slag fill with cindery ash and silt, dense, loose when disturbed | 0.6                 | Y            | YES                      |
| 2.0 - 5.0    | <b>Fill:</b><br>Dark brown, moist, Slag fill with cindery ash and silt, dense, loose when disturbed | 0.2                 | Y            | NO                       |
| 5.0          | End of Test Pit   |                     |              |                          |

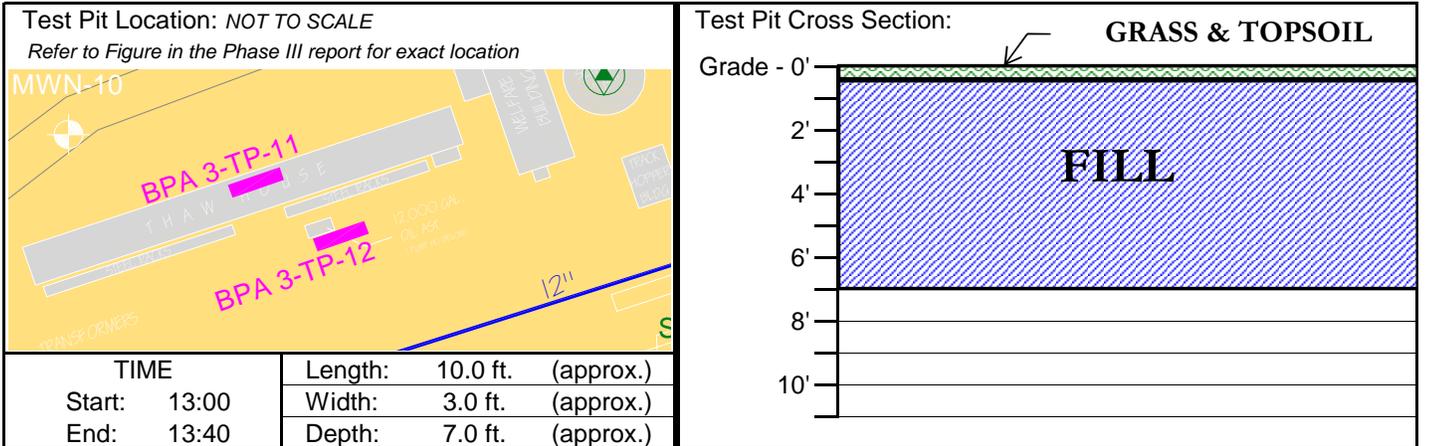
COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 5.0'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-10 (0-2') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-11</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |          |           |
|--------------|---------|----------|-----------|
| TIME         | Length: | 10.0 ft. | (approx.) |
| Start: 13:00 | Width:  | 3.0 ft.  | (approx.) |
| End: 13:40   | Depth:  | 7.0 ft.  | (approx.) |

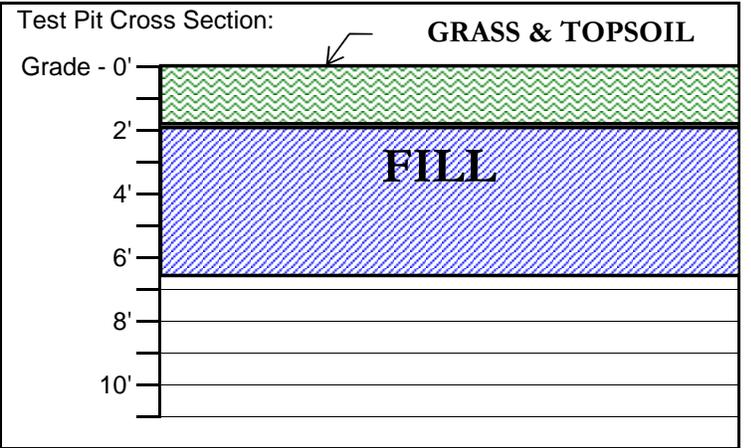
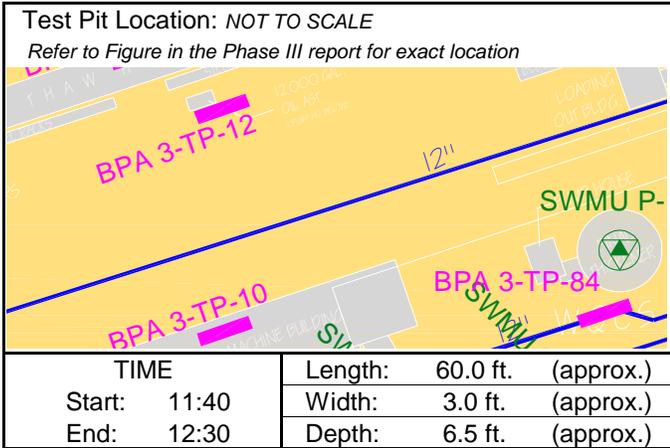
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                          | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash, dense, loose when disturbed           | 0.5                 | Y            | YES                      |
| 2.0 - 5.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and silt, dense, loose when disturbed | NA                  | Y            | NO                       |
| 5.0 - 7.0    | <b>Fill:</b><br>Reddish brown, moist to wet (5.5'), silt (mill scale?)                         | NA                  | Y            | NO                       |
| 7.0          | End of Test Pit  |                     |              |                          |

|   |   |  |                      |              |
|---|---|--|----------------------|--------------|
| COMMENTS: Uncovered four 12" metal pipes on 8' center |   |  |                      |              |
| GROUNDWATER ENCOUNTERED:                              | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 5.5'         |
| VISUAL IMPACTS:                                       | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:                               | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED:                          | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag and ash |
| OTHER OBSERVATIONS:                                   | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:                                    | Sample I.D.: TP-11 (0-2')               |  |                      |              |
|   | Sample I.D.:                            |  |                      |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-12</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 1.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose                                    | 0.6                 | Y            | YES                      |
| 1.5 - 6.5    | <b>Fill:</b><br>Brown, moist to wet (at 6.0'), Slag fill with cindery ash and brick, dense, loose when disturbed | 0.0                 | Y            | YES                      |
| 6.5          | End of Test Pit  |                     |              |                          |

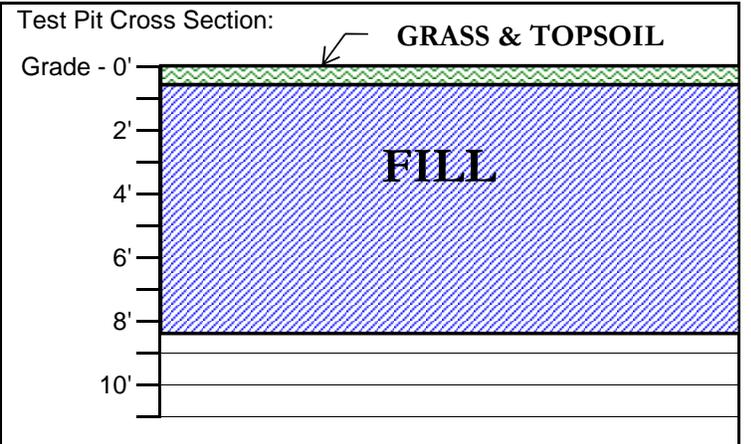
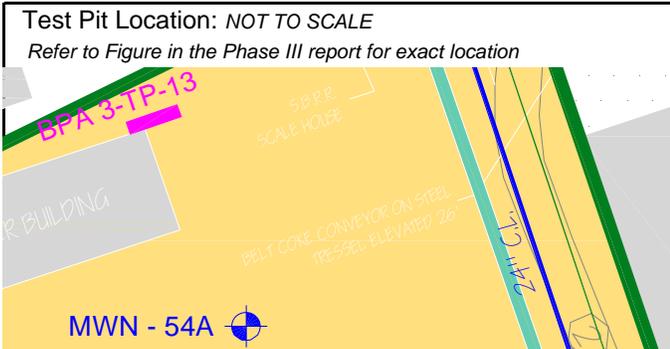
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-12 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-13</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/14/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430         |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |         |           |
|--------------|---------|---------|-----------|
| TIME         | Length: | 7.0 ft. | (approx.) |
| Start: 16:30 | Width:  | 2.0 ft. | (approx.) |
| End: 17:30   | Depth:  | 8.5 ft. | (approx.) |

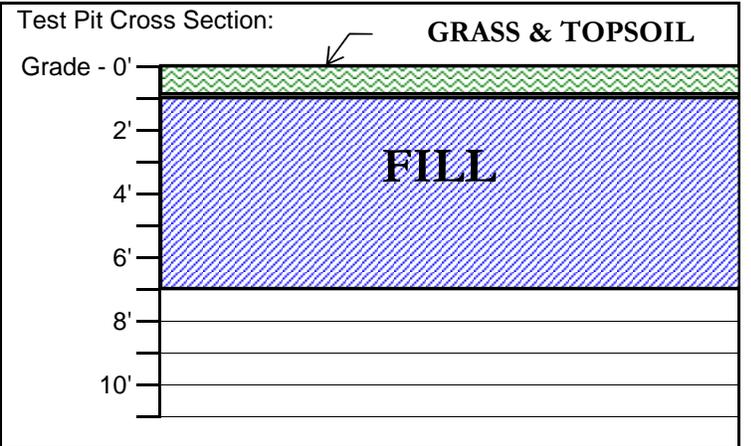
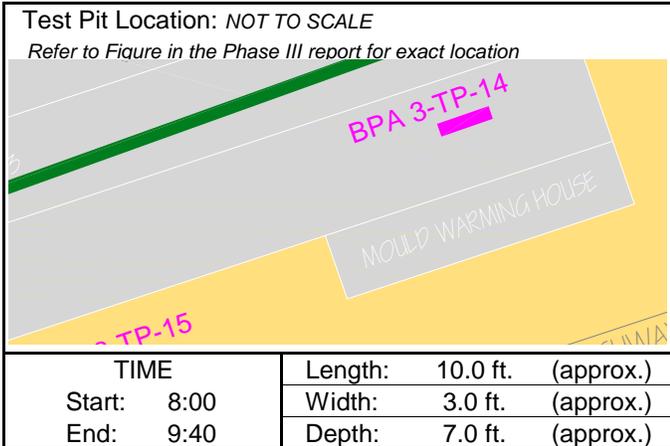
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose   | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and brick, dense (very dense from 1.5-2.0'), loose when disturbed | 0.5                 | Y            | YES                      |
| 2.0 - 8.5    | <b>Fill:</b><br>Gray, moist to wet (7.5'), Slag fill with cindery ash and brick, dense, loose when disturbed              | 1.4                 | Y            | NO                       |
| 8.5          | End of Test Pit   |                     |              |                          |

|                              |   |                           |              |  |
|------------------------------|---|---------------------------|--------------|--|
| COMMENTS:                    |   |                           |              |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 7.5' |              |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag                      |              |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:              | TP-13 (0-2') |  |
|                              |   | Sample I.D.:              |              |  |
|                              |   | Sample I.D.:              |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-14</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/18/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 1.0    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.7                 | Y            | YES                      |
| 1.0 - 3.0    | <b>Fill:</b><br>Gray and brown, moist, Slag fill with cindery ash and silt, dense, loose when disturbed                                      | 0.7                 | Y            | YES                      |
| 3.0 - 7.0    | <b>Fill:</b><br>Gray and brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed (very dense from 3-4') | 0.5                 | Y            | NO                       |
| 7.0          | End of Test Pit  |                     |              |                          |

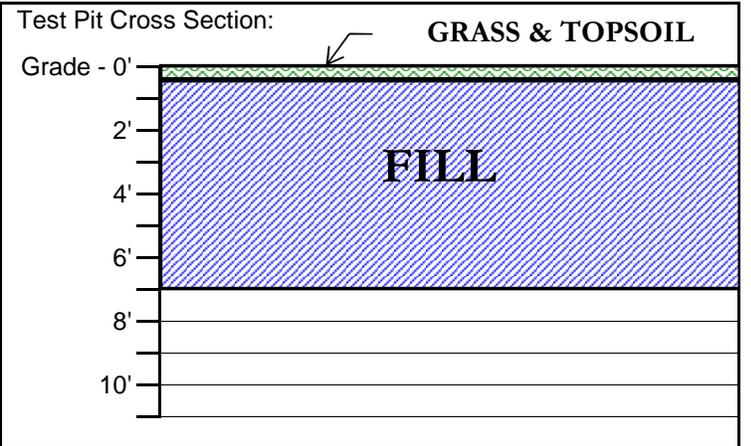
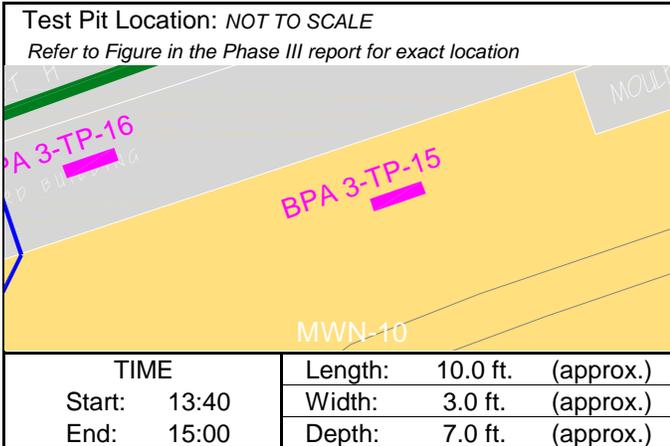
COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-14 (0-2') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-15</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                               | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Dark brown, moist, Slag fill with cindery ash and silt, dense, loose when disturbed | 0.2                 | Y            | YES                      |
| 2.0 - 7.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash, dense, loose when disturbed                | 1.4                 | Y            | NO                       |
| 7.0          | End of Test Pit   |                     |              |                          |

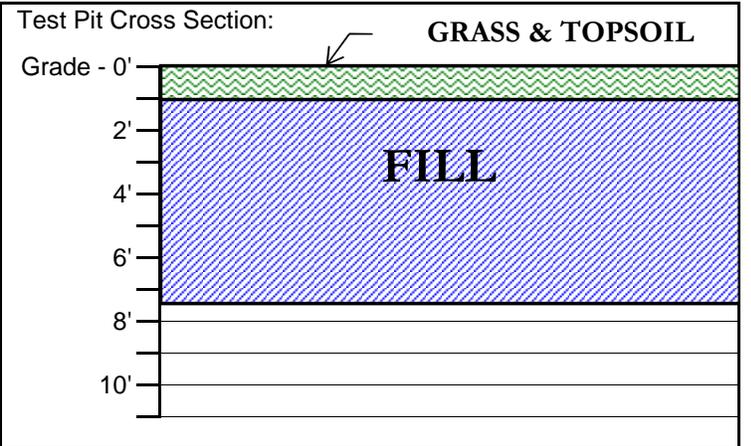
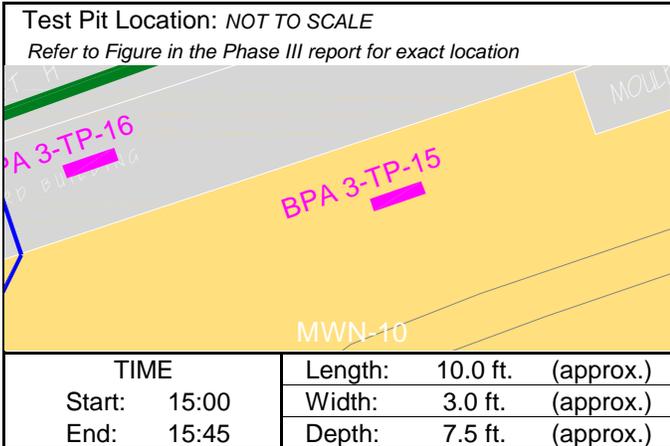
COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7'           |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-15 (0-2') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-16</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 1.0    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                | 0.6                 | Y            | YES                      |
| 1.0 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with little silt, dense, loose when disturbed | 0.6                 | Y            | YES                      |
| 2.0 - 7.5    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash, dense, loose when disturbed | 0.9                 | Y            | NO                       |
| 7.5          | End of Test Pit  |                     |              |                          |

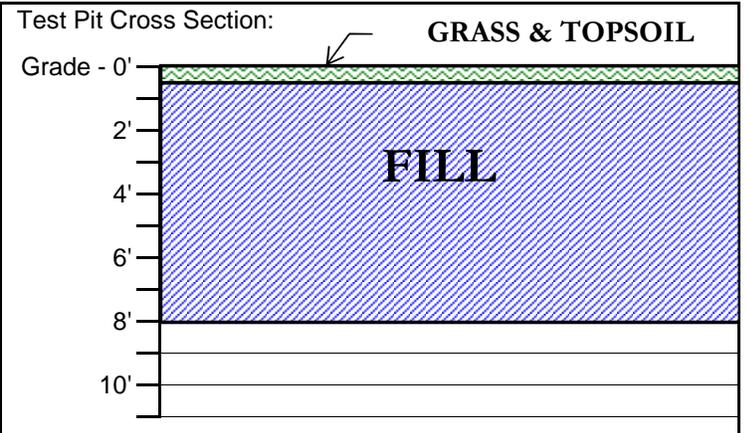
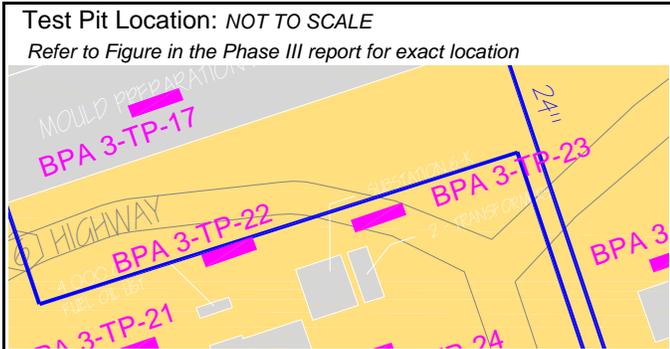
COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-16 (0-2') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-17</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |          |           |
|--------------|---------|----------|-----------|
| TIME         | Length: | 15.0 ft. | (approx.) |
| Start: 11:00 | Width:  | 3.0 ft.  | (approx.) |
| End: 12:40   | Depth:  | 8.0 ft.  | (approx.) |

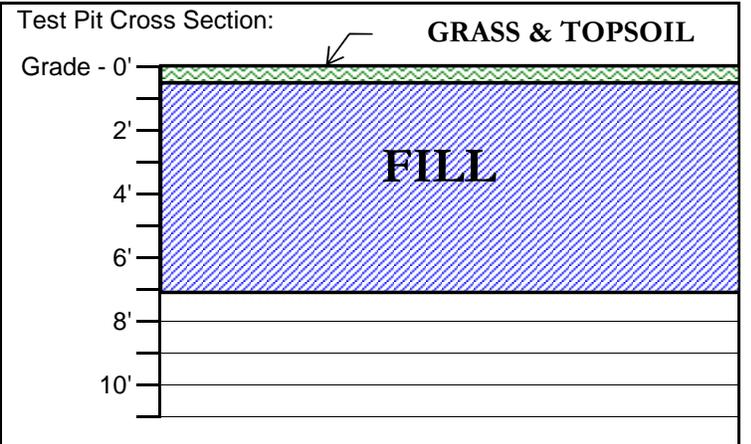
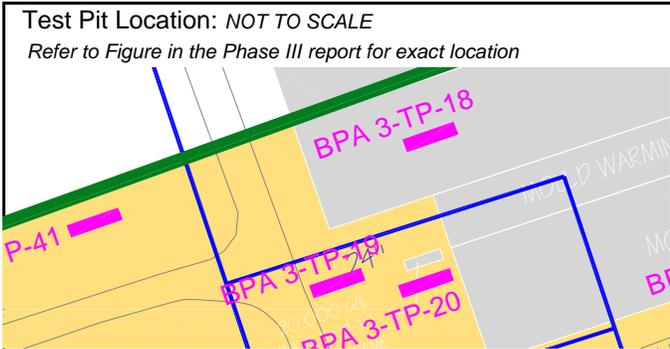
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 1.0    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                | 1.2                 | Y            | YES                      |
| 1.0 - 2.5    | <b>Fill:</b><br>Gray and black, dry, macadam (black top like material)                               | 0.1                 | Y            | NO                       |
| 2.5 - 8.0    | <b>Fill:</b><br>Dark brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 3.0                 | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-17 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-18</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 15.0 ft. (approx.) |
| Start: 12:40 | Width: 3.0 ft. (approx.)   |
| End: 14:00   | Depth: 7.0 ft. (approx.)   |

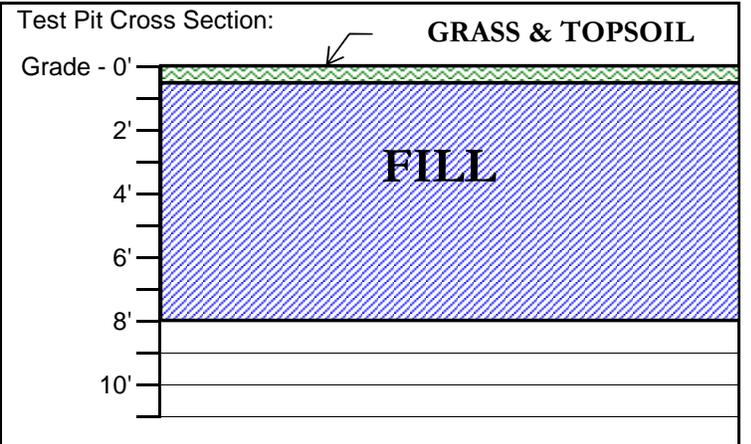
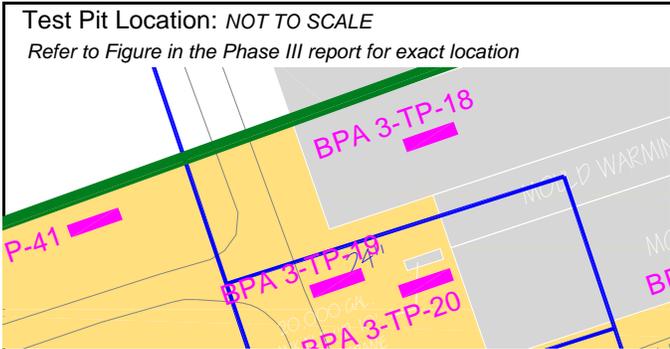
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.2                 | Y            | YES                      |
| 0.5 - 7.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | YES                      |
| 7.0          | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-18 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-19</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| <b>TIME</b>  | Length: 10.0 ft. (approx.) |
| Start: 14:00 | Width: 3.0 ft. (approx.)   |
| End: 14:40   | Depth: 8.0 ft. (approx.)   |

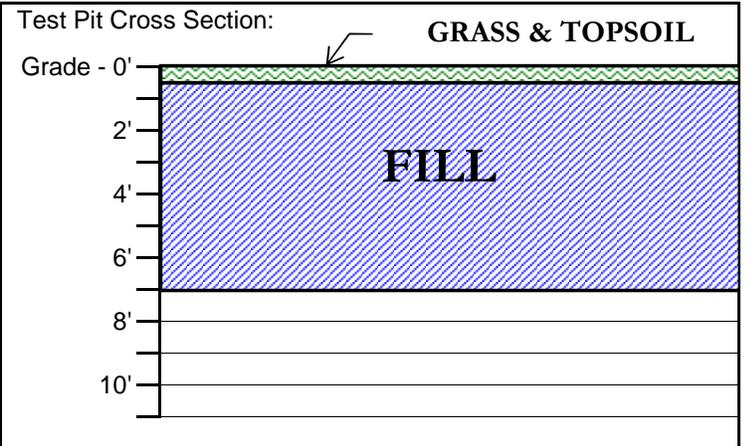
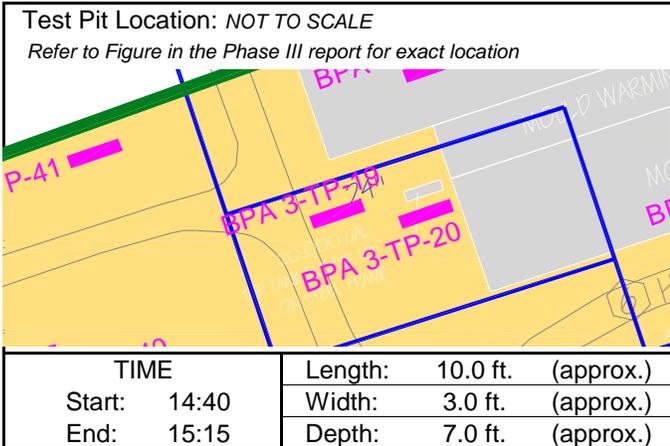
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.2                 | Y            | YES                      |
| 0.5 - 2.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 0.2                 | Y            | YES                      |
| 2.5 - 8.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.0'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-19 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-20</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.0                 | Y            | YES                      |
| 0.5 - 1.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 0.0                 | Y            | YES                      |
| 1.0 - 7.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.0                 | Y            | NO                       |
| 7.0          | End of Test Pit  |                     |              |                          |

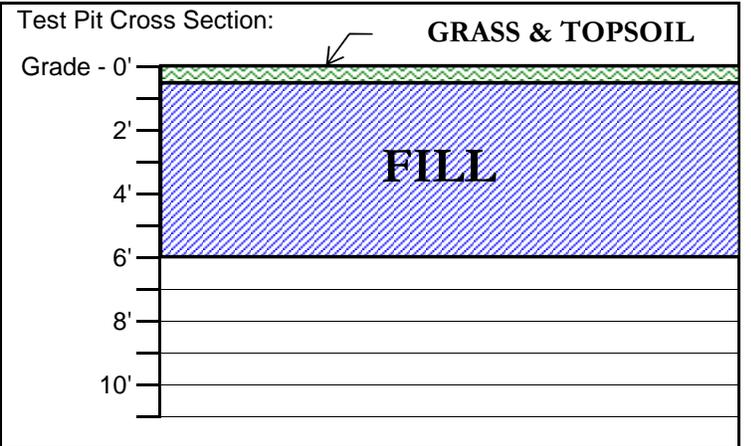
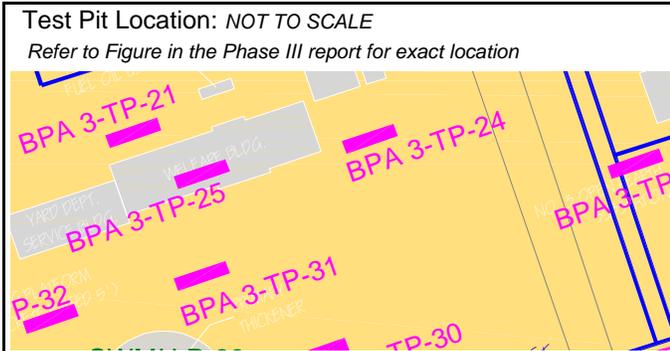
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-20 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-21</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|             |         |         |           |
|-------------|---------|---------|-----------|
| <b>TIME</b> | Length: | 8.0 ft. | (approx.) |
| Start: 8:00 | Width:  | 3.0 ft. | (approx.) |
| End: 9:20   | Depth:  | 6.0 ft. | (approx.) |

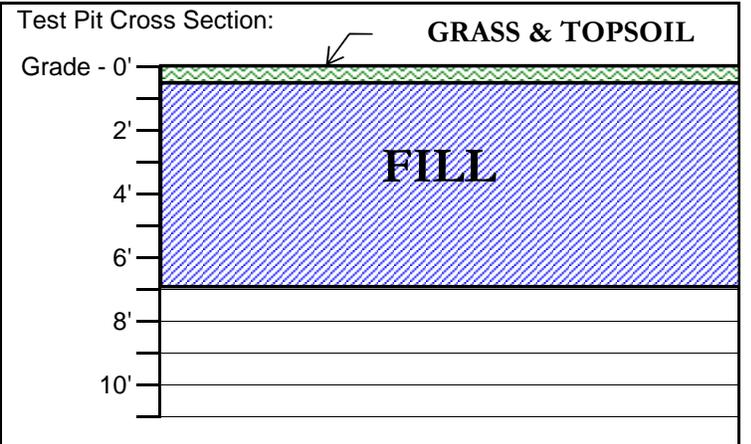
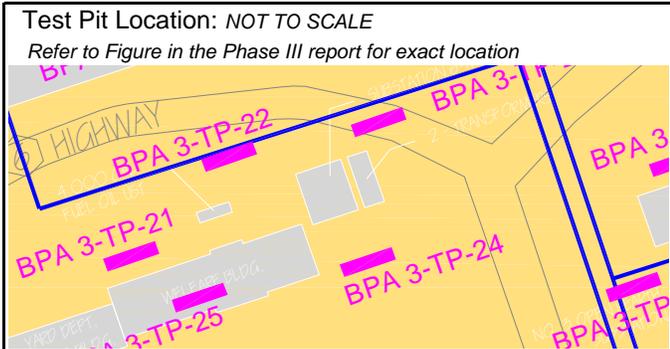
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 3.1                 | Y            | YES                      |
| 0.5 - 2.5    | <b>Fill:</b><br>Gray, moist, Slag fill and little Silt, very dense   | 3.1                 | Y            | YES                      |
| 2.5 - 6.0    | <b>Fill:</b><br>Yellowish brown, moist, Gravel with little Silt and trace Slag fill (with cindery ash, and brick), dense, loose when disturbed | 0.5                 | Y            | NO                       |
| 6.0          | End of Test Pit  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6.0'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-21 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-22</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 15.0 ft. (approx.) |
| Start: 15:30 | Width: 4.0 ft. (approx.)   |
| End: 17:30   | Depth: 7.0 ft. (approx.)   |

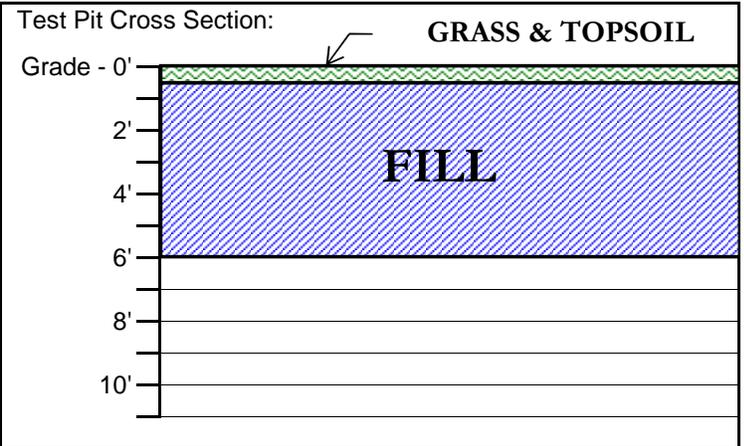
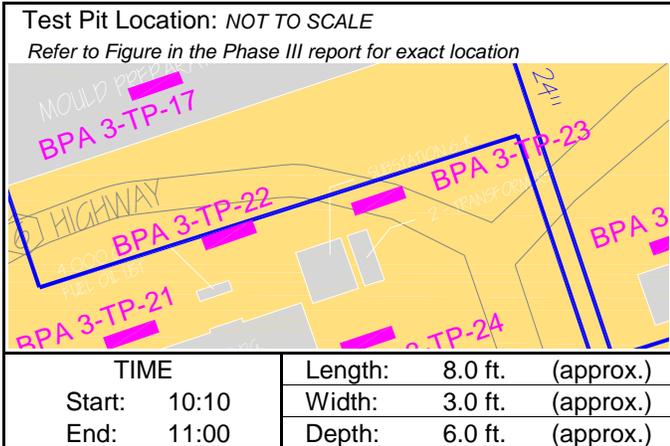
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.4                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill and little Silt, very dense   | 1.4                 | Y            | YES                      |
| 2.0 - 6.5    | <b>Fill:</b><br>Dark brown, moist, Slag fill with cindery ash, brick, and little Silt, dense, loose when disturbed | 1.4                 | Y            | NO                       |
| 6.5 - 7.0    | <b>Fill:</b><br>Same as above, wet, with a petroleum like odor   | 40.0                | Y            | NO                       |
| 7.0          | End of Test Pit  |                     |              |                          |

|  |   |   |              |  |
|--|---|---|--------------|--|
| COMMENTS: Pipe (approximately 12") uncovered at 4' |   |   |              |  |
| GROUNDWATER ENCOUNTERED:                           | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 6.5'                       |              |  |
| VISUAL IMPACTS:                                    | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                                       |              |  |
| OLFACTORY OBSERVATIONS:                            | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe: Petroleum like odor in saturated zone |              |  |
| NON-NATIVE FILL ENCOUNTERED:                       | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick                            |              |  |
| OTHER OBSERVATIONS:                                | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                                       |              |  |
| SAMPLES COLLECTED:                                 |   | Sample I.D.:                                    | TP-22 (0-2') |  |
|  |   | Sample I.D.:                                    |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-23</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                           | 1.0                 | Y            | YES                      |
| 0.5 - 2.5    | <b>Fill:</b><br>Gray, moist, Slag fill and little Silt, dense (very dense 1.5-2.0)              | 1.0                 | Y            | YES                      |
| 2.5 - 6.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed | 0.2                 | Y            | NO                       |
| 6.0          | End of Test Pit   |                     |              |                          |

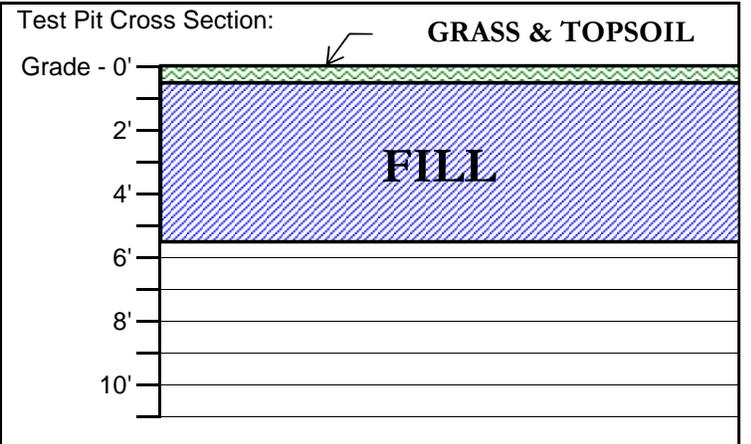
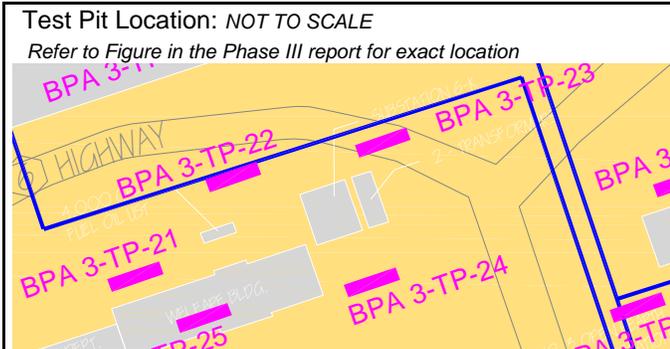
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-23 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-24</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                           |
|--------------|---------------------------|
| TIME         | Length: 6.0 ft. (approx.) |
| Start: 12:55 | Width: 4.0 ft. (approx.)  |
| End: 13:40   | Depth: 5.5 ft. (approx.)  |

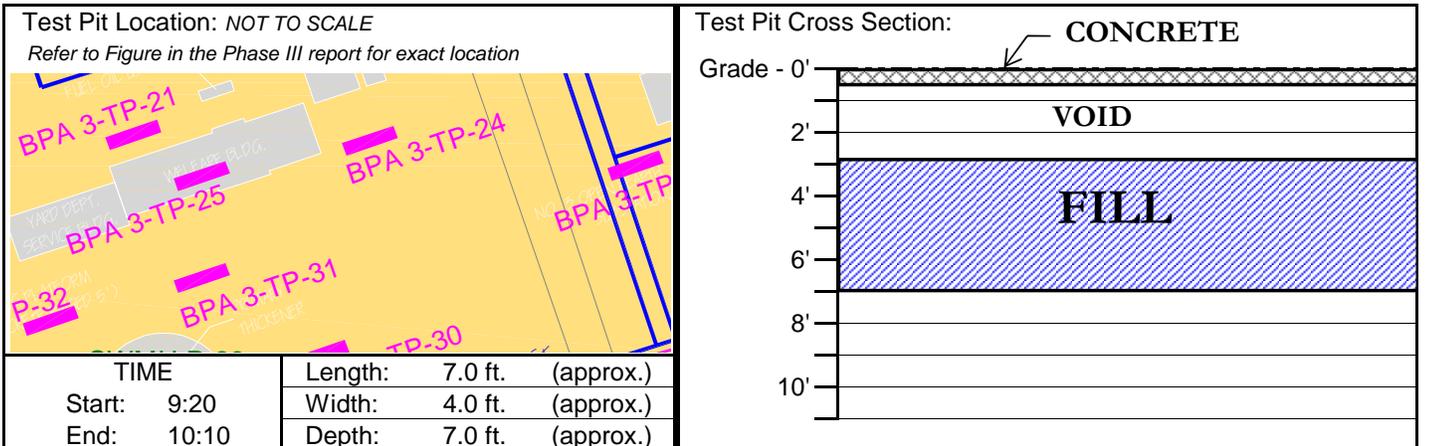
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose   | 0.4                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Brown, moist, Slag fill and little Silt, dense, loose when disturbed  | 0.4                 | Y            | YES                      |
| 1.5 - 5.5    | <b>Fill:</b><br>Redish brown, moist, Slag fill with cindery ash, brick, large concrete pieces, and little Silt (mill scale?), dense, loose when disturbed | 0.4                 | Y            | YES                      |
| 5.5          | End of Test Pit   |                     |              |                          |

|                              |   |                           |              |  |
|------------------------------|---|---------------------------|--------------|--|
| COMMENTS:                    |   |                           |              |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 5.5' |              |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |              |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:              | TP-24 (0-2') |  |
|                              |   | Sample I.D.:              |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-25</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



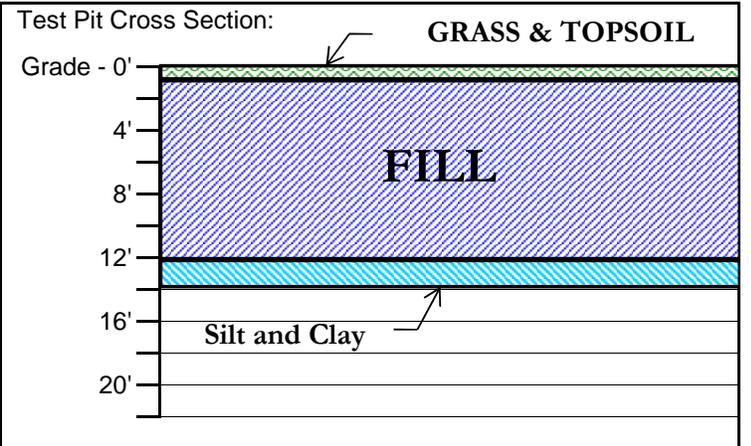
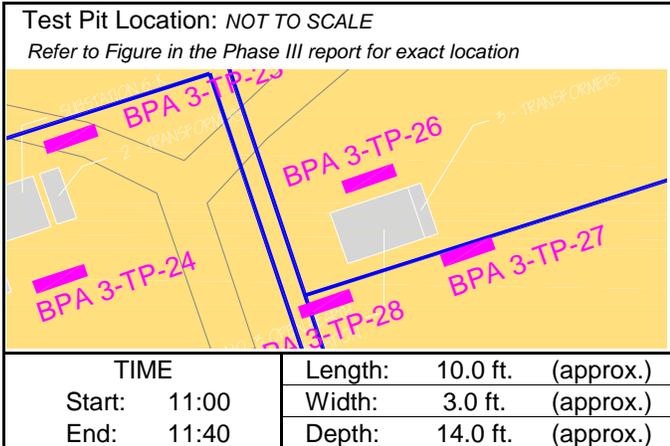
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Concrete with Rebar:</b>  | NA                  | Y            | NO                       |
| 0.5 - 3.0    | <b>Void:</b><br>Crawl space for former building  | NA                  | Y            | NO                       |
| 3.0 - 7.0    | <b>Fill:</b><br>Yellowish brown, moist, Silt with some Clay, few sand and trace Slag fill (with cindery ash, and brick), dense, loose when disturbed | 0.5                 | Y            | YES                      |
| 7.0          | End of Test Pit  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-25 (3-7')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-26</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 1.0    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.1                 | Y            | YES                      |
| 1.0 - 12.0   | <b>Fill:</b><br>Brown and black, moist to wet (at 5.5'), Slag fill with cindery ash, dense, loose when disturbed | 0.7                 | Y            | NO                       |
| 12.0 - 14.0  | <b>Silt and Clay:</b><br>Brown, moist, Silt with some Clay, low plasticity,                                      | NA                  | N            | NO                       |
| 14.0         | End of Test Pit  |                     |              |                          |

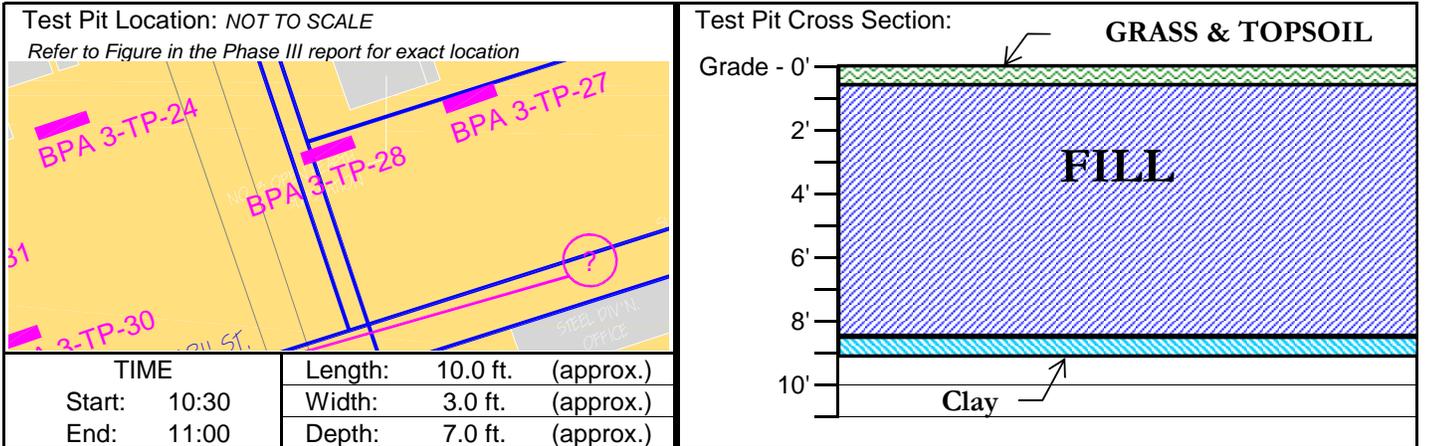
COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 5.5'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-26 (0-1') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-27</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



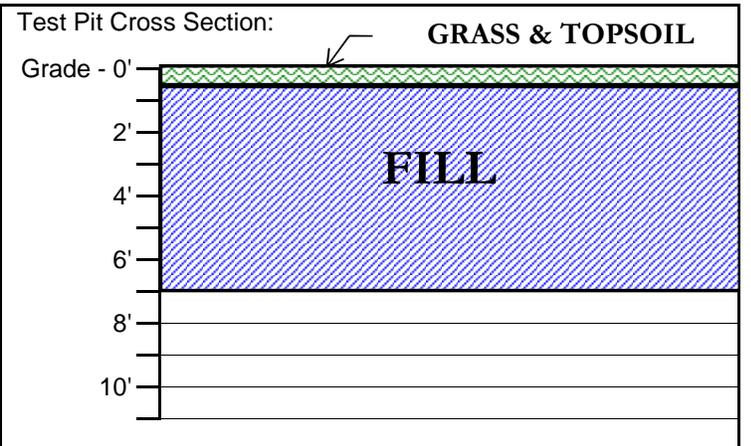
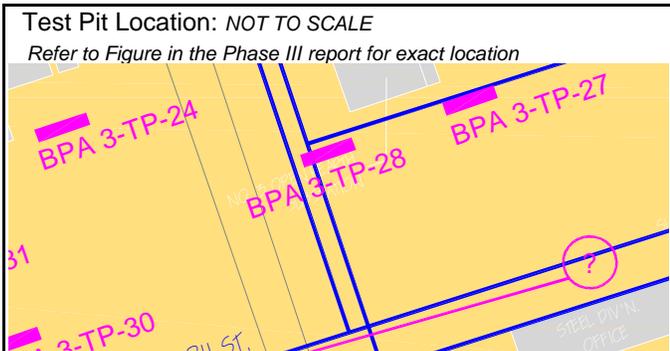
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose                                 | NA                  | Y            | NO                       |
| 0.5 - 4.0    | <b>Fill:</b><br>Brown, moist, Slag fill with little Silt, dense, loose when disturbed                         | 0.7                 | Y            | YES                      |
| 4.0 - 8.5    | <b>Fill:</b><br>Brown, moist to wet (4.5'), Slag fill with cindery ash and brick, dense, loose when disturbed | NA                  | Y            | NO                       |
| 8.5 - 9.0    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, firm                                       | NA                  | Y            | NO                       |
| 9.0          | End of Test Pit   |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| COMMENTS:                    |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 4.5'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-27 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-28</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|             |         |         |           |
|-------------|---------|---------|-----------|
| TIME        | Length: | 8.0 ft. | (approx.) |
| Start: 9:40 | Width:  | 3.0 ft. | (approx.) |
| End: 10:30  | Depth:  | 7.0 ft. | (approx.) |

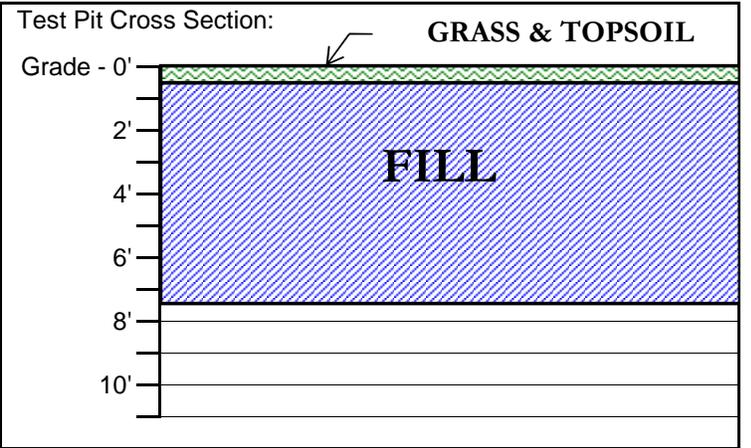
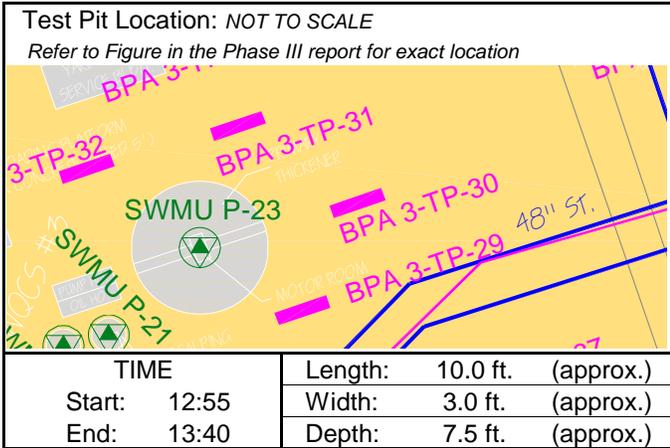
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose                                 | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and brick, dense, loose when disturbed               | 0.9                 | Y            | YES                      |
| 2.0 - 7.0    | <b>Fill:</b><br>Yellowish brown, moist to wet (5.5'), Slag fill with cindery ash, dense, loose when disturbed | 1.4                 | Y            | NO                       |
| 7.0          | End of Test Pit   |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| <b>COMMENTS:</b>             |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 5.5'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-28 (0-2')         |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-29</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/18/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.5                 | Y            | YES                      |
| 0.5 - 3.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 0.5                 | Y            | YES                      |
| 3.5 - 7.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | NO                       |
| 7.5          | End of Test Pit  |                     |              |                          |

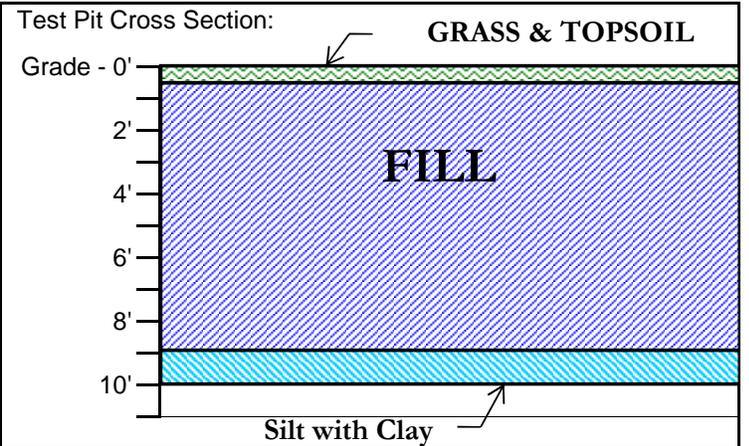
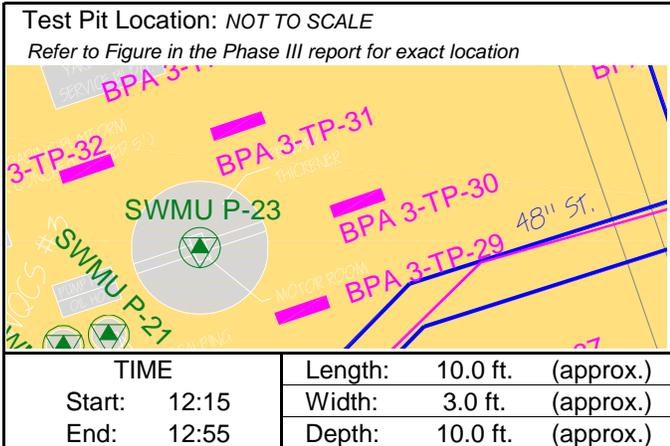
COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-29 (0-2') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-30</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/18/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.4                 | Y            | YES                      |
| 0.5 - 3.5    | <b>Fill:</b><br>Brown and gray, moist, Slag fill with cindery ash and silt, dense, loose when disturbed                          | 0.4                 | Y            | YES                      |
| 3.5 - 9.0    | <b>Fill:</b><br>Brown and gray, moist, Slag fill with cindery ash and silt, dense, loose when disturbed (very dense 3.5 to 4.5') | 0.0                 | Y            | NO                       |
| 9.0 - 10.0   | <b>Silt with Clay:</b><br>Brown, moist, Silt with little Clay, low plasticity, soft  | NA                  | Y            | NO                       |
| 10.0         | End of Test Pit  |                     |              |                          |

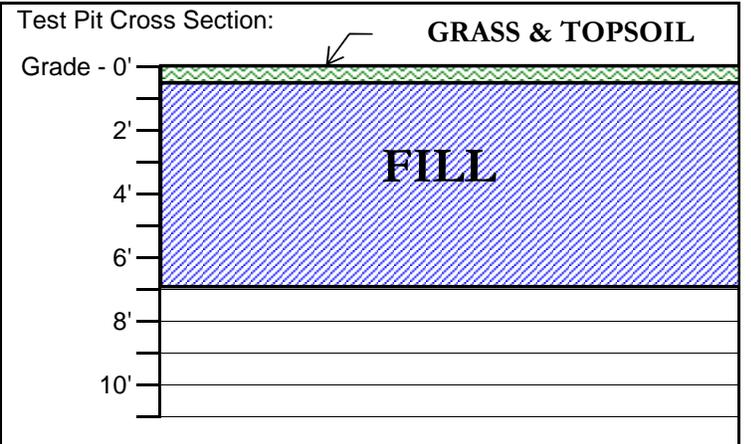
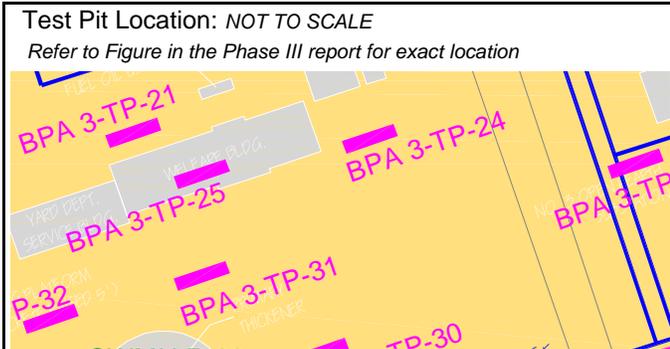
COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-30 (0-2') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-31</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |          |           |
|--------------|---------|----------|-----------|
| TIME         | Length: | 10.0 ft. | (approx.) |
| Start: 13:40 | Width:  | 3.0 ft.  | (approx.) |
| End: 14:20   | Depth:  | 7.0 ft.  | (approx.) |

| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose   | 0.5                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Reddish brown, moist, Slag fill and little Silt, dense, loose when disturbed                                    | 0.5                 | Y            | YES                      |
| 1.5 - 7.0    | <b>Fill:</b><br>Dark gray, moist, Slag fill with cindery ash, brick, and little Silt (mill scale?), dense, loose when disturbed | 0.3                 | Y            | YES                      |
| 7.0          | End of Test Pit   |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-31 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-32</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |

| <p>Test Pit Location: <i>NOT TO SCALE</i><br/>Refer to Figure in the Phase III report for exact location</p>  | <p>Test Pit Cross Section:</p> |                    |                    |              |        |                   |            |        |                   |  |
|---|--------------------------------|--------------------|--------------------|--------------|--------|-------------------|------------|--------|-------------------|--|
| <table border="1"> <tr> <th>TIME</th> <th>Length:</th> <td>10.0 ft. (approx.)</td> </tr> <tr> <td>Start: 11:30</td> <th>Width:</th> <td>3.0 ft. (approx.)</td> </tr> <tr> <td>End: 12:55</td> <th>Depth:</th> <td>7.5 ft. (approx.)</td> </tr> </table> | TIME                           | Length:            | 10.0 ft. (approx.) | Start: 11:30 | Width: | 3.0 ft. (approx.) | End: 12:55 | Depth: | 7.5 ft. (approx.) |  |
| TIME  | Length:                        | 10.0 ft. (approx.) |                    |              |        |                   |            |        |                   |  |
| Start: 11:30  | Width:                         | 3.0 ft. (approx.)  |                    |              |        |                   |            |        |                   |  |
| End: 12:55  | Depth:                         | 7.5 ft. (approx.)  |                    |              |        |                   |            |        |                   |  |

| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.2                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Brown, moist, Slag fill and little Silt, dense, loose when disturbed   | 1.2                 | Y            | YES                      |
| 2.0 - 7.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense (very dense 2.0-3.0'), loose when disturbed | 2.3                 | Y            | NO                       |
| 7.5          | End of Test Pit  |                     |              |                          |

|                                  |  |
|----------------------------------|--|
| COMMENTS: Uncover 12" pipe at 7' |  |
| GROUNDWATER ENCOUNTERED:         | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO      If yes, depth to GW: 7.5' |
| VISUAL IMPACTS:                  | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      Describe:                 |
| OLFACTORY OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      Describe:                 |
| NON-NATIVE FILL ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO      Slag, ash, and brick      |
| OTHER OBSERVATIONS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      Describe:                 |
| SAMPLES COLLECTED:               | Sample I.D.: TP-32 (0-2')  |
|                                  | Sample I.D.:   |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-33</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |

| <p>Test Pit Location: <i>NOT TO SCALE</i><br/>Refer to Figure in the Phase III report for exact location</p>  | <p>Test Pit Cross Section:</p> |                    |                   |              |        |                   |            |        |                    |  |
|---|--------------------------------|--------------------|-------------------|--------------|--------|-------------------|------------|--------|--------------------|--|
| <table border="1"> <tr> <th>TIME</th> <th>Length:</th> <td>8.0 ft. (approx.)</td> </tr> <tr> <td>Start: 10:50</td> <th>Width:</th> <td>3.0 ft. (approx.)</td> </tr> <tr> <td>End: 11:30</td> <th>Depth:</th> <td>10.5 ft. (approx.)</td> </tr> </table> | TIME                           | Length:            | 8.0 ft. (approx.) | Start: 10:50 | Width: | 3.0 ft. (approx.) | End: 11:30 | Depth: | 10.5 ft. (approx.) |  |
| TIME  | Length:                        | 8.0 ft. (approx.)  |                   |              |        |                   |            |        |                    |  |
| Start: 10:50  | Width:                         | 3.0 ft. (approx.)  |                   |              |        |                   |            |        |                    |  |
| End: 11:30  | Depth:                         | 10.5 ft. (approx.) |                   |              |        |                   |            |        |                    |  |

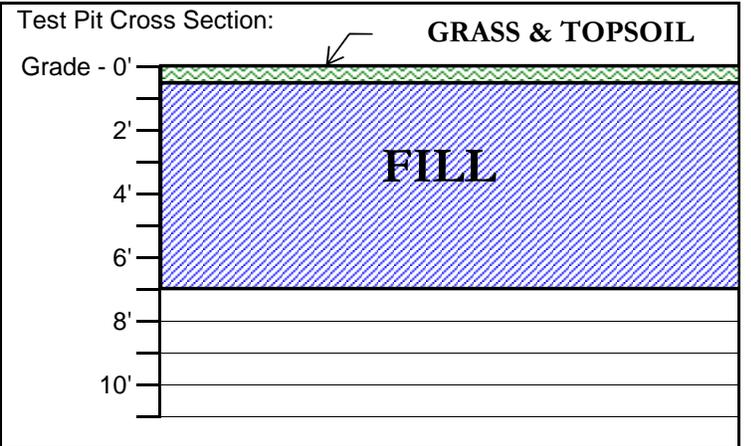
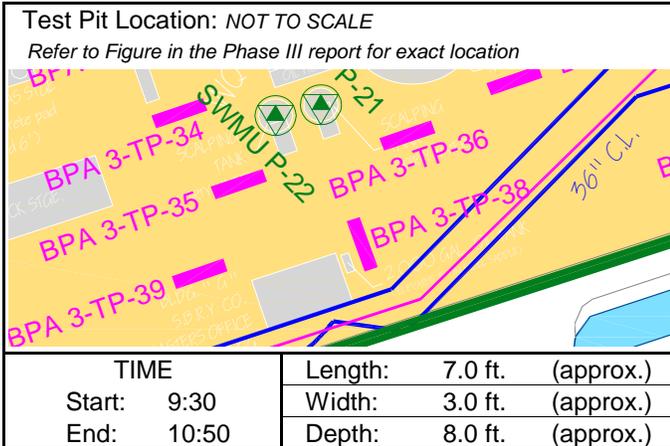
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose  | 0.7                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Reddish brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed              | 0.7                 | Y            | YES                      |
| 1.5 - 10.0   | <b>Fill:</b><br>Brown, moist to wet (7.5'), Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | YES                      |
| 10.0 - 10.5  | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, firm  | NA                  | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |

|   |   |  |                           |              |
|---|---|--|---------------------------|--------------|
| COMMENTS: Rial road ties just under the surface (old rail road bed) |   |  |                           |              |
| GROUNDWATER ENCOUNTERED:  | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: 7.5' |              |
| VISUAL IMPACTS:   | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:                 |              |
| OLFACTORY OBSERVATIONS:   | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:                 |              |
| NON-NATIVE FILL ENCOUNTERED:  | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Slag, ash, and brick      |              |
| OTHER OBSERVATIONS:   | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:                 |              |
| SAMPLES COLLECTED:  |   |  | Sample I.D.:              | TP-33 (0-2') |
|   |   | Sample I.D.:                           |                           |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-34</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



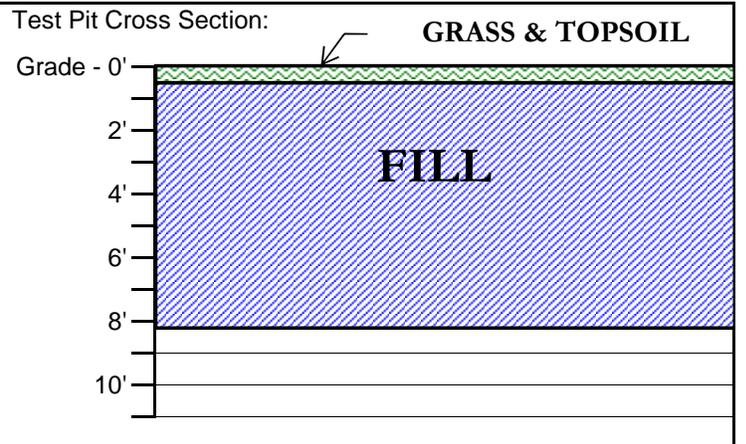
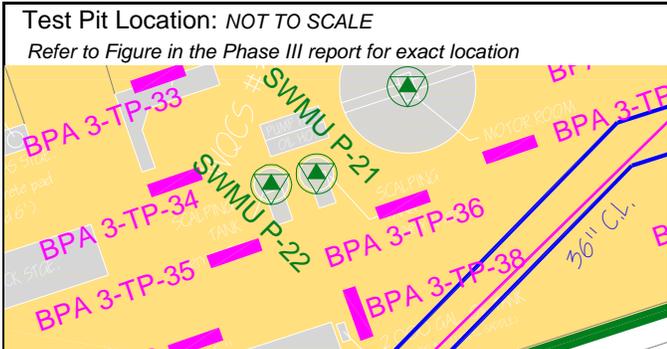
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.5                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed         | 0.5                 | Y            | YES                      |
| 1.5 - 8.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.5                 | Y            | YES                      |
| 8.0          | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| COMMENTS:                    |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 8.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-34 (0-4')         |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-35</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/18/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 10.0 ft. (approx.) |
| Start: 14:10 | Width: 3.0 ft. (approx.)   |
| End: 15:55   | Depth: 8.5 ft. (approx.)   |

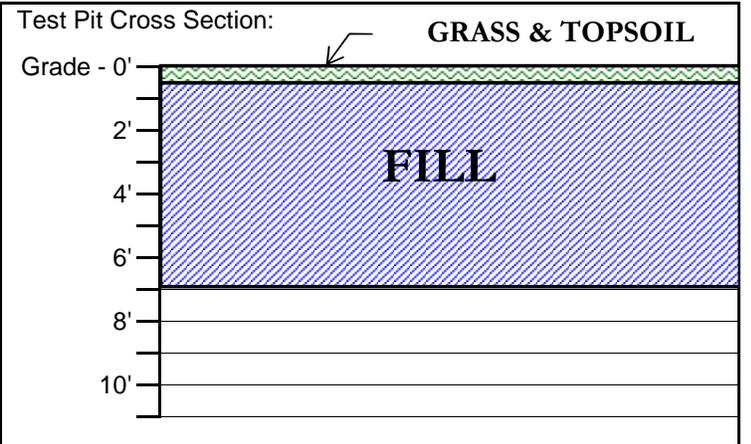
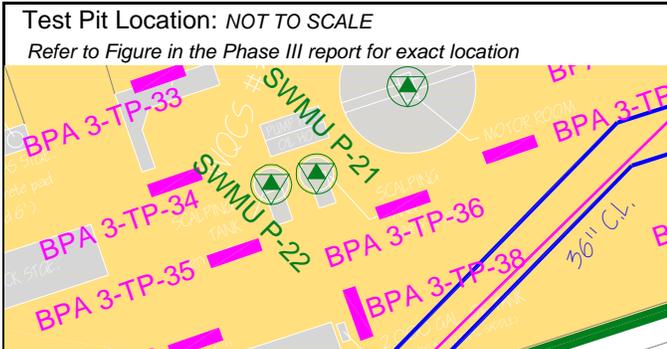
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose   | 1.6                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed  | 1.6                 | Y            | YES                      |
| 2.0 - 8.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed, (from 4-6' sand bedding for 12" pipe) | 1.2                 | Y            | NO                       |
| 8.5          | End of Test Pit   |                     |              |                          |

|                              |   |                           |              |  |
|------------------------------|---|---------------------------|--------------|--|
| COMMENTS:                    |   |                           |              |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 8.5' |              |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |              |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:              | TP-35 (0-2') |  |
|                              |   | Sample I.D.:              |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-36</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/18/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |                   |
|--------------|---------|-------------------|
| TIME         | Length: | 8.0 ft. (approx.) |
| Start: 13:40 | Width:  | 3.0 ft. (approx.) |
| End: 14:10   | Depth:  | 7.0 ft. (approx.) |

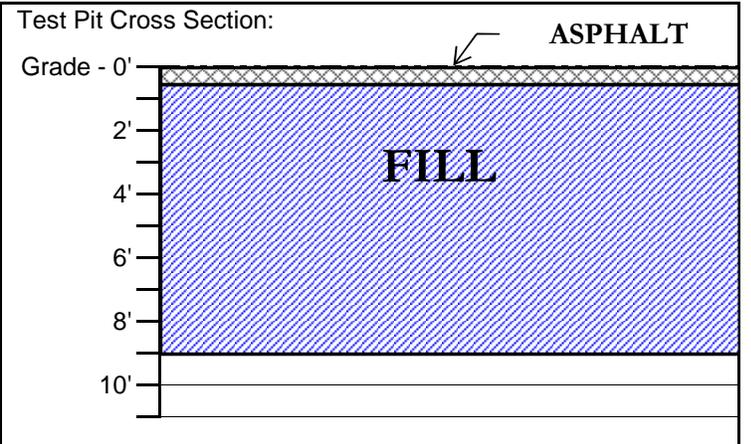
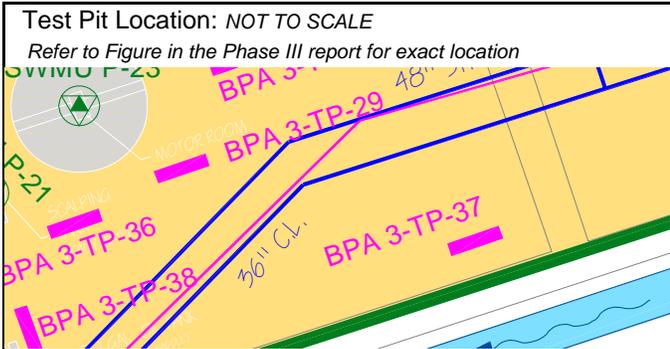
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.4                 | Y            | YES                      |
| 0.5 - 2.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 0.4                 | Y            | YES                      |
| 2.5 - 7.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.3                 | Y            | NO                       |
| 7.0          | End of Test Pit  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| COMMENTS:                    |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-36 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-37</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/15/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|             |                            |
|-------------|----------------------------|
| TIME        | Length: 10.0 ft. (approx.) |
| Start: 8:20 | Width: 3.0 ft. (approx.)   |
| End: 9:40   | Depth: 9.0 ft. (approx.)   |

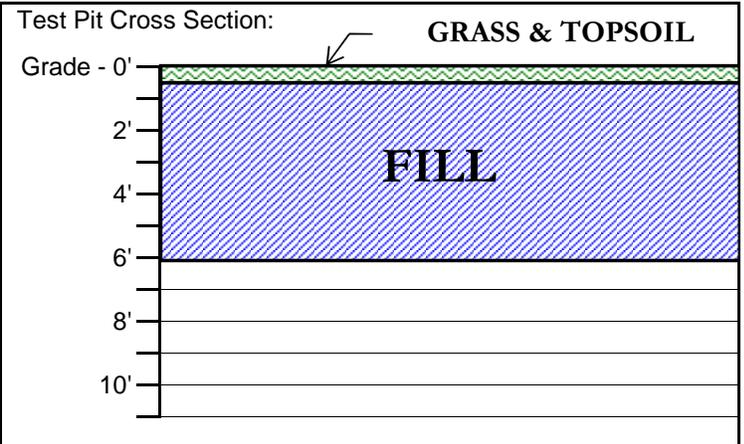
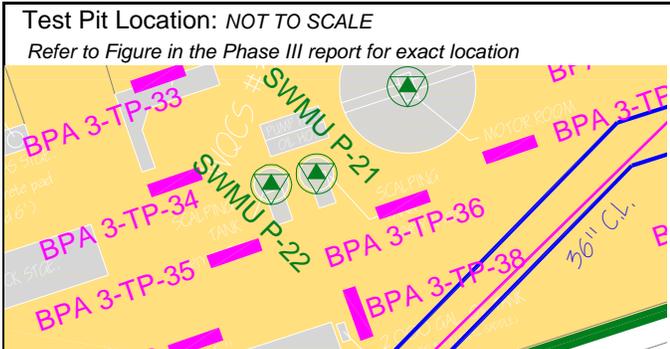
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | Asphalt and subbase  | NA                  | Y            | NO                       |
| 0.5 - 1.5    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, very dense                          | 0.5                 | Y            | YES                      |
| 1.5 - 9.0    | <b>Fill:</b><br>Gray, moist to wet (7.0'), Slag fill with cindery ash and brick, dense, loose when disturbed | 0.0                 | Y            | YES                      |
| 9.0          | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |              |
|------------------------------|---|--|----------------------|--------------|
| COMMENTS:                    |   |  |                      |              |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 7.0'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Slag and mill scale? |              |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-37 (0-2') |
|                              |   |  | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-38</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|             |                            |
|-------------|----------------------------|
| <b>TIME</b> | Length: 16.0 ft. (approx.) |
| Start: 8:00 | Width: 3.0 ft. (approx.)   |
| End: 8:55   | Depth: 6.0 ft. (approx.)   |

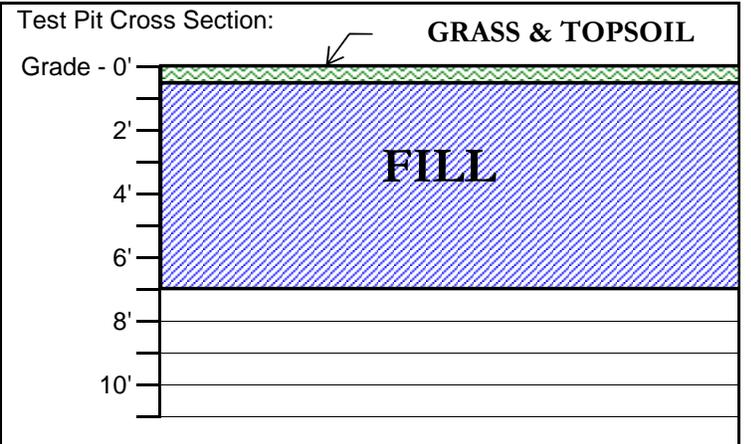
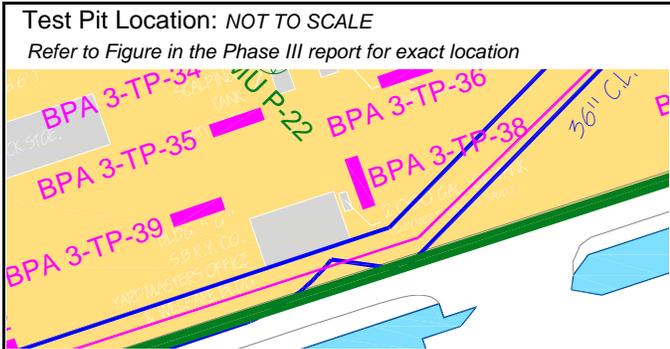
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.2                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed         | 0.2                 | Y            | YES                      |
| 1.5 - 6.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.1                 | Y            | NO                       |
| 6.0          | End of Test Pit  |                     |              |                          |

|  |                           |
|--|---------------------------|
| <b>COMMENTS:</b> Two 4" metal pipes cross the test pit   |                           |
| GROUNDWATER ENCOUNTERED: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO     | If yes, depth to GW: 6.0' |
| VISUAL IMPACTS: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO              | Describe:                 |
| OLFACTORY OBSERVATIONS: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      | Describe:                 |
| NON-NATIVE FILL ENCOUNTERED: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |
| OTHER OBSERVATIONS: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO          | Describe:                 |
| SAMPLES COLLECTED:   | Sample I.D.: TP-38 (0-2') |
|  | Sample I.D.:              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-39</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/19/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|             |                           |
|-------------|---------------------------|
| <b>TIME</b> | Length: 8.0 ft. (approx.) |
| Start: 8:55 | Width: 3.0 ft. (approx.)  |
| End: 9:30   | Depth: 7.0 ft. (approx.)  |

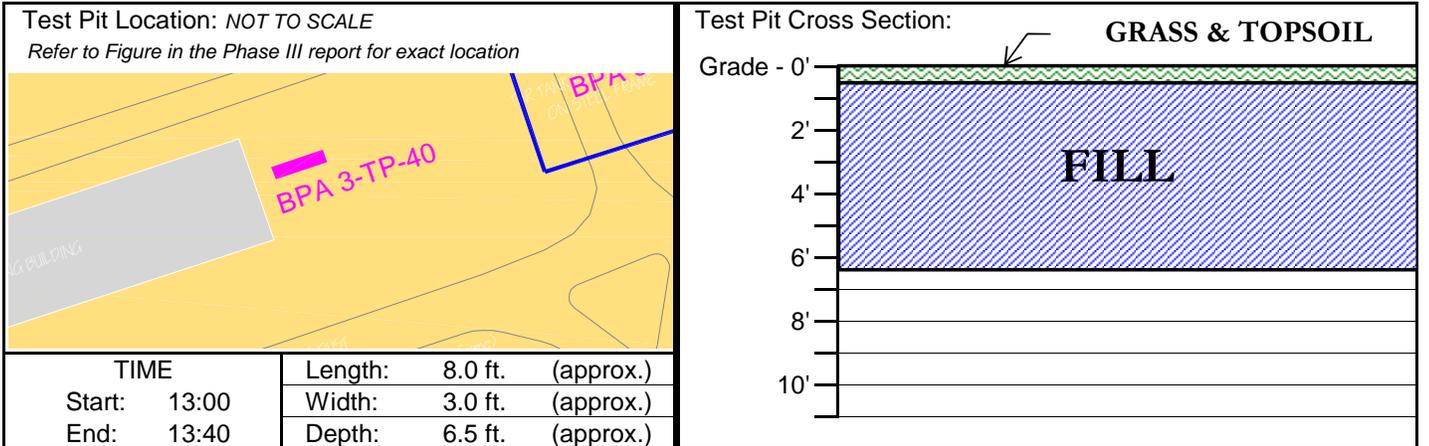
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.4                 | Y            | YES                      |
| 0.5 - 3.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed         | 1.4                 | Y            | YES                      |
| 3.0 - 7.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 1.4                 | Y            | YES                      |
| 7.0          | End of Test Pit  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-39 (0-6')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-40</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/21/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



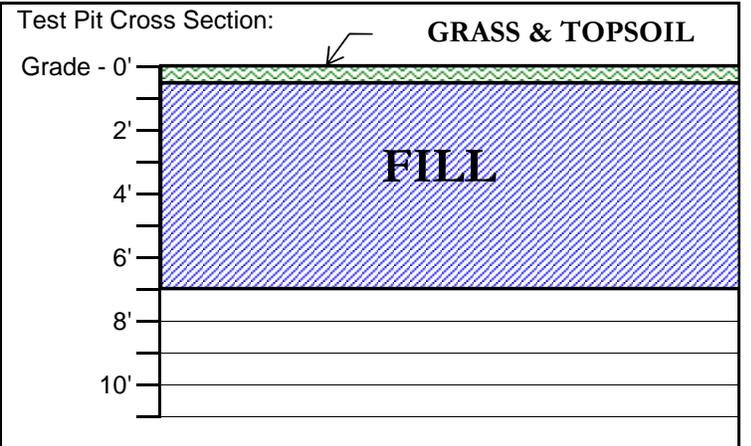
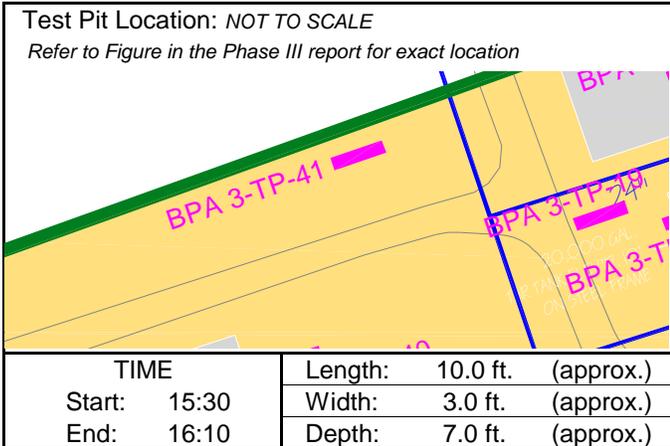
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.4                 | Y            | YES                      |
| 0.5 - 6.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 1.2                 | Y            | YES                      |
| 6.5          | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6.5'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-40 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-41</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/20/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.4                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 0.4                 | Y            | YES                      |
| 1.5 - 7.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.4                 | Y            | YES                      |
| 7.0          | End of Test Pit  |                     |              |                          |

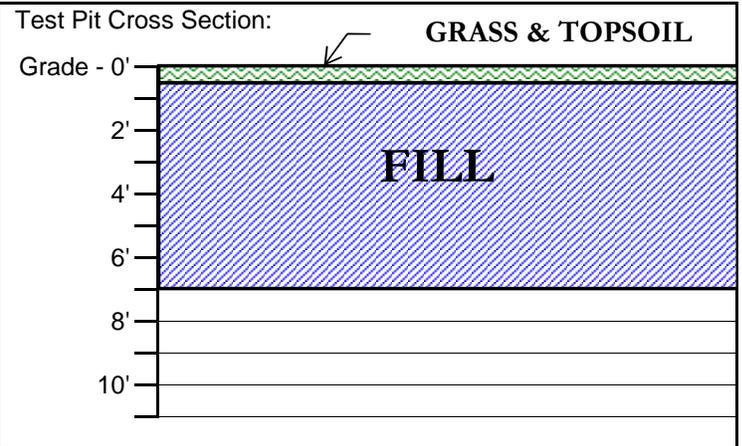
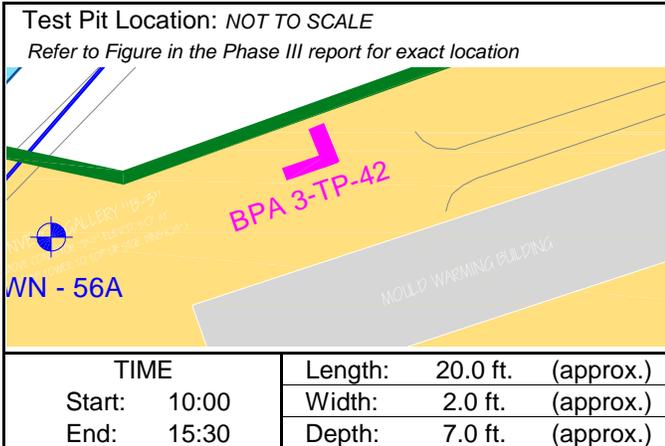
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-41 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-42</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/21/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430         |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | NA                  | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed, paint like material (brick orange color) from 1.4-1.5 | 400                 | Y            | YES                      |
| 1.5 - 7.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed   | 9.2                 | Y            | YES                      |
| 7.0          | End of Test Pit  |                     |              |                          |

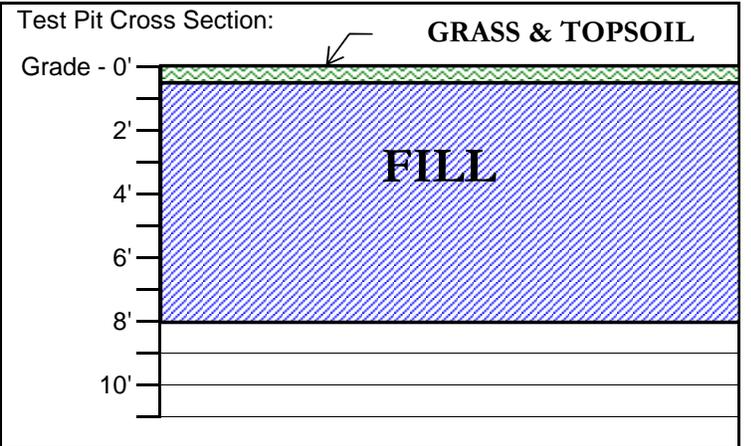
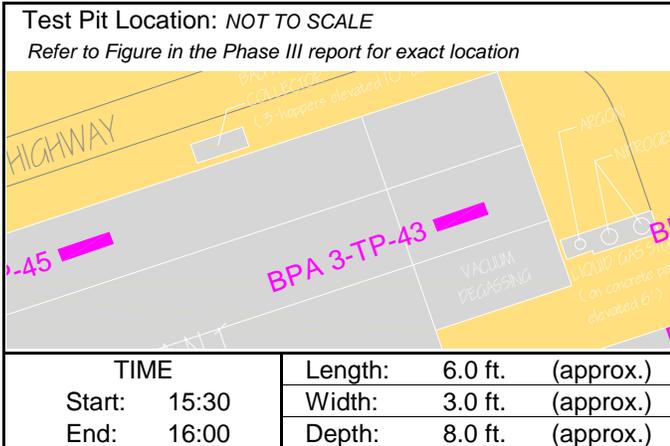
COMMENTS: Fresh break of paint like material had PID readings of 1300 ppm. Area of impact approximately 10' X 10'

|                              |  |                      |                      |
|------------------------------|--|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO            | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO            | Describe:            | Paint like odor      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO            |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO            | Describe:            |                      |
| SAMPLES COLLECTED:           |  | Sample I.D.:         | TP-42 (0-2')         |
|                              |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-43</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/21/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.2                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 1.2                 | Y            | YES                      |
| 2.0 - 8.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 1.2                 | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |

COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-43 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-44</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/21/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |

| <p>Test Pit Location: <i>NOT TO SCALE</i><br/>Refer to Figure in the Phase III report for exact location</p>   | <p>Test Pit Cross Section:</p> |                            |                            |              |  |                          |            |  |                          |  |
|--|--------------------------------|----------------------------|----------------------------|--------------|--|--------------------------|------------|--|--------------------------|--|
| <table border="1"> <tr> <th colspan="2">TIME</th> <td>Length: 10.0 ft. (approx.)</td> </tr> <tr> <td>Start: 16:00</td> <td></td> <td>Width: 3.0 ft. (approx.)</td> </tr> <tr> <td>End: 16:45</td> <td></td> <td>Depth: 8.5 ft. (approx.)</td> </tr> </table> | TIME                           |                            | Length: 10.0 ft. (approx.) | Start: 16:00 |  | Width: 3.0 ft. (approx.) | End: 16:45 |  | Depth: 8.5 ft. (approx.) |  |
| TIME   |                                | Length: 10.0 ft. (approx.) |                            |              |  |                          |            |  |                          |  |
| Start: 16:00   |                                | Width: 3.0 ft. (approx.)   |                            |              |  |                          |            |  |                          |  |
| End: 16:45   |                                | Depth: 8.5 ft. (approx.)   |                            |              |  |                          |            |  |                          |  |

| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 8.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, metal, brick and little Silt, dense, loose when disturbed | 2.5                 | Y            | YES                      |
| 8.5          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |
|              |   |                     |              |                          |

|                              |   |                           |              |  |
|------------------------------|---|---------------------------|--------------|--|
| <b>COMMENTS:</b>             |   |                           |              |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 8.5' |              |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |              |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:              | TP-44 (0-2') |  |
|                              |   | Sample I.D.:              |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-45</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/21/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |

| <p>Test Pit Location: <i>NOT TO SCALE</i><br/>Refer to Figure in the Phase III report for exact location</p>  | <p>Test Pit Cross Section:</p> |         |                    |                    |        |       |        |                   |      |       |        |                   |  |
|---|--------------------------------|---------|--------------------|--------------------|--------|-------|--------|-------------------|------|-------|--------|-------------------|--|
| <table border="1"> <tr> <th colspan="2">TIME</th> <th>Length:</th> <td>10.0 ft. (approx.)</td> </tr> <tr> <td>Start:</td> <td>16:45</td> <th>Width:</th> <td>3.0 ft. (approx.)</td> </tr> <tr> <td>End:</td> <td>17:00</td> <th>Depth:</th> <td>7.0 ft. (approx.)</td> </tr> </table> | TIME                           |         | Length:            | 10.0 ft. (approx.) | Start: | 16:45 | Width: | 3.0 ft. (approx.) | End: | 17:00 | Depth: | 7.0 ft. (approx.) |  |
| TIME  |                                | Length: | 10.0 ft. (approx.) |                    |        |       |        |                   |      |       |        |                   |  |
| Start:  | 16:45                          | Width:  | 3.0 ft. (approx.)  |                    |        |       |        |                   |      |       |        |                   |  |
| End:  | 17:00                          | Depth:  | 7.0 ft. (approx.)  |                    |        |       |        |                   |      |       |        |                   |  |

| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 7.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, metal, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | YES                      |
| 7.0          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |
|              |   |                     |              |                          |

|  |   |  |                      |  |
|--|---|--|----------------------|--|
| <b>COMMENTS:</b> Refusal on very hard, dense, concrete like material at 7' |   |  |                      |  |
| GROUNDWATER ENCOUNTERED:   | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | If yes, depth to GW: |  |
| VISUAL IMPACTS:  | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |  |
| OLFACTORY OBSERVATIONS:  | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |  |
| NON-NATIVE FILL ENCOUNTERED:   | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:  | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |  |
| SAMPLES COLLECTED:   |   | Sample I.D.:                           | TP-45 (0-2')         |  |
|  |   | Sample I.D.:                           |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-46</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/22/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |

| <p>Test Pit Location: <i>NOT TO SCALE</i><br/>Refer to Figure in the Phase III report for exact location</p>  | <p>Test Pit Cross Section:</p> |                    |                    |              |        |                   |            |        |                   |  |
|---|--------------------------------|--------------------|--------------------|--------------|--------|-------------------|------------|--------|-------------------|--|
| <table border="1"> <tr> <th>TIME</th> <th>Length:</th> <td>10.0 ft. (approx.)</td> </tr> <tr> <td>Start: 11:00</td> <th>Width:</th> <td>3.0 ft. (approx.)</td> </tr> <tr> <td>End: 13:30</td> <th>Depth:</th> <td>9.0 ft. (approx.)</td> </tr> </table> | TIME                           | Length:            | 10.0 ft. (approx.) | Start: 11:00 | Width: | 3.0 ft. (approx.) | End: 13:30 | Depth: | 9.0 ft. (approx.) |  |
| TIME  | Length:                        | 10.0 ft. (approx.) |                    |              |        |                   |            |        |                   |  |
| Start: 11:00  | Width:                         | 3.0 ft. (approx.)  |                    |              |        |                   |            |        |                   |  |
| End: 13:30  | Depth:                         | 9.0 ft. (approx.)  |                    |              |        |                   |            |        |                   |  |

| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.2                 | Y            | YES                      |
| 0.5 - 9.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 1.2                 | Y            | YES                      |
| 9.0          | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

|  |   |                           |              |  |
|--|---|---------------------------|--------------|--|
| COMMENTS: Metal pipe (approximately 24" diameter) uncovered a 6' |   |                           |              |  |
| GROUNDWATER ENCOUNTERED:   | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 9.0' |              |  |
| VISUAL IMPACTS:  | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| OLFACTORY OBSERVATIONS:  | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| NON-NATIVE FILL ENCOUNTERED:                                     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |              |  |
| OTHER OBSERVATIONS:  | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |              |  |
| SAMPLES COLLECTED:   |   | Sample I.D.:              | TP-46 (0-2') |  |
|  |   | Sample I.D.:              |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-47</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/22/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |

| <p>Test Pit Location: <i>NOT TO SCALE</i><br/>Refer to Figure in the Phase III report for exact location</p>   | <p>Test Pit Cross Section:</p> |                    |                    |              |        |                   |            |        |                    |  |
|--|--------------------------------|--------------------|--------------------|--------------|--------|-------------------|------------|--------|--------------------|--|
| <table border="1"> <tr> <th>TIME</th> <th>Length:</th> <td>10.0 ft. (approx.)</td> </tr> <tr> <td>Start: 13:30</td> <th>Width:</th> <td>3.0 ft. (approx.)</td> </tr> <tr> <td>End: 14:50</td> <th>Depth:</th> <td>12.5 ft. (approx.)</td> </tr> </table> | TIME                           | Length:            | 10.0 ft. (approx.) | Start: 13:30 | Width: | 3.0 ft. (approx.) | End: 14:50 | Depth: | 12.5 ft. (approx.) |  |
| TIME   | Length:                        | 10.0 ft. (approx.) |                    |              |        |                   |            |        |                    |  |
| Start: 13:30   | Width:                         | 3.0 ft. (approx.)  |                    |              |        |                   |            |        |                    |  |
| End: 14:50   | Depth:                         | 12.5 ft. (approx.) |                    |              |        |                   |            |        |                    |  |

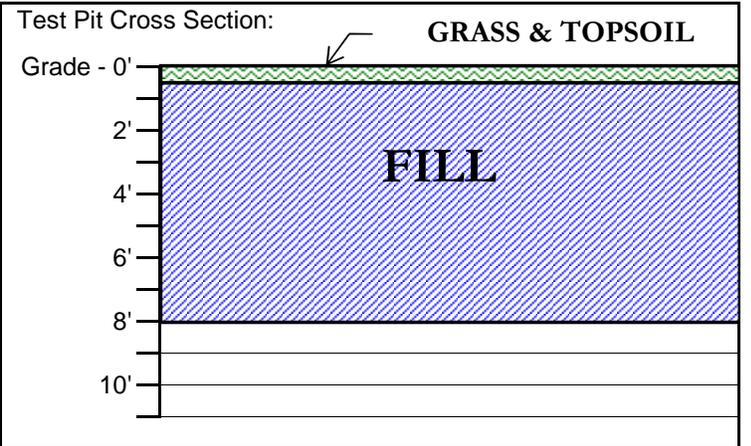
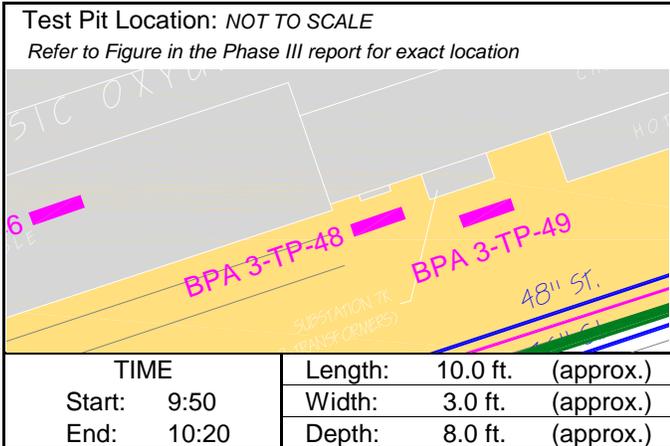
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.2                 | Y            | YES                      |
| 0.5 - 3.0    |  | 0.2                 | Y            | YES                      |
| 3.0 - 10.0   | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | NO                       |
| 10.0 - 12.5  | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, firm                                      | NA                  | Y            | NO                       |
| 12.5         | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| <b>COMMENTS:</b>             |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 9.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-47 (0-2')         |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-48</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/22/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.3                 | Y            | YES                      |
| 0.5 - 1.0    | <b>Fill:</b><br>Gray and black, dry, macadam (black top like material)                                       | 1.3                 | Y            | YES                      |
| 1.0 - 8.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 1.1                 | Y            | YES                      |
| 8.0          | End of Test Pit  |                     |              |                          |

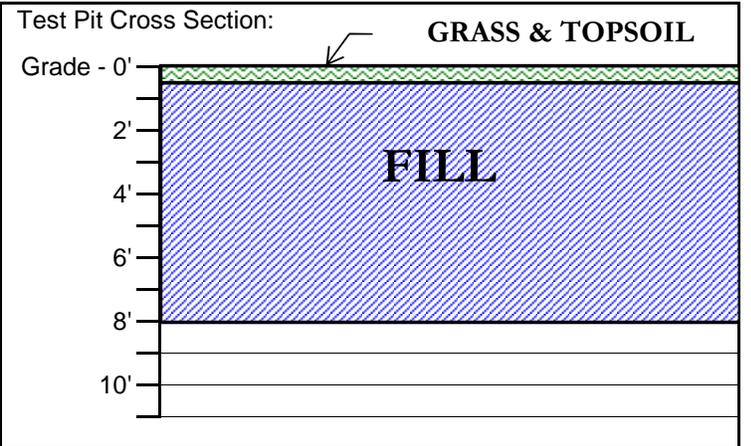
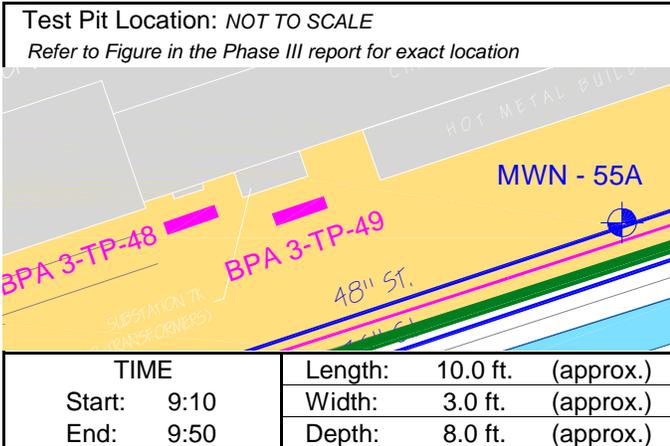
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-48 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-49</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/22/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.0                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed         | 1.0                 | Y            | YES                      |
| 2.0 - 8.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.8                 | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |

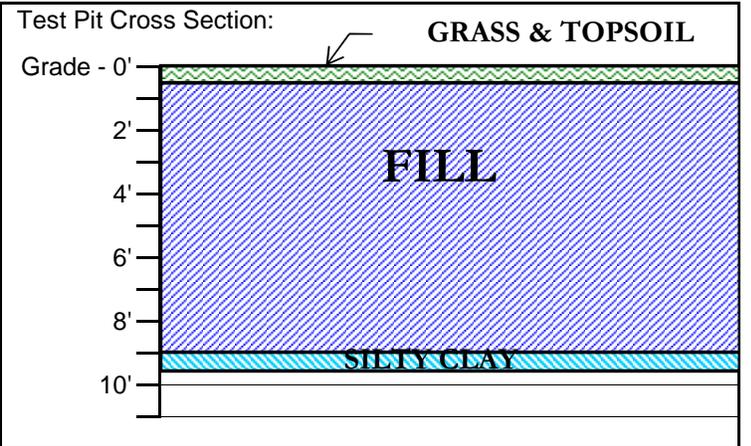
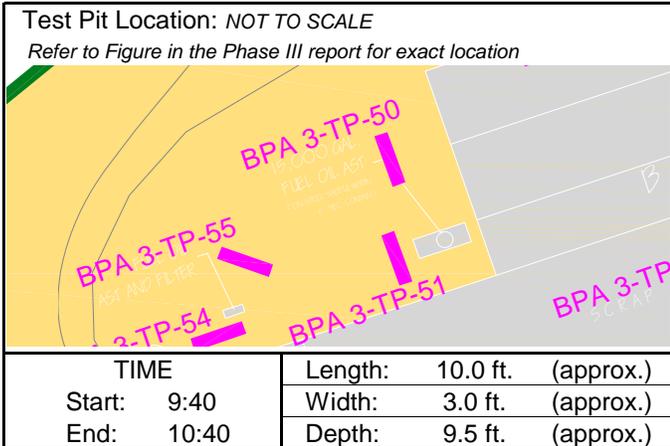
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-49 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-50</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                              | 1.3                 | Y            | YES                      |
| 0.5 - 2.5    | <b>Fill:</b><br>Gray, moist, Slag fill with little Silt, dense, loose when disturbed               | 1.3                 | Y            | YES                      |
| 2.5 - 9.0    | <b>Fill:</b><br>Brown, moist to wet (8'), Slag fill with cindery ash, brick and little Silt, dense | 5.0                 | Y            | NO                       |
| 9.0 - 9.5    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                           | NA                  | Y            | NO                       |
| 9.5          | End of Test Pit  |                     |              |                          |

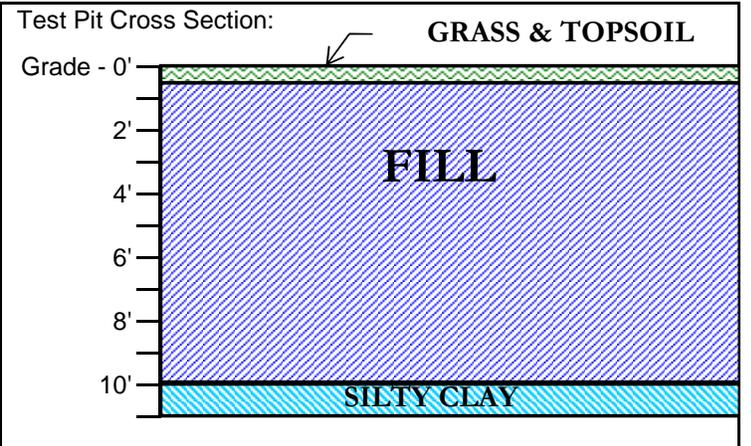
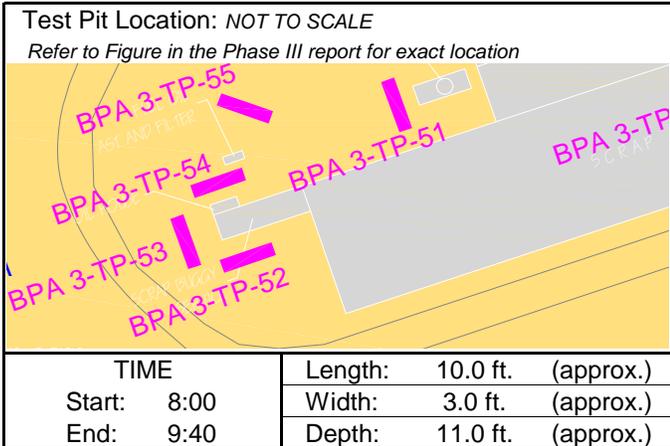
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-50 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-51</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                      | 2.6                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Brown, moist, Slag fill with little Silt, dense, loose when disturbed                      | 2.6                 | Y            | YES                      |
| 1.5 - 10.0   | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense (very dense 8'-10') | 40.0                | Y            | NO                       |
| 10.0 - 11.0  | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                                   | NA                  | Y            | NO                       |
| 11.0         | End of Test Pit  |                     |              |                          |

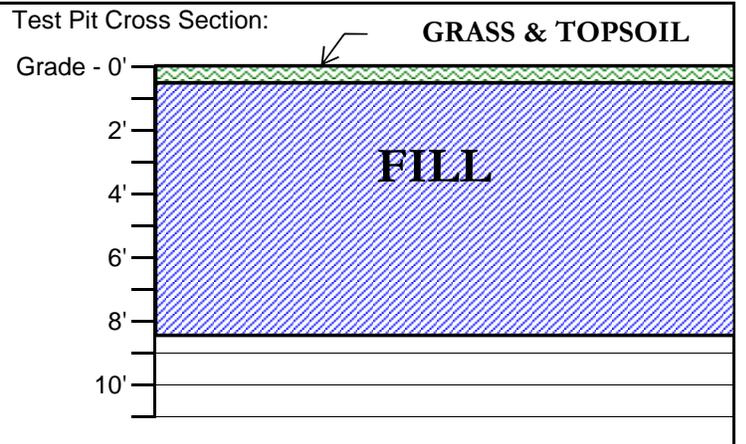
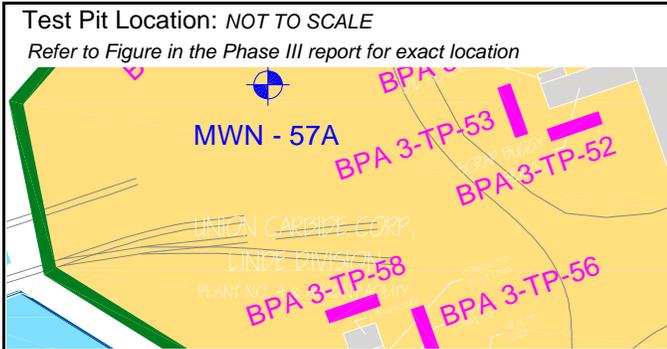
COMMENTS:

|                              |   |                           |
|------------------------------|---|---------------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 8.0' |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |
| SAMPLES COLLECTED:           | Sample I.D.: TP-51 (0-2')   | Sample I.D.:              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-52</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/25/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| <b>TIME</b>  | Length: 10.0 ft. (approx.) |
| Start: 12:50 | Width: 3.0 ft. (approx.)   |
| End: 13:40   | Depth: 8.5 ft. (approx.)   |

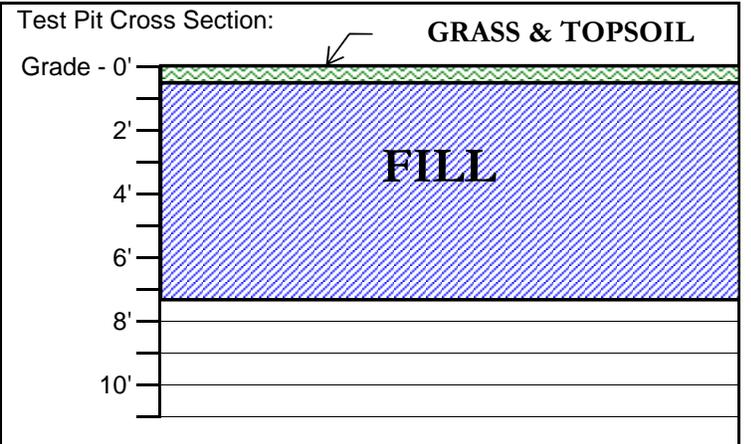
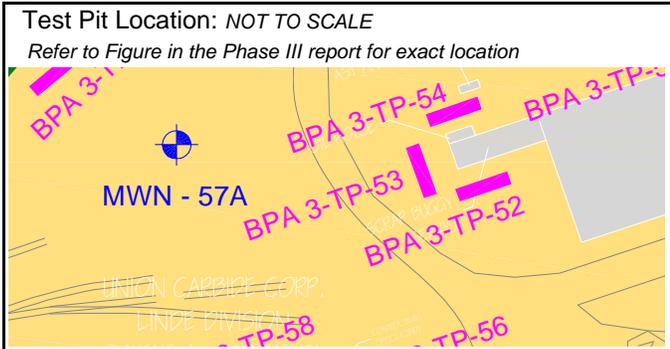
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.5                 | Y            | YES                      |
| 0.5 - 8.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 2.3                 | Y            | YES                      |
| 8.5          | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.5'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-52 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-53</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/25/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |         |           |
|--------------|---------|---------|-----------|
| <b>TIME</b>  | Length: | 8.0 ft. | (approx.) |
| Start: 13:40 | Width:  | 3.0 ft. | (approx.) |
| End: 14:50   | Depth:  | 7.5 ft. | (approx.) |

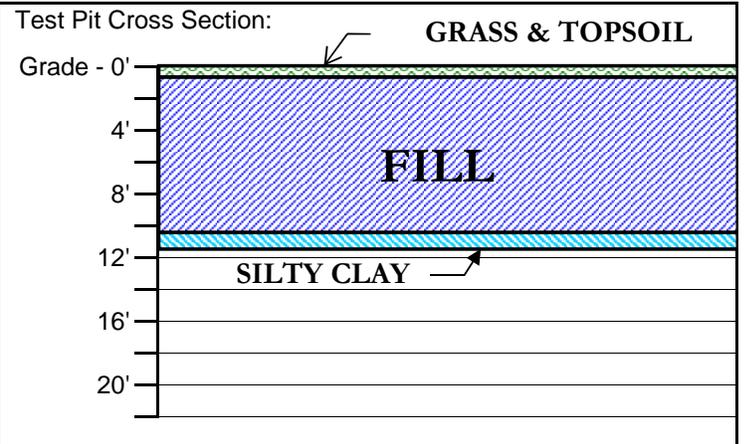
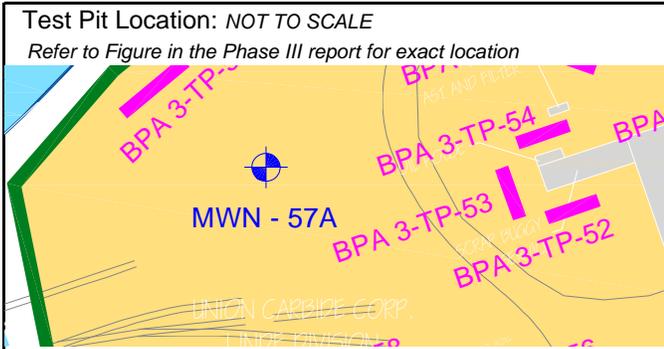
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 2.6                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Gray, moist, Slag fill with ash, little Silt, dense  | 2.6                 | Y            | YES                      |
| 1.5 - 7.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 7.2                 | Y            | YES                      |
| 7.5          | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| <b>COMMENTS:</b>             |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 7.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-53 (0-2')         |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-54</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/25/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |          |           |
|--------------|---------|----------|-----------|
| TIME         | Length: | 10.0 ft. | (approx.) |
| Start: 14:50 | Width:  | 3.0 ft.  | (approx.) |
| End: 15:15   | Depth:  | 11.0 ft. | (approx.) |

| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm)  | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|----------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.3                  | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with ash, little Silt, dense  | 1.3                  | Y            | YES                      |
| 2.0 - 10.5   | <b>Fill:</b><br>Brown, moist to wet (7.5'), Slag fill with cindery ash, brick and little Silt, dense, (very dense 7.5 - 9.5'), moderate odor (7.5-10.5') | 102<br>(7.5 - 10.5') | Y            | NO                       |
| 10.5 - 11.5  | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff   | NA                   | Y            | NO                       |
| 11.5         | End of Test Pit  |                      |              |                          |

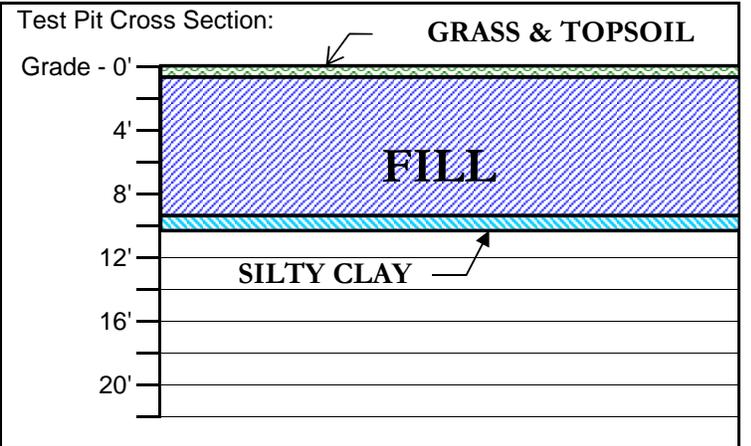
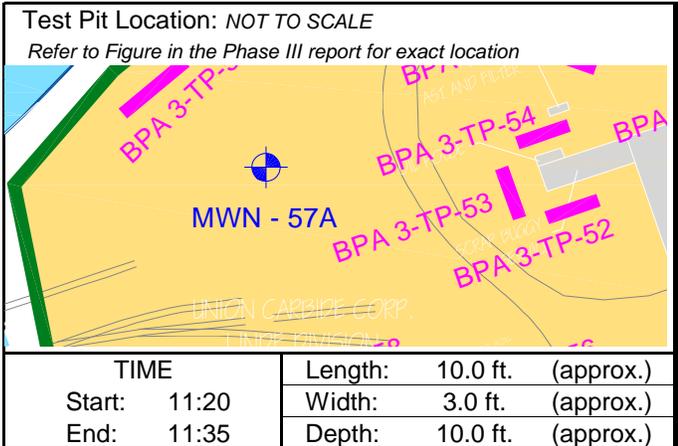
COMMENTS: Two vertical I beams in test pit

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Moderate odor        |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-54 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                     |
|--------------|---|----------------------|---------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-54A</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08            |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030           |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH               |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                               | 3.0                 | Y            | NO                       |
| 0.5 - 1.5    | <b>Fill:</b><br>Gray, moist, Slag fill with ash, little Silt, dense                                 | 3.0                 | Y            | NO                       |
| 1.5 - 9.5    | <b>Fill:</b><br>Brown, moist to wet (8'), Slag fill with cindery ash, brick and little Silt, dense, | 11.0                | Y            | NO                       |
| 9.5 - 10     | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                            | NA                  | Y            | NO                       |
| 10           | End of Test Pit   |                     |              |                          |

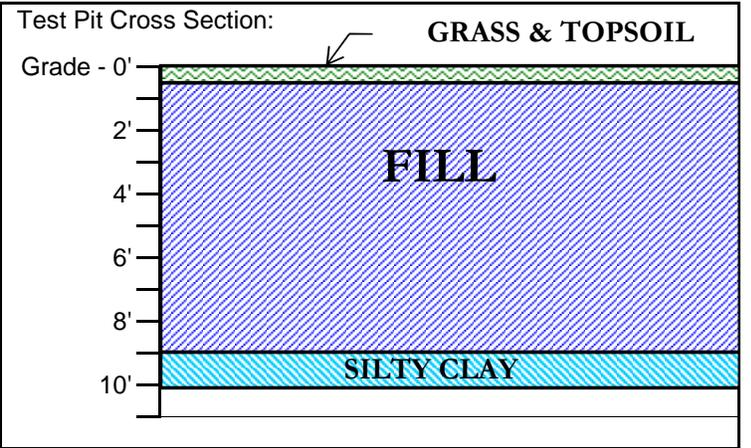
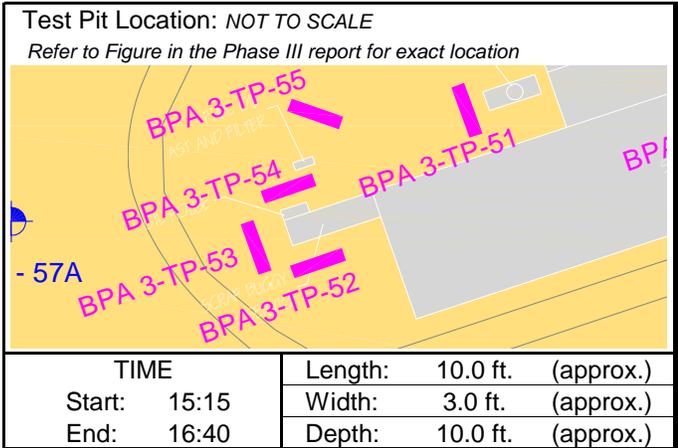
COMMENTS: Located 30' south of TP-54

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         |                      |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-55</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/25/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                 | 1.5                 | Y            | YES                      |
| 0.5 - 3.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed | 1.5                 | Y            | YES                      |
| 3.0 - 9.0    | <b>Fill:</b><br>Brown, moist, brick fill with cindery ash, dense, loose when disturbed                | 28.0                | Y            | YES                      |
| 9.0 - 10.0   | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                              | NA                  | Y            | NO                       |
| 10.0         | End of Test Pit   |                     |              |                          |

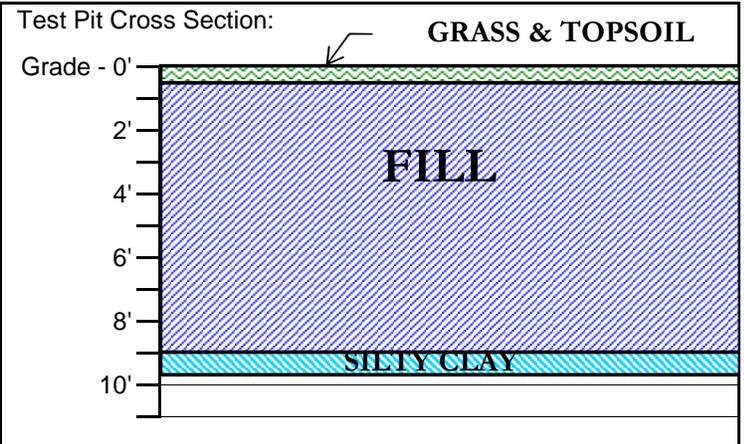
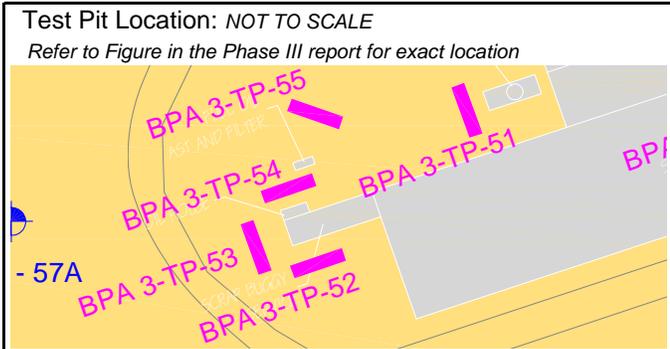
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-55 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                     |
|--------------|---|----------------------|---------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-55A</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08            |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030           |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH               |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 10.0 ft. (approx.) |
| Start: 11:35 | Width: 3.0 ft. (approx.)   |
| End: 12:50   | Depth: 9.5 ft. (approx.)   |

| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                 | NA                  | Y            | NO                       |
| 0.5 - 3.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed | NA                  | Y            | NO                       |
| 3.0 - 9.0    | <b>Fill:</b><br>Brown, moist, brick fill with cindery ash, dense, loose when disturbed                | 20.0                | Y            | NO                       |
| 9.0 - 9.5    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                              | NA                  | Y            | NO                       |
| 9.5          | End of Test Pit   |                     |              |                          |

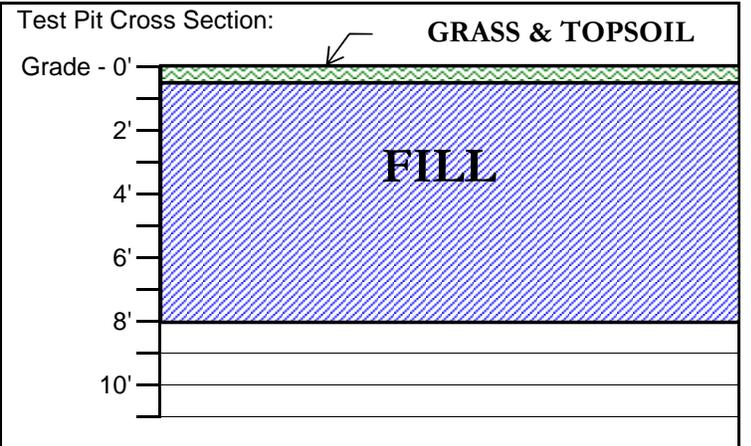
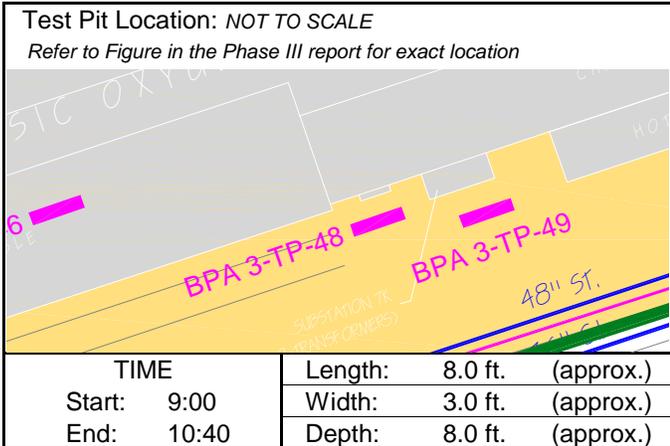
COMMENTS: Located 30' southwest fo TP-55

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         |                      |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-56</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/25/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 2.2                 | Y            | YES                      |
| 0.5 - 3.0    | <b>Fill:</b><br>Gray, moist, Slag fill with ash, little Silt, and trace tar, dense (very dense 2-3')         | 2.2                 | Y            | YES                      |
| 3.0 - 8.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.8                 | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |

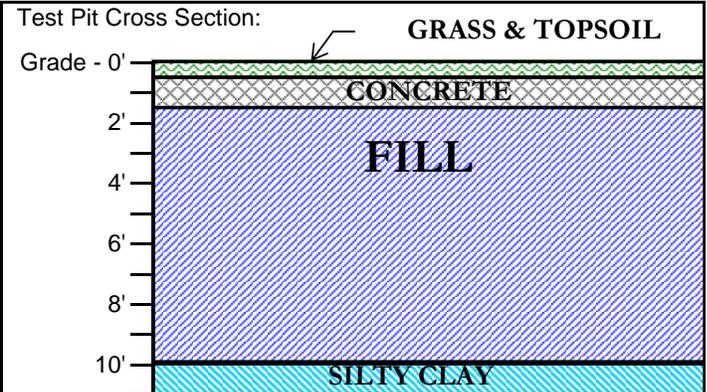
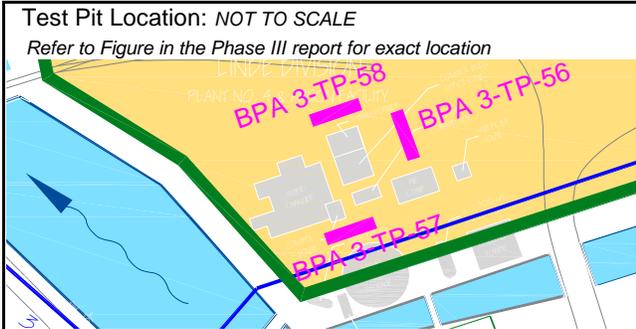
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-56 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-57</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/25/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |                    |
|--------------|---------|--------------------|
| <b>TIME</b>  | Length: | 8.0 ft. (approx.)  |
| Start: 12:10 | Width:  | 3.0 ft. (approx.)  |
| End: 12:50   | Depth:  | 11.0 ft. (approx.) |

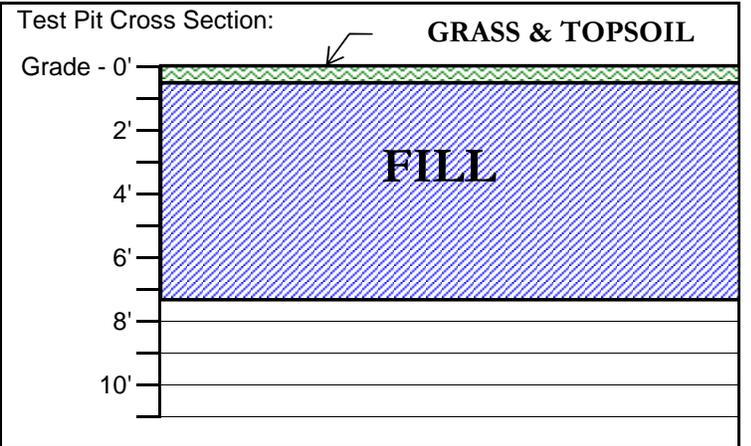
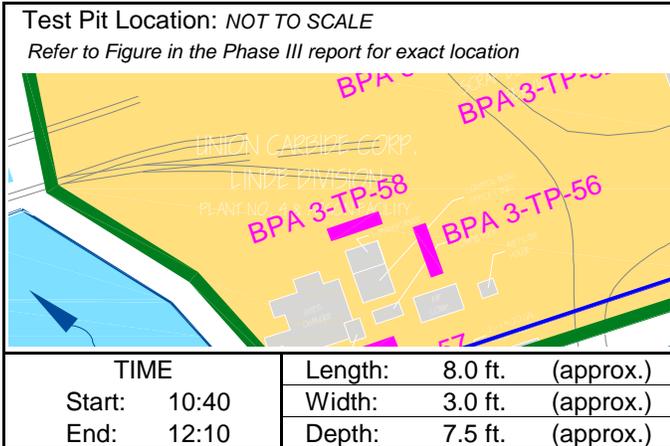
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.3                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Concrete:</b>   | NA                  | Y            | YES                      |
| 1.5 - 6.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.3                 | Y            | YES                      |
| 6.0 - 10.0   | <b>Fill:</b><br>Reddish brown, moist, Silt (mill scale), firm, low plasticity                                | 0.3                 | Y            | NO                       |
| 10.0 - 11.0  | <b>Silty Clay:</b><br>Gray, moist, Silty Clay, medium plasticity, stiff                                      | 0.3                 | Y            | NO                       |
| 11.0         | End of Test Pit  |                     |              |                          |

|   |   |                      |                      |  |
|---|---|----------------------|----------------------|--|
| <b>COMMENTS:</b> Two vertical I beams in test pit |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:                          | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.0'                 |  |
| VISUAL IMPACTS:                                   | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:                           | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED:                      | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:                               | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:                                |   | Sample I.D.:         | TP-57 (0-2')         |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-58</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/25/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 1.2                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with ash, little Silt, dense  | 1.2                 | Y            | YES                      |
| 2.0 - 7.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 1.2                 | Y            | NO                       |
| 7.5          | End of Test Pit  |                     |              |                          |

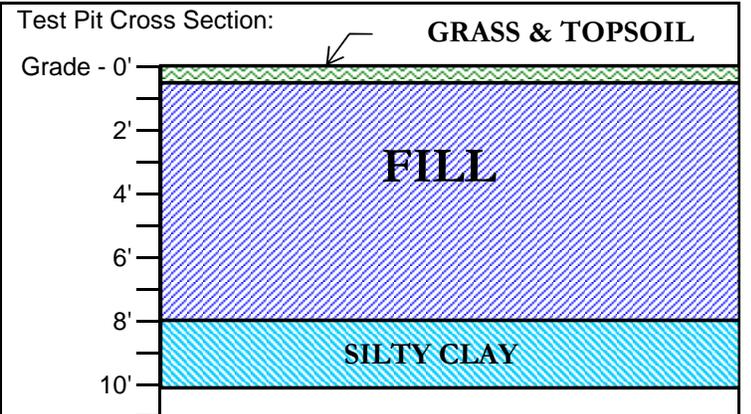
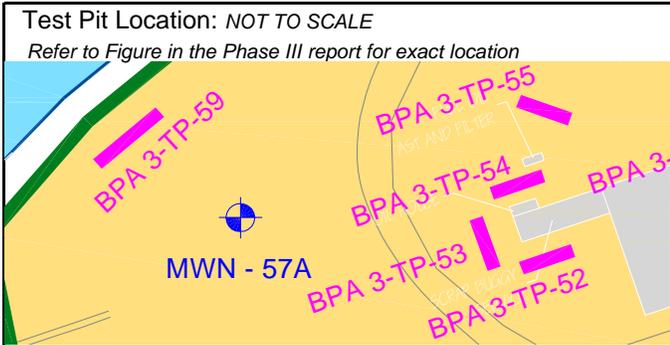
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-58 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-59</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 10.0 ft. (approx.) |
| Start: 10:40 | Width: 3.0 ft. (approx.)   |
| End: 11:20   | Depth: 10.0 ft. (approx.)  |

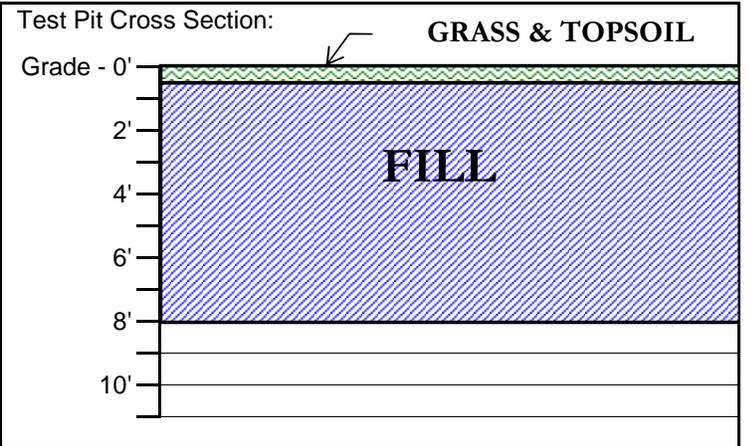
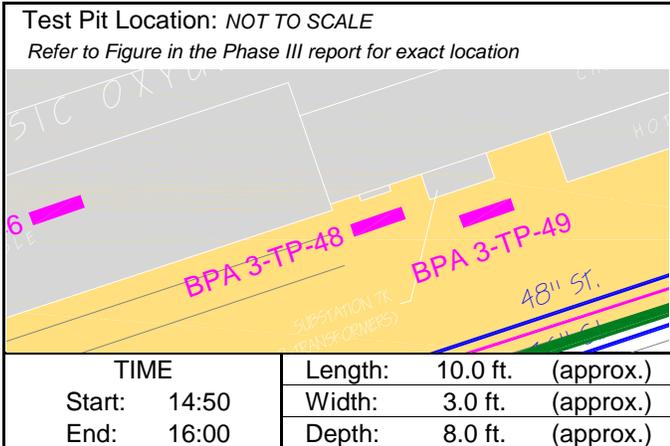
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                | 1.3                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed | 1.3                 | Y            | YES                      |
| 2.0 - 8.0    | <b>Fill:</b><br>Brown, moist, brick fill with cindery ash, dense, loose when disturbed               | 0.9                 | Y            | NO                       |
| 8.0 - 10.0   | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                             | NA                  | Y            | NO                       |
| 10.0         | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |                      |
|------------------------------|---|--|----------------------|----------------------|
| COMMENTS:                    |   |  |                      |                      |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 8'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-59 (0-2')         |
|                              |   |  | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-60</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/22/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.2                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with rail road ties and little Silt, dense, loose when disturbed      | 0.2                 | Y            | YES                      |
| 2.0 - 8.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | YES                      |
| 8.0          | End of Test Pit  |                     |              |                          |

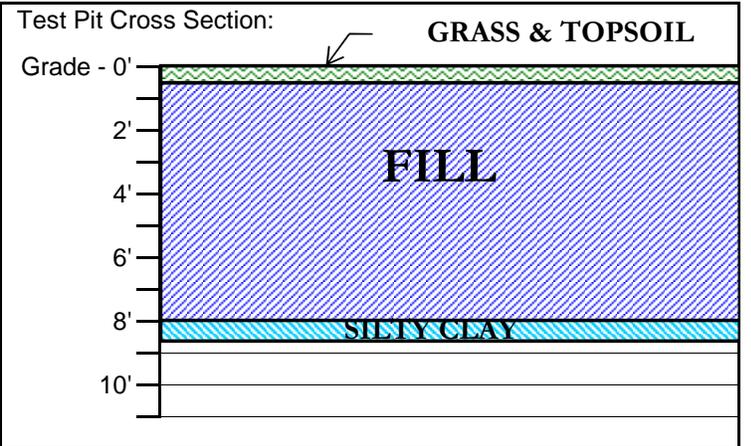
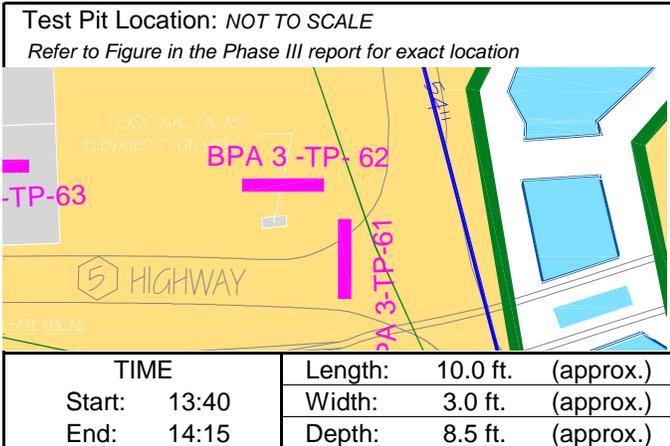
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-60 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-61</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                | 2.2                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed | 2.2                 | Y            | YES                      |
| 2.0 - 8.0    | <b>Fill:</b><br>Brown, moist, brick fill with cindery ash, dense, loose when disturbed               | 37.0                | Y            | NO                       |
| 8.0 - 8.5    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                             | NA                  | Y            | NO                       |
| 8.5          | End of Test Pit  |                     |              |                          |

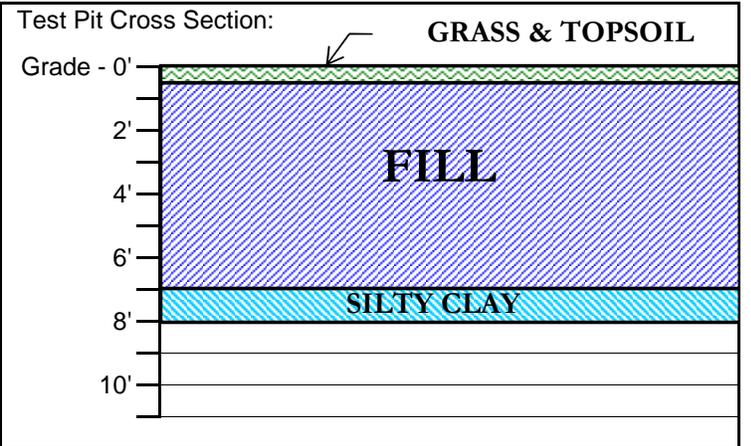
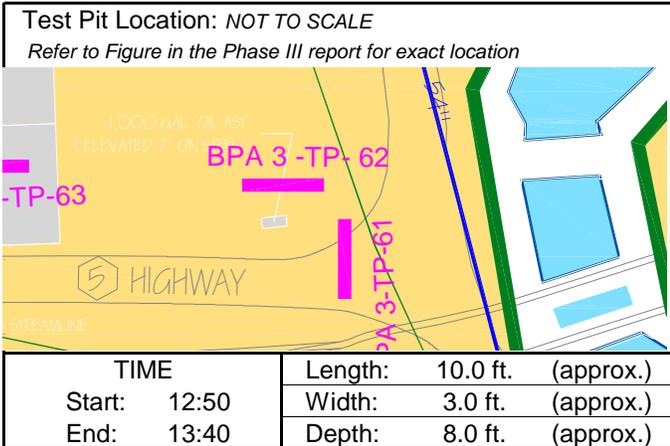
COMMENTS: Relocated to the southwest out of road

|                              |   |                                |
|------------------------------|---|--------------------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 7'        |
| VISUAL IMPACTS:              | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe: Sheen on water       |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe: Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                      |
| SAMPLES COLLECTED:           | Sample I.D.:  | TP-61 (0-2')                   |
|                              | Sample I.D.:  |                                |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-62</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                | 2.9                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed | 2.9                 | Y            | YES                      |
| 2.0 - 7.0    | <b>Fill:</b><br>Brown, moist, slag fill with cindery ash and brick, dense, loose when disturbed      | 40.0                | Y            | NO                       |
| 7.0 - 8.0    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                             | NA                  | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |

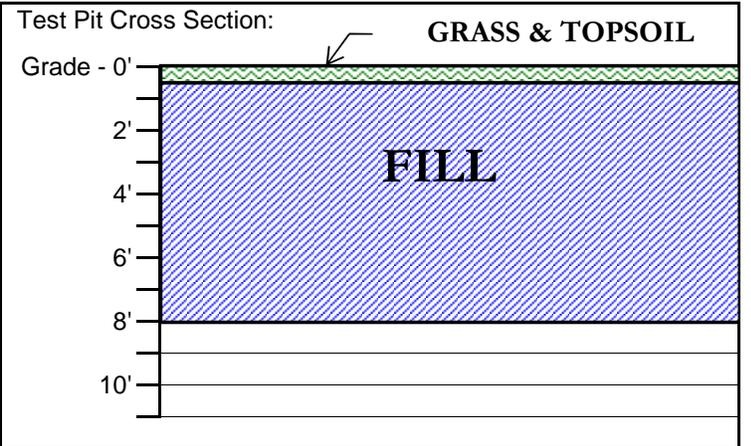
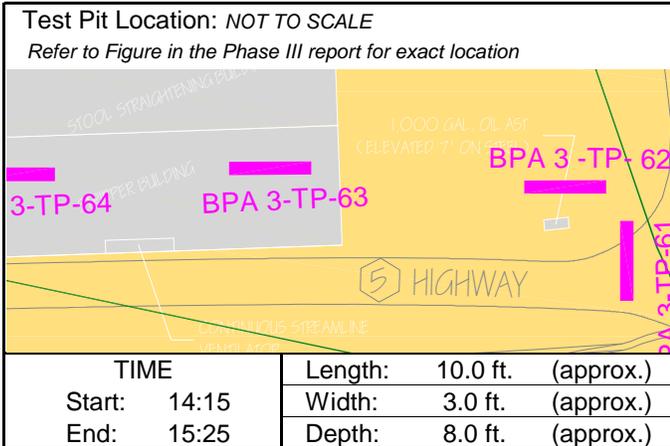
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7'                   |
| VISUAL IMPACTS:              | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Sheen on water       |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-62 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-63</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose                        | 0.9                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed | 0.9                 | Y            | YES                      |
| 2.0 - 8.0    | <b>Fill:</b><br>Brown, moist, slag fill with cindery ash and brick, dense, loose when disturbed      | 1.2                 | Y            | NO                       |
| 8.0          | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

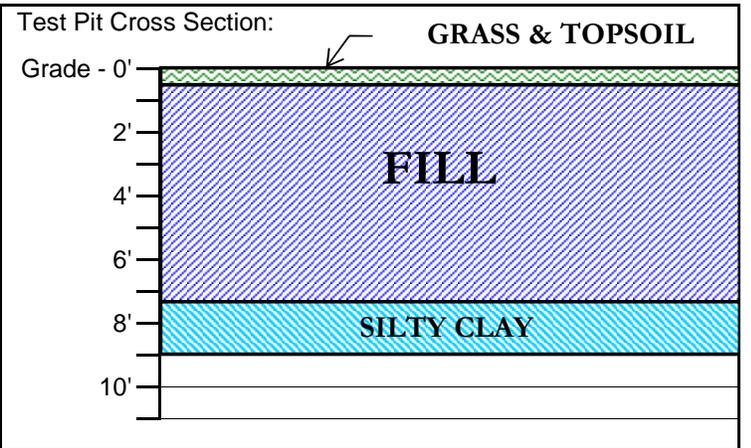
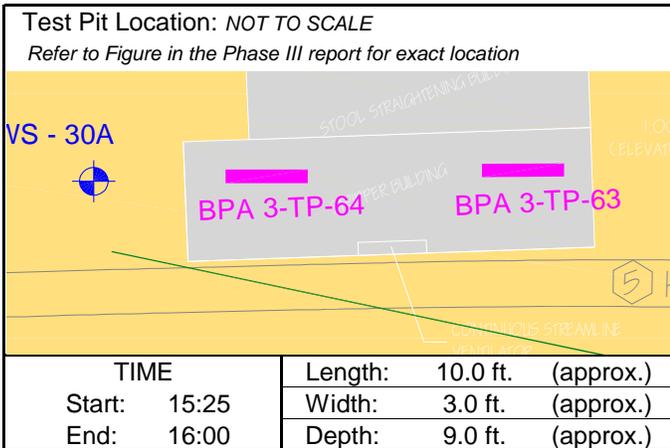
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-63 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-64</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose                        | 1.2                 | Y            | YES                      |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed | 1.2                 | Y            | YES                      |
| 2.0 - 7.5    | <b>Fill:</b><br>Brown, moist, slag fill with cindery ash and brick, dense, loose when disturbed      | 0.8                 | Y            | NO                       |
| 7.5 - 9.0    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                             | NA                  | Y            | NO                       |
| 9.0          | End of Test Pit  |                     |              |                          |

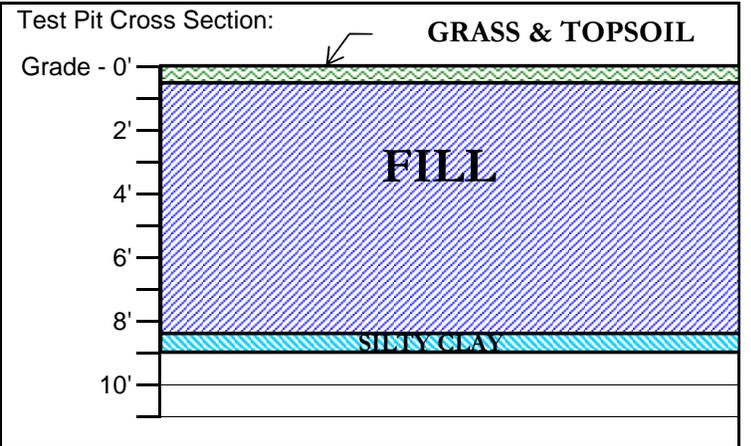
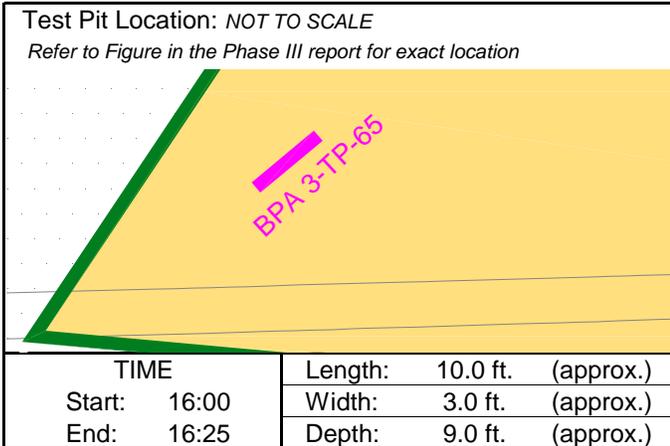
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7.5'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-64 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-65</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/26/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                       | 0.8                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 0.8                 | Y            | YES                      |
| 1.5 - 8.5    | <b>Fill:</b><br>Brown, moist to wet (7'), slag fill with cindery ash and brick, dense, loose when disturbed | 0.8                 | Y            | NO                       |
| 8.5 - 9.0    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                                    | NA                  | Y            | NO                       |
| 9.0          | End of Test Pit   |                     |              |                          |

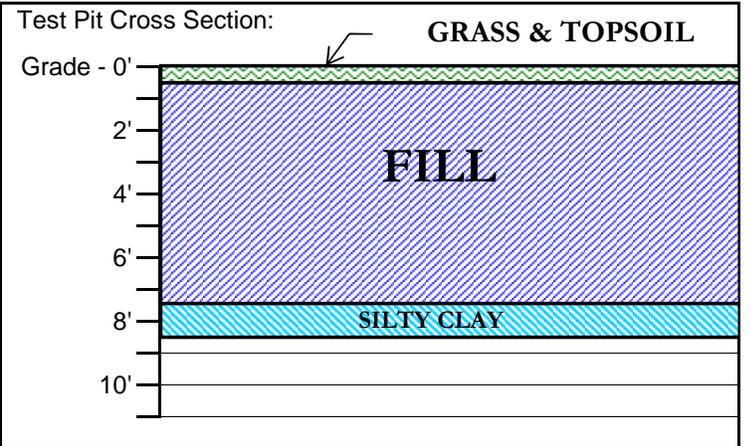
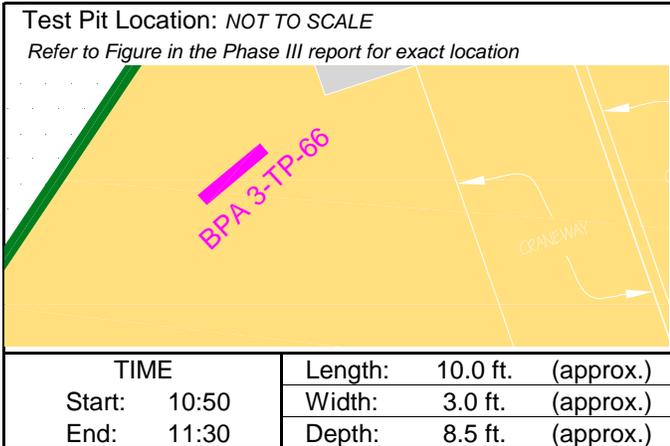
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-65 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-66</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                       | 0.7                 | Y            | YES                      |
| 0.5 - 7.5    | <b>Fill:</b><br>Brown, moist to wet (6'), slag fill with cindery ash and brick, dense, loose when disturbed | 0.6                 | Y            | YES                      |
| 7.5 - 8.5    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                                    | NA                  | Y            | NO                       |
| 8.5          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

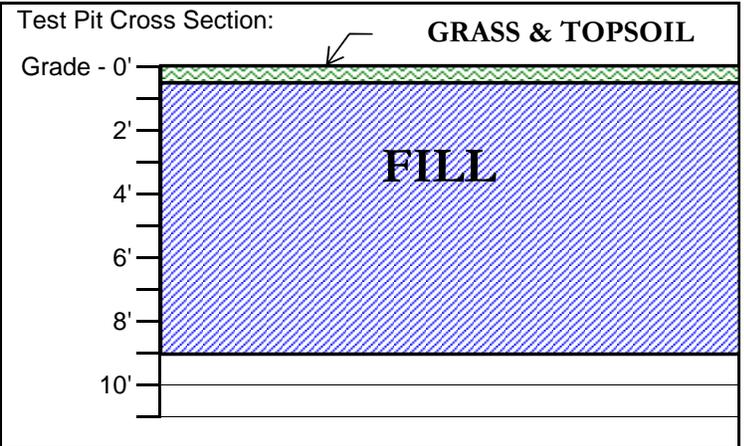
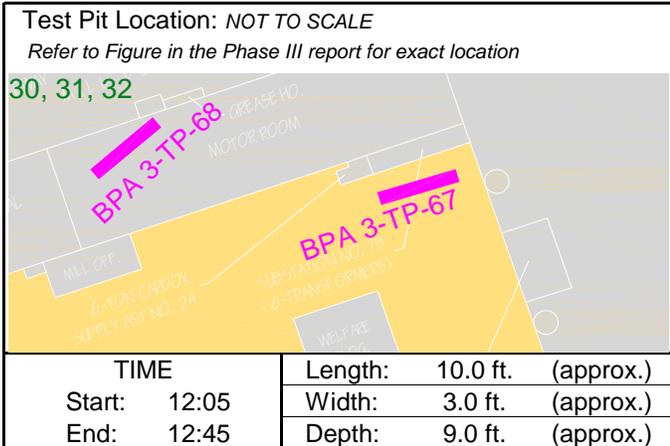
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-66 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-67</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose   | 0.4                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed          | 0.8                 | Y            | YES                      |
| 0.5 - 9.0    | <b>Fill:</b><br>Brown, moist to wet (8.5'), brick fill with slag and cindery ash, dense, loose when disturbed | 0.3                 | Y            | YES                      |
| 9.0          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

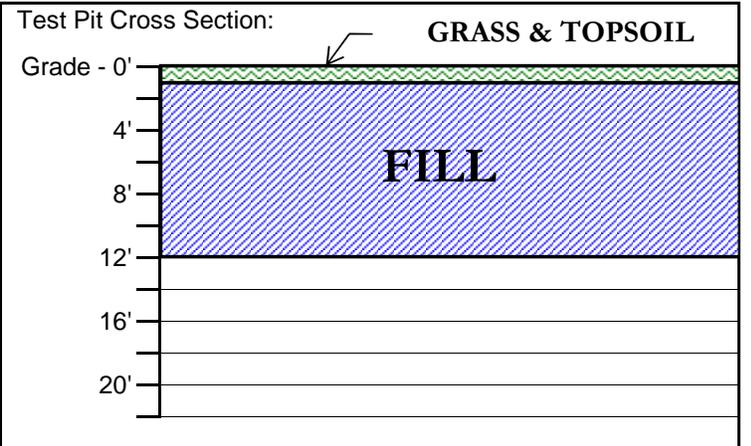
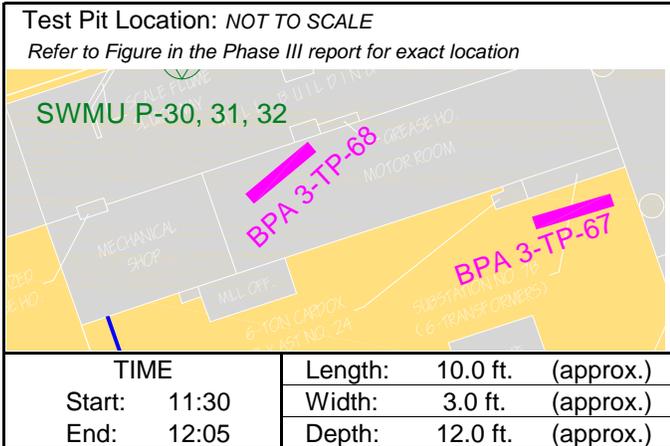
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8.5'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-67 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-68</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                           | 0.8                 | Y            | YES                      |
| 0.5 - 3.0    | <b>Fill:</b><br>Brown, moist, brick fill with slag and cindery ash, dense, loose when disturbed | 0.8                 | Y            | YES                      |
| 3.0 - 12.0   | <b>Fill:</b><br>Brown, moist to wet (8'), brick fill, dense, loose when disturbed               | 0.3                 | Y            | NO                       |
| 12           | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

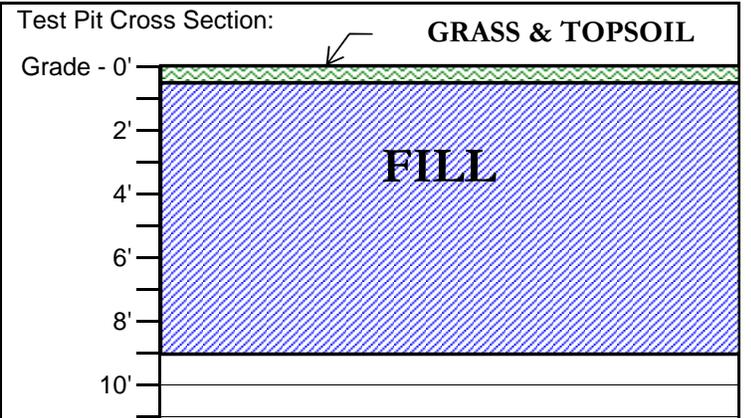
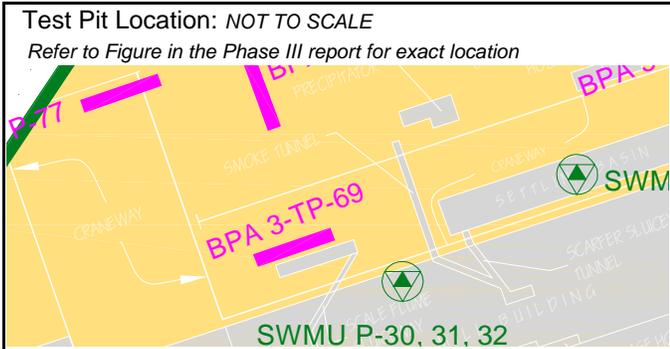
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-68 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-69</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| <b>TIME</b>  | Length: 10.0 ft. (approx.) |
| Start: 12:45 | Width: 3.0 ft. (approx.)   |
| End: 14:00   | Depth: 9.0 ft. (approx.)   |

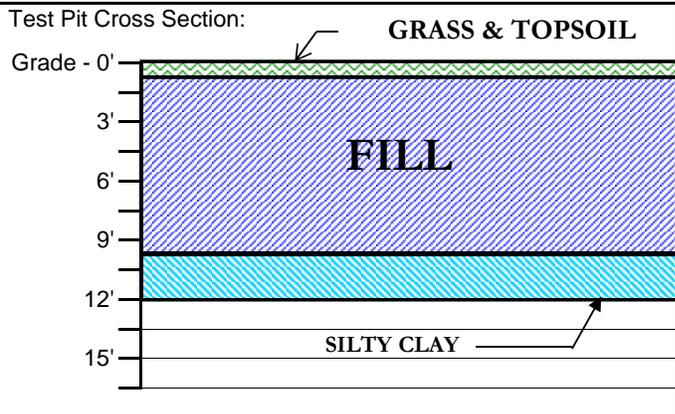
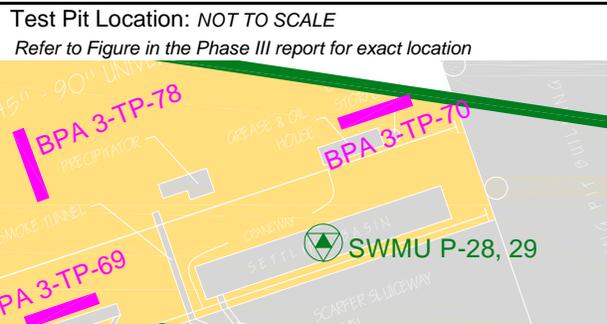
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.9                 | Y            | YES                      |
| 0.5 - 9.0    | <b>Fill:</b><br>Gray and dark grayish blue, moist to wet (8'), slag fill with cindery ash and little silt, dense, loose when disturbed | 0.6                 | Y            | YES                      |
| 9.0          | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

|  |                           |
|--|---------------------------|
| <b>COMMENTS:</b> sample include both colors of slag  |                           |
| GROUNDWATER ENCOUNTERED: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO     | If yes, depth to GW: 8'   |
| VISUAL IMPACTS: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO              | Describe:                 |
| OLFACTORY OBSERVATIONS: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      | Describe:                 |
| NON-NATIVE FILL ENCOUNTERED: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag and ash              |
| OTHER OBSERVATIONS: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO          | Describe:                 |
| SAMPLES COLLECTED:   | Sample I.D.: TP-69 (0-2') |
|  | Sample I.D.:              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-70</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/29/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|             |                            |
|-------------|----------------------------|
| TIME        | Length: 10.0 ft. (approx.) |
| Start: 8:00 | Width: 3.0 ft. (approx.)   |
| End: 9:45   | Depth: 12.0 ft. (approx.)  |

| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.4                 | Y            | YES                      |
| 0.5 - 6.0    | <b>Fill:</b><br>Brown, moist, slag fill with cindery ash, brick and little silt, dense, loose when disturbed | 0.9                 | Y            | YES                      |
| 6.0 - 10.0   | <b>Fill:</b><br>Yellowish brown, moist to wet (8.0), Fill, silt with some clay and few slag                  | 0.9                 | Y            | YES                      |
| 10.0 - 12.0  | <b>Silty Clay:</b><br>Brown and gray, moist, Silty Clay, medium plasticity, stiff                            | NA                  | Y            | NO                       |
| 12.0         | End of Test Pit  |                     |              |                          |

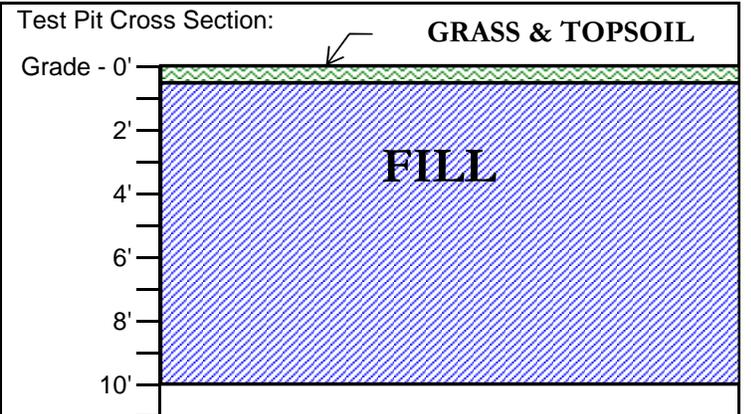
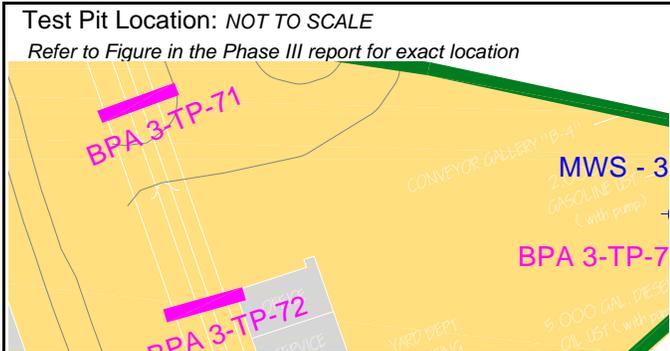
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8'                   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           | Sample I.D.:  | TP-70 (0-2')         |                      |
|                              | Sample I.D.:  |                      |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-71</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/29/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 10.0 ft. (approx.) |
| Start: 12:00 | Width: 3.0 ft. (approx.)   |
| End: 12:50   | Depth: 10.0 ft. (approx.)  |

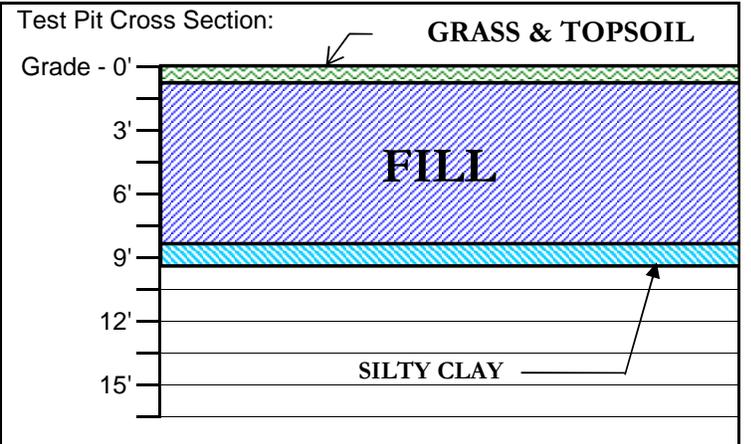
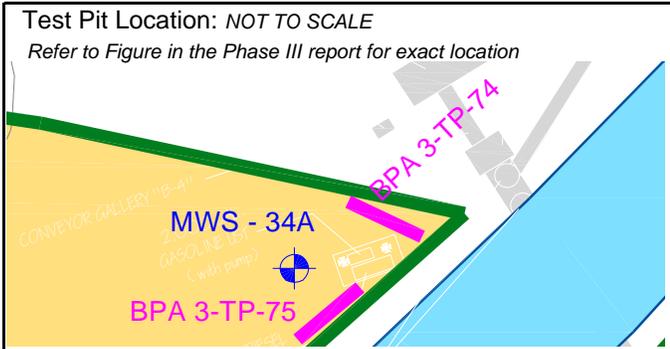
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | Asphalt and subbase   | 0.6                 | Y            | YES                      |
| 0.5 - 10.0   | <b>Fill:</b><br>Brown, moist to wet (8.5), Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.5                 | Y            | YES                      |
| 10.0         | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

|  |  |
|--|--|
| COMMENTS: sample include both colors of slag |  |
| GROUNDWATER ENCOUNTERED:                     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO      If yes, depth to GW: 7.5' |
| VISUAL IMPACTS:                              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      Describe:                 |
| OLFACTORY OBSERVATIONS:                      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      Describe:                 |
| NON-NATIVE FILL ENCOUNTERED:                 | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO      Slag and ash              |
| OTHER OBSERVATIONS:                          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO      Describe:                 |
| SAMPLES COLLECTED:                           | Sample I.D.: TP-76 (0-2')  |
|  | Sample I.D.: TP-76 (2-7')  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-74</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/29/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|             |                            |
|-------------|----------------------------|
| TIME        | Length: 10.0 ft. (approx.) |
| Start: 9:45 | Width: 3.0 ft. (approx.)   |
| End: 11:00  | Depth: 9.5 ft. (approx.)   |

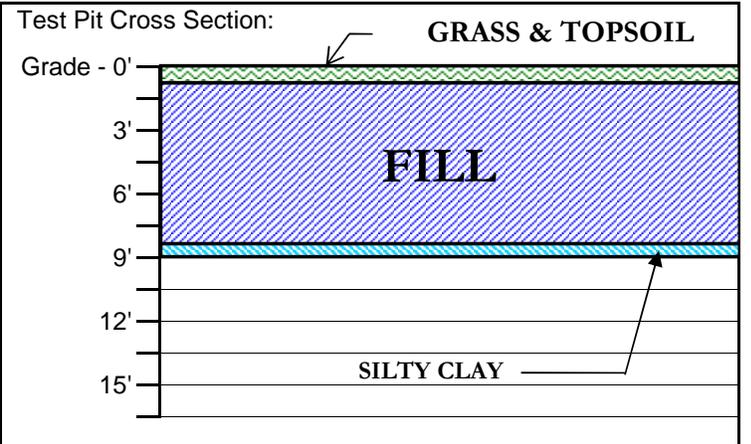
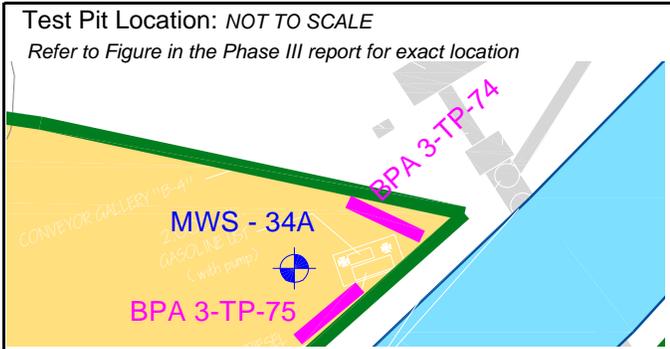
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.6                 | Y            | YES                      |
| 0.5 - 8.5    | <b>Fill:</b><br>Brown, moist, slag fill with cindery ash, brick and little silt, dense, loose when disturbed | 0.5                 | Y            | YES                      |
| 8.5 - 9.5    | <b>Silty Clay:</b><br>Brown and gray, moist, Silty Clay, medium plasticity, stiff                            | 0.5                 | Y            | NO                       |
| 9.5          | End of Test Pit  |                     |              |                          |

|                              |   |                      |              |  |
|------------------------------|---|----------------------|--------------|--|
| COMMENTS:                    |   |                      |              |  |
| GROUNDWATER ENCOUNTERED:     | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | If yes, depth to GW: |              |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick |              |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-74 (0-2') |  |
|                              |   | Sample I.D.:         | TP-74 (2-8') |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-75</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/29/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 10.0 ft. (approx.) |
| Start: 11:00 | Width: 3.0 ft. (approx.)   |
| End: 11:50   | Depth: 9.0 ft. (approx.)   |

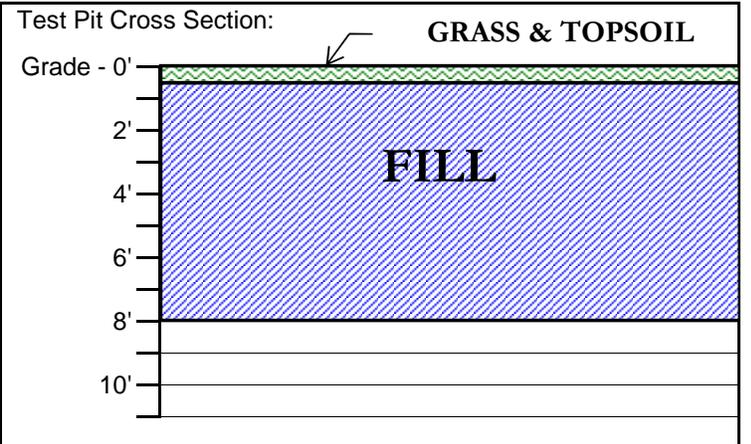
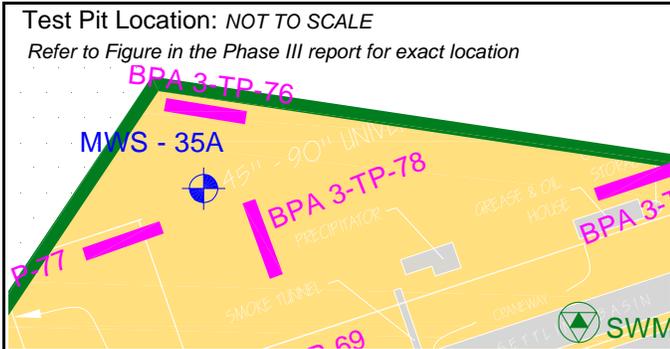
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose   | 1.2                 | Y            | YES                      |
| 0.5 - 8.0    | <b>Fill:</b><br>Brown, moist to wet (8.0), Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 3.5                 | Y            | YES                      |
| 8.0 - 9.0    | <b>Silty Clay:</b><br>Brown and gray, moist, Silty Clay, medium plasticity, stiff   | 3.5                 | Y            | NO                       |
| 9.0          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| COMMENTS:                    |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8'                   |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-75 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-76</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |          |           |
|--------------|---------|----------|-----------|
| TIME         | Length: | 10.0 ft. | (approx.) |
| Start: 15:25 | Width:  | 3.0 ft.  | (approx.) |
| End: 15:40   | Depth:  | 8.0 ft.  | (approx.) |

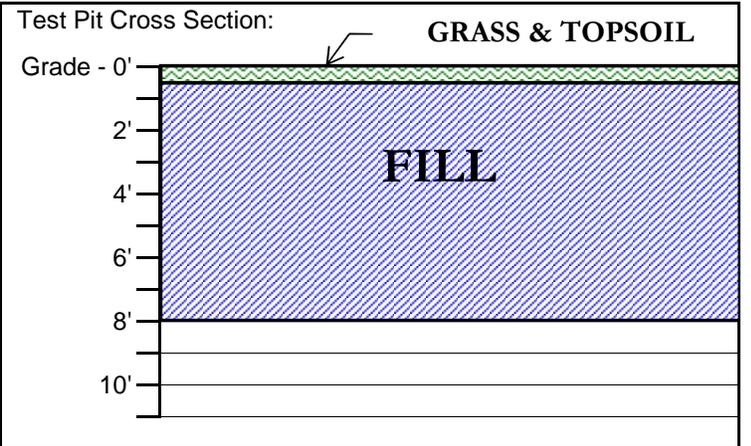
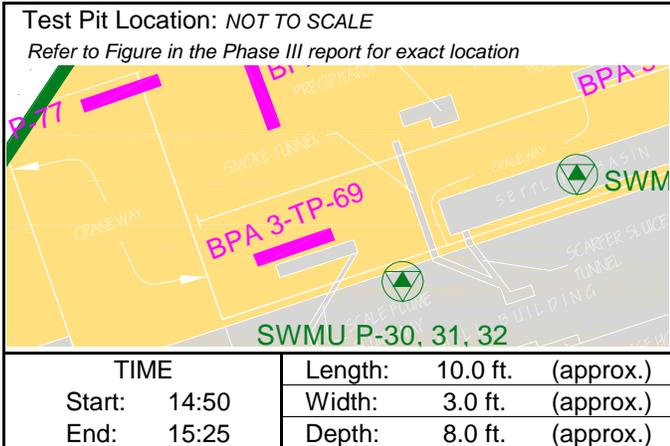
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.5                 | Y            | YES                      |
| 0.5 - 8.0    | <b>Fill:</b><br>Yellow brown, moist to wet (7.5), Slag fill with cindery ash and few Silt, dense, loose when disturbed | 0.5                 | Y            | YES                      |
| 8            | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

|                              |   |                                    |              |
|------------------------------|---|------------------------------------|--------------|
| COMMENTS:                    |   | sample include both colors of slag |              |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW:               | 7.5'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                          |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                          |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                    | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                          |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:                       | TP-76 (0-2') |
|                              |   | Sample I.D.:                       | TP-76 (2-7') |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-77</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose   | 0.8                 | Y            | YES                      |
| 0.5 - 8.0    | <b>Fill:</b><br>Brown, moist to wet (7.5), Slag fill with cindery ash and few Silt, dense, loose when disturbed | 0.8                 | Y            | YES                      |
| 8            | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

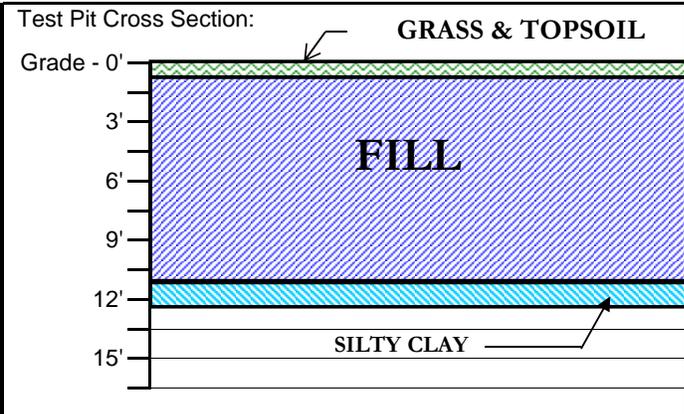
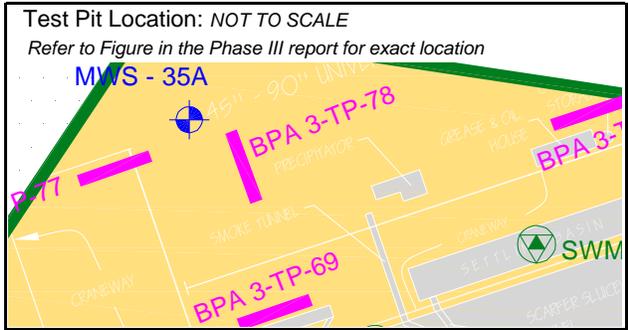
COMMENTS: sample include both colors of slag

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 8'           |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag and ash |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-77 (0-2') |
|                              |   | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-78</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |                            |
|--------------|----------------------------|
| TIME         | Length: 10.0 ft. (approx.) |
| Start: 14:00 | Width: 3.0 ft. (approx.)   |
| End: 14:50   | Depth: 12.5 ft. (approx.)  |

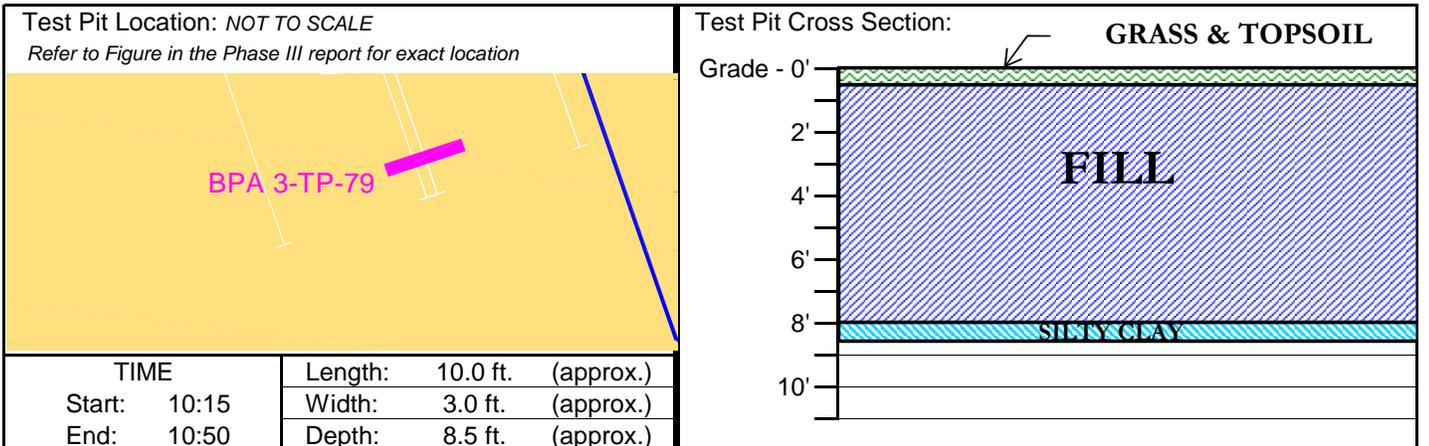
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.5                 | Y            | YES                      |
| 0.5 - 5.5    | <b>Fill:</b><br>Brown, moist, slag fill with cindery ash, brick and little silt, dense, loose when disturbed | 0.5                 | Y            | YES                      |
| 5.5 - 11.5   | <b>Fill:</b><br>Brown, moist to wet (9.5'), sandy silt with, dense, loose when disturbed                     | 0.5                 | Y            | YES                      |
| 11.5 - 12.5  | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, stiff                                     | NA                  | Y            | NO                       |
| 12.5         | End of Test Pit  |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| COMMENTS:                    |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 9.5'                 |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-78 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-79</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



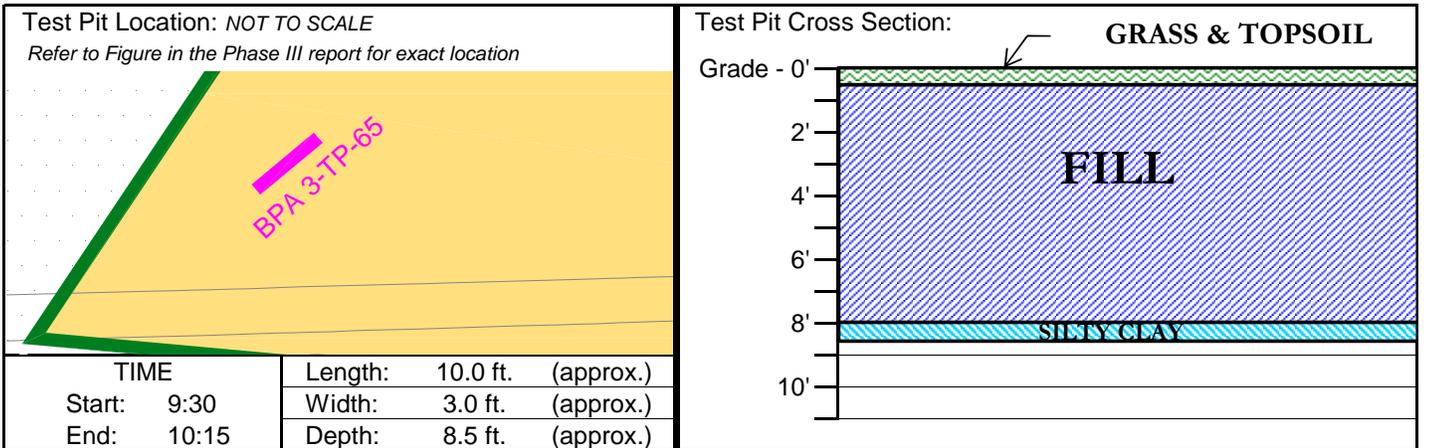
| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                       | 0.6                 | Y            | YES                      |
| 0.5 - 8.0    | <b>Fill:</b><br>Brown, moist to wet (7'), slag fill with cindery ash and brick, dense, loose when disturbed | 0.4                 | Y            | YES                      |
| 8.0 - 8.5    | <b>Silty Clay:</b><br>Grayish brown, moist, Silty Clay, medium plasticity, stiff                            | NA                  | Y            | NO                       |
| 8.5          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

|                              |   |                      |                      |  |
|------------------------------|---|----------------------|----------------------|--|
| <b>COMMENTS:</b>             |   |                      |                      |  |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 7'                   |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |  |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-79 (0-2')         |  |
|                              |   | Sample I.D.:         |                      |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-80</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/28/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | John Deere 330     |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose                                       | 0.5                 | Y            | YES                      |
| 0.5 - 8.0    | <b>Fill:</b><br>Brown, moist to wet (7'), slag fill with cindery ash and brick, dense, loose when disturbed | 0.5                 | Y            | YES                      |
| 8.0 - 8.5    | <b>Silty Clay:</b><br>Grayish brown, moist, Silty Clay, medium plasticity, stiff                            | NA                  | Y            | NO                       |
| 8.5          | End of Test Pit   |                     |              |                          |
|              |   |                     |              |                          |

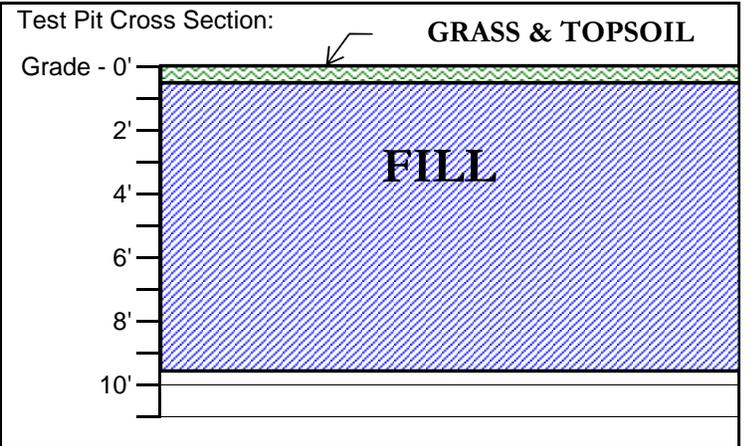
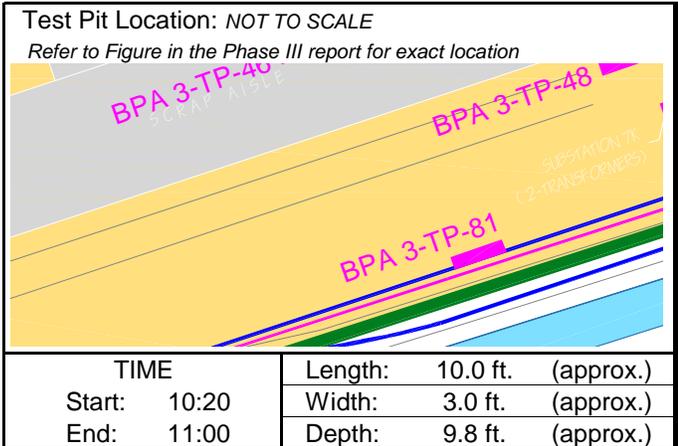
COMMENTS:

|                              |   |                           |
|------------------------------|---|---------------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: 7'   |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag, ash, and brick      |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                 |
| SAMPLES COLLECTED:           |   | Sample I.D.: TP-80 (0-2') |
|                              |   | Sample I.D.: TP-80 (2-7') |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-81</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/22/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.6                 | Y            | YES                      |
| 0.5 - 1.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed         | 0.6                 | Y            | YES                      |
| 1.0 - 9.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 1.1                 | Y            | YES                      |
| 9.5 - 9.8    | <b>Silty Clay:</b><br>Brown, moist, Silty Clay, medium plasticity, firm                                      | NA                  | Y            | NO                       |
| 9.8          | End of Test Pit  |                     |              |                          |

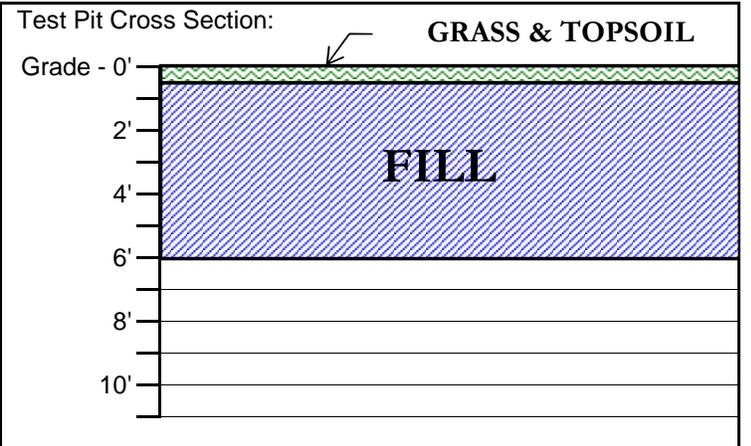
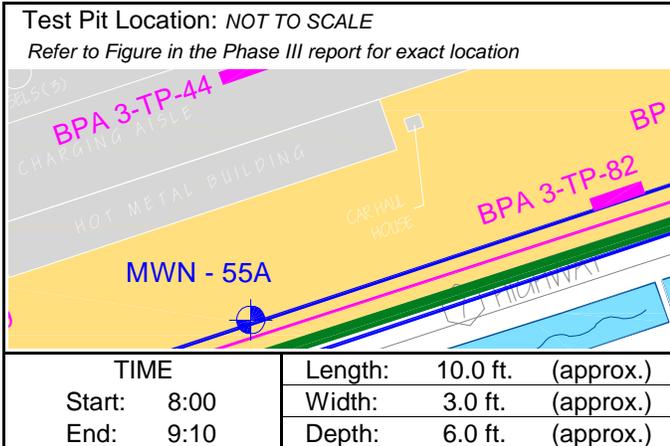
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 9.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-81 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-82</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/22/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Case 9030          |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | 0.7                 | Y            | YES                      |
| 0.5 - 1.5    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash and little Silt, dense, loose when disturbed        | 0.7                 | Y            | YES                      |
| 1.5 - 6.0    | <b>Fill:</b><br>Brown, moist, Slag fill with cindery ash, brick and little Silt, dense, loose when disturbed | 0.2                 | Y            | YES                      |
| 6.0          | End of Test Pit  |                     |              |                          |

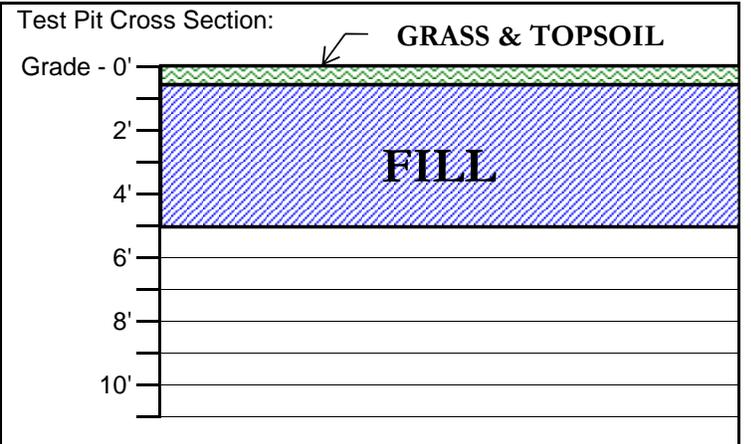
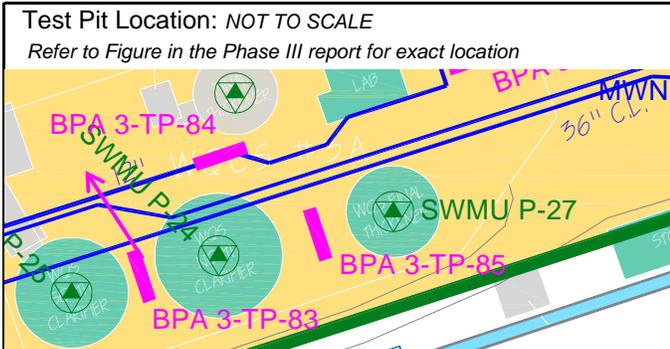
COMMENTS:

|                              |   |                      |                      |
|------------------------------|---|----------------------|----------------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 6.0'                 |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                      | Slag, ash, and brick |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |                      |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-82 (0-2')         |
|                              |   | Sample I.D.:         |                      |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-83</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/14/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430         |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |         |           |
|--------------|---------|---------|-----------|
| TIME         | Length: | 7.0 ft. | (approx.) |
| Start: 13:30 | Width:  | 2.0 ft. | (approx.) |
| End: 14:45   | Depth:  | 5.0 ft. | (approx.) |

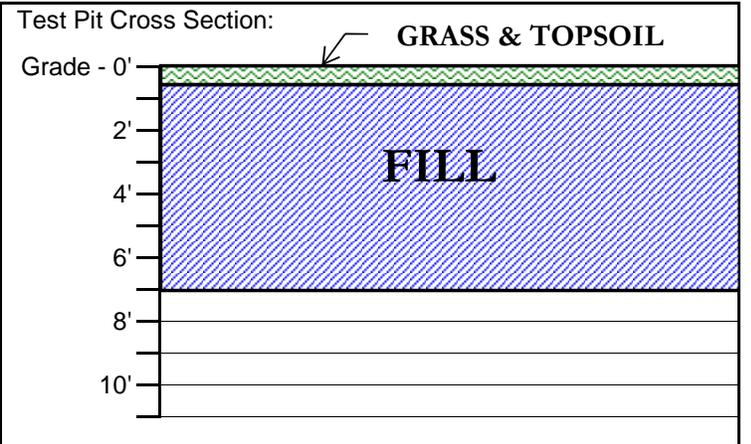
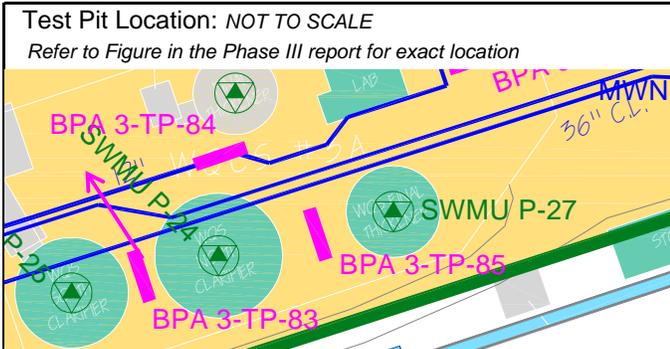
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Brown, moist, silt with some slag, loose  | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Gray, moist, Slag fill with cindery ash and brick, very dense, loose when disturbed                  | 0.3                 | Y            | YES                      |
| 2.0 - 5.0    | <b>Fill:</b><br>Banded colors of gray and dark brown, moist, Slag fill with cindery ash, dense, loose when disturbed | 0.2                 | Y            | NO                       |
| 5.0          | End of Test Pit due to 4" plastic water line   |                     |              |                          |

|                              |   |   |              |  |
|------------------------------|---|---|--------------|--|
| COMMENTS:                    |   |   |              |  |
| GROUNDWATER ENCOUNTERED:     | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | If yes, depth to GW:                            |              |  |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                                       |              |  |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:                                       |              |  |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Slag  |              |  |
| OTHER OBSERVATIONS:          | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe: 4" plastic water line uncovered at 5' |              |  |
| SAMPLES COLLECTED:           |   | Sample I.D.:                                    | TP-83 (0-2') |  |
|                              |   | Sample I.D.:                                    |              |  |
|                              |   | Sample I.D.:                                    |              |  |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-84</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/14/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430         |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |         |           |
|--------------|---------|---------|-----------|
| TIME         | Length: | 6.0 ft. | (approx.) |
| Start: 14:55 | Width:  | 2.0 ft. | (approx.) |
| End: 16:20   | Depth:  | 7.0 ft. | (approx.) |

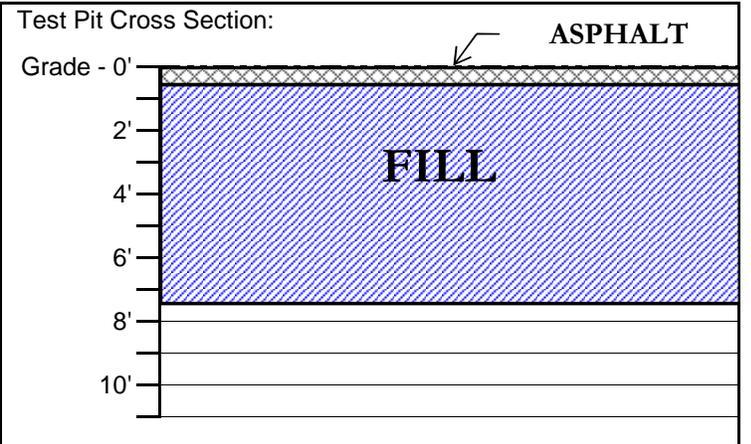
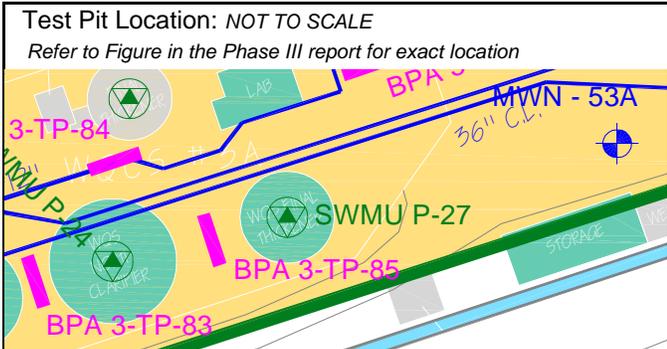
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | <b>Grass and topsoil:</b><br>Reddish brown, moist, silt with some slag, loose                      | NA                  | Y            | NO                       |
| 0.5 - 7.0    | <b>Fill:</b><br>Gray, moist to wet (6.5'), Slag fill with cindery ash, dense, loose when disturbed | 0.2                 | Y            | YES                      |
| 7.0          | End of Test Pit  |                     |              |                          |
|              |  |                     |              |                          |

|                              |   |  |                      |              |
|------------------------------|---|--|----------------------|--------------|
| COMMENTS:                    |   |  |                      |              |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 6.5'         |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Describe:            | Slag         |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-84 (0-2') |
|                              |   |  | Sample I.D.:         |              |
|                              |   |  | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-85</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/14/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430         |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



|              |         |         |           |
|--------------|---------|---------|-----------|
| TIME         | Length: | 5.0 ft. | (approx.) |
| Start: 10:20 | Width:  | 2.0 ft. | (approx.) |
| End: 13:10   | Depth:  | 7.5 ft. | (approx.) |

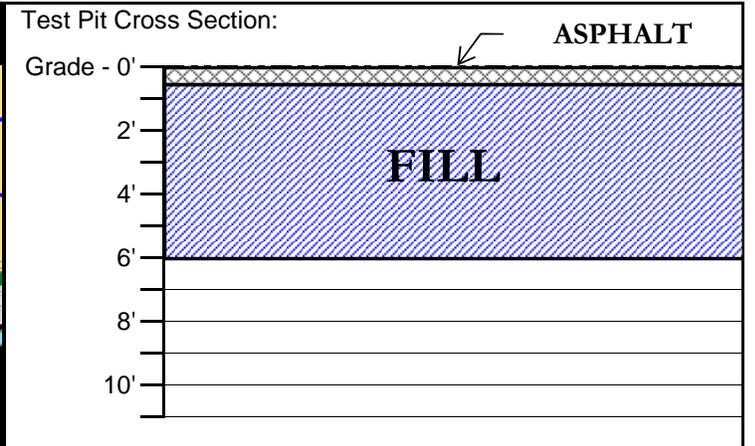
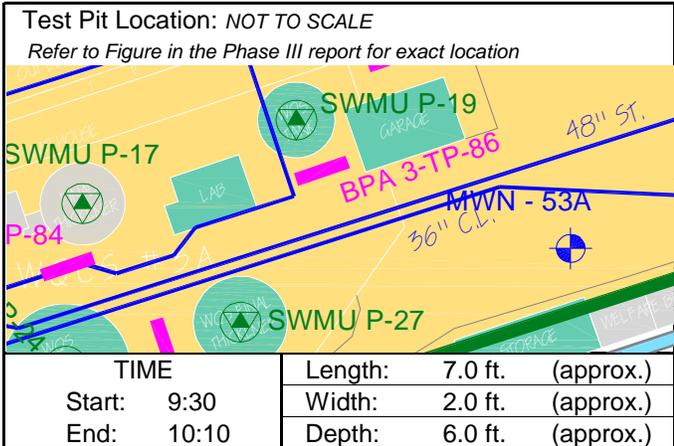
| Depth (fbgs) | USCS Symbol & Soil Description   | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|--|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | Asphalt and subbase  | NA                  | Y            | NO                       |
| 0.5 - 4.0    | <b>Fill:</b><br>Banded colors of reddish brown and gray, moist, Slag fill with cindery ash, very dense, loose when disturbed | 0.6                 | Y            | YES                      |
| 4.0 - 7.5    | <b>Fill:</b><br>Reddish brown, moist to wet (6.5'), silt (mill scale?)   | 0.3                 | Y            | NO                       |
| 7.5          | End of Test Pit  |                     |              |                          |

|                              |   |  |                      |              |
|------------------------------|---|--|----------------------|--------------|
| COMMENTS:                    |   |  |                      |              |
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | If yes, depth to GW: | 6.5 fbgs     |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            | Slag and mill scale? |              |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   |  | Sample I.D.:         | TP-85 (0-2') |
|                              |   |  | Sample I.D.:         |              |



# TEST PIT EXCAVATION LOG

|              |   |                      |                    |
|--------------|---|----------------------|--------------------|
| Project:     | Phase III BPA Remedial Investigation      | TEST PIT I.D.:       | <b>BPA 3-TP-86</b> |
| Project No.: | 0071-008-300                              | Excavation Date:     | 08/14/08           |
| Client:      | ArcelorMittal Tecumseh Redevelopment, Inc | Excavation Method:   | Bobcat 430         |
| Location:    | Tecumseh, Phase III BPA                   | Logged / Checked By: | BG/BH              |



| Depth (fbgs) | USCS Symbol & Soil Description  | PID Headspace (ppm) | Photos Y / N | Samples Collected (fbgs) |
|--------------|---|---------------------|--------------|--------------------------|
| 0.0 - 0.5    | Asphalt and peastone  | NA                  | Y            | NO                       |
| 0.5 - 2.0    | <b>Fill:</b><br>Banded colors of gray and reddish brown, moist, Slag fill with cindery ash, dense (very dense from 1.5-2.0'), loose when disturbed  | 0.5                 | Y            | YES                      |
| 2.0 - 6.0    | <b>Fill:</b><br>Banded colors of dark brown with some black and brown, moist to wet (5.5'), Slag fill with cindery ash, dense, loose when disturbed | 0.8                 | Y            | NO                       |
| 6.0          | End of Test Pit   |                     |              |                          |

COMMENTS:

|                              |   |                      |              |
|------------------------------|---|----------------------|--------------|
| GROUNDWATER ENCOUNTERED:     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | If yes, depth to GW: | 5.5 fbgs     |
| VISUAL IMPACTS:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| OLFACTORY OBSERVATIONS:      | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| NON-NATIVE FILL ENCOUNTERED: | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Describe:            | Slag         |
| OTHER OBSERVATIONS:          | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | Describe:            |              |
| SAMPLES COLLECTED:           |   | Sample I.D.:         | TP-86 (0-2') |
|                              |   | Sample I.D.:         |              |
|                              |   | Sample I.D.:         |              |

# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** TP-1

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                              |  |                        | PID<br>VOCs                     | Lab<br>Sample   | Remarks |
|--------------------|------------------------------|--|------------------------|---------------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth              | Description<br>(ASTM D2488: Visual-Manual Procedure)   | Lithologic Symbol      |                                 |                 |         |
| 0.0                | 0.0<br>0.0                   | Ground Surface   |                        | 0 25 50 75 100<br>ppm           |                 |         |
| 5.0                |                              | <b>Fill</b><br>Dark brown to black (2.5), moist, fill with cinder, ash, slag and brick, dense                              | [Cross-hatched symbol] | 0.0<br>0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -9.0<br>9.0<br>-10.0<br>10.0 | <b>Clayey Silt</b><br>Yellowish brown, moist, low plasticity fines and little small rounded gravel,<br><br>End of Test Pit | [X-pattern symbol]     | 0.0                             |                 |         |
| 15.0               |                              |  |                        |                                 |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-18-09

**Length:** 15'

**Width:** 5'

**Depth:** 10'

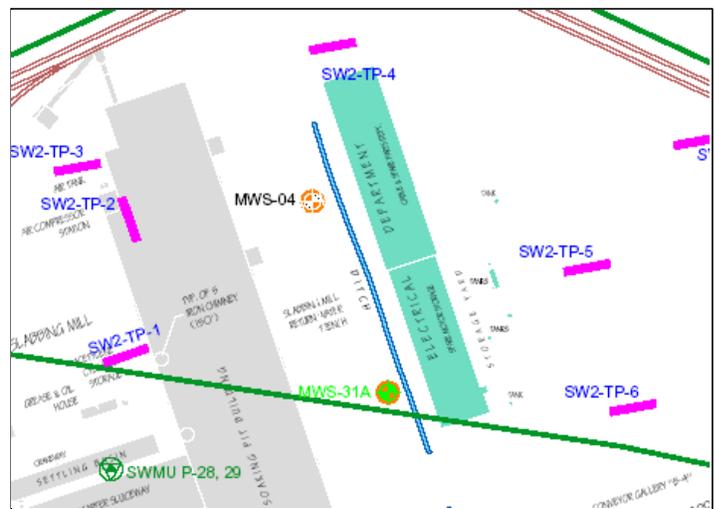
**Depth to Water:** 9.5'

**Visual Impacts:** Slight sheen on water

**Olfactory Observations:** no odor

**Comments:**

-  
--



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|   |   |
|---|---|
| <b>Project No:</b> 0071-009-320<br><b>Project:</b> Business Park Area 3A<br><b>Client:</b> Tecumseh Redevelopment Inc<br><b>Site Location:</b> Tecumseh Lackawanna Site | <b>Test Pit I.D.:</b> TP-2<br><b>Logged By:</b> BMG<br><b>Checked By:</b> BCH |
|---|---|

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs           | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|-----------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)   | Lithologic Symbol |                       |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm |                 |         |
| 0.0                |                 | <b>Fill</b><br>Dark brown to black (2.5), moist, fill with cinder, ash, slag and brick, dense                              |                   | 0.0                   | Sampled<br>0-2' |         |
| 5.0                |                 |  |                   | 0.0                   |                 |         |
| 10.0               | -10.0<br>10.0   | <b>Clayey Silt</b><br>Yellowish brown, moist, low plasticity fines and little small rounded gravel,<br><br>End of Test Pit |                   | 0.0                   |                 |         |
| 15.0               |                 |  |                   | 0.0                   |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-18-09

**Length:** 20'

**Width:** 5'

**Depth:** 10.5'

**Depth to Water:** 9.5'

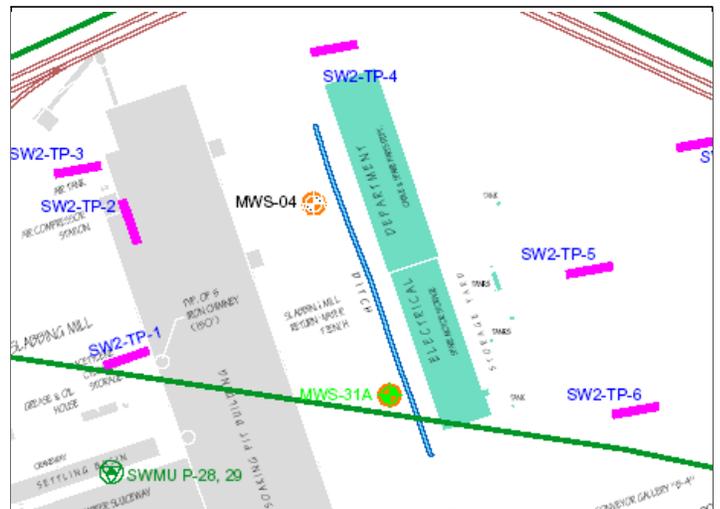
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



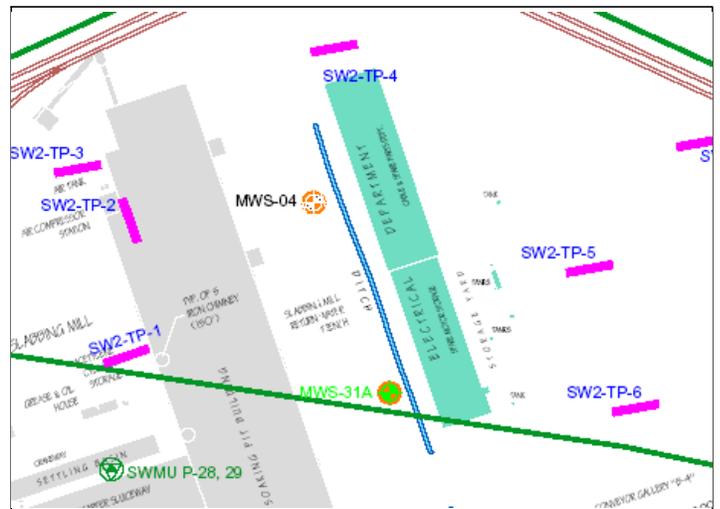
**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|   |   |
|---|---|
| <b>Project No:</b> 0071-009-320<br><br><b>Project:</b> Business Park Area 3A<br><br><b>Client:</b> Tecumseh Redevelopment Inc<br><br><b>Site Location:</b> Tecumseh Lackawanna Site | <b>Test Pit I.D.:</b> TP-3<br><br><b>Logged By:</b> BMG<br><br><b>Checked By:</b> BCH |
|---|---|

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)   | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Dark brown to black (2.5), moist, fill with cinder, ash, slag and brick, dense        |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>2-6' |         |
| 10.0               | -7.0<br>7.0     | <b>Silty Clay</b><br>Brown, moist, medium plasticity fines, may be reworked (between two structures) |                   | 0.0<br>0.0               |                 |         |
| 15.0               | -10.0<br>10.0   | End of Test Pit  |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.  
**Excavator Type:** John Deere 892 ELC  
**Excavation Date(s):** 11-18-09  
**Length:** 40'  
**Width:** 5'  
**Depth:** 10'  
**Depth to Water:** NA due to water leaching from sewer bedding  
**Visual Impacts:** none  
**Olfactory Observations:** no odor  
**Comments:**  
 -  
 --

**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|   |   |
|---|---|
| <b>Project No:</b> 0071-009-320<br><br><b>Project:</b> Business Park Area 3A<br><br><b>Client:</b> Tecumseh Redevelopment Inc<br><br><b>Site Location:</b> Tecumseh Lackawanna Site | <b>Test Pit I.D.:</b> TP-4<br><br><b>Logged By:</b> BMG<br><br><b>Checked By:</b> BCH |
|---|---|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs           | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|-----------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol |                       |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm |                 |         |
| 0.0                |                 | <b>Fill</b><br>Dark brown to black (2.5), moist, fill with cinder, ash, slag and brick, very dense, refusal at 6.3' |                   | 0.0<br>0.0<br>0.0     | Sampled<br>0-2' |         |
| 5.0                |                 |   |                   |                       |                 |         |
| 6.3                | -6.3<br>6.3     | End of Test Pit   |                   |                       |                 |         |
| 10.0               |                 |   |                   |                       |                 |         |
| 15.0               |                 |   |                   |                       |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-18-09

**Length:** 15'

**Width:** 5'

**Depth:** 6.3'

**Depth to Water:** none

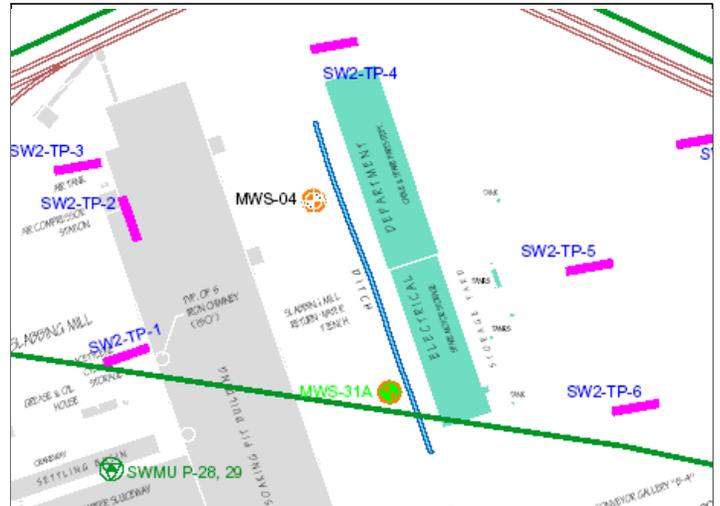
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** TP-5

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Dark brown, black and gray layers, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                   |                          |               |         |
| 10.0               |                 |   |                   |                          |               |         |
| 15.0               |                 |   |                   |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-18-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

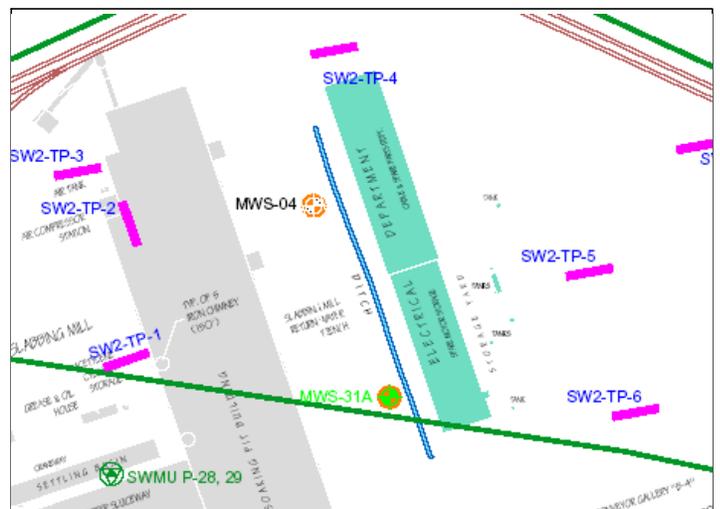
**Depth to Water:** none

**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |                            |
|--|----------------------------|
| <b>Project No:</b> 0071-009-320                | <b>Test Pit I.D.:</b> TP-6 |
| <b>Project:</b> Business Park Area 3A          | <b>Logged By:</b> BMG      |
| <b>Client:</b> Tecumseh Redevelopment Inc      | <b>Checked By:</b> BCH     |
| <b>Site Location:</b> Tecumseh Lackawanna Site |                            |

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs                     | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|---------------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol |                                 |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm           |                 |         |
|                    |                 | <b>Fill</b><br>Dark brown, and gray layers, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -10.0<br>10.0   | End of Test Pit   |                   |                                 |                 |         |
| 15.0               |                 |   |                   |                                 |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-18-09

**Length:** 15'

**Width:** 5'

**Depth:** 10'

**Depth to Water:** 10

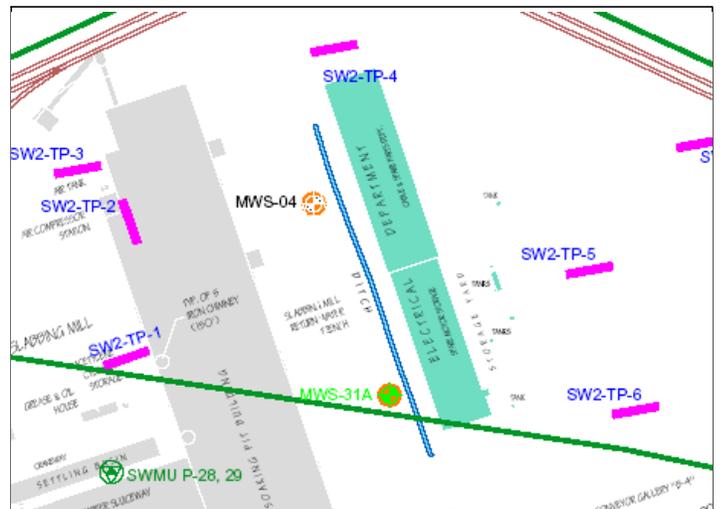
**Visual Impacts:** slight sheen on water

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> TP-7</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                    |  |                        | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|--------------------|--|------------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth    | Description<br>(ASTM D2488: Visual-Manual Procedure)                           | Lithologic Symbol      |                          |               |         |
| 0.0                | 0.0<br>0.0         | Ground Surface   |                        | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                    | <b>Fill</b><br>Dark brown, moist, fill with cinder, ash, slag and brick, dense | [Cross-hatched symbol] | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 10.0               | -8.5<br>8.5<br>9.0 | <b>Silty Clay</b><br>Brown, moist, medium plasticity fines, stiff, massive     | [Dotted symbol]        | 0.0                      |               |         |
| 15.0               |                    | End of Test Pit  |                        |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-18-09

**Length:** 20'

**Width:** 5'

**Depth:** 9'

**Depth to Water:** 8'

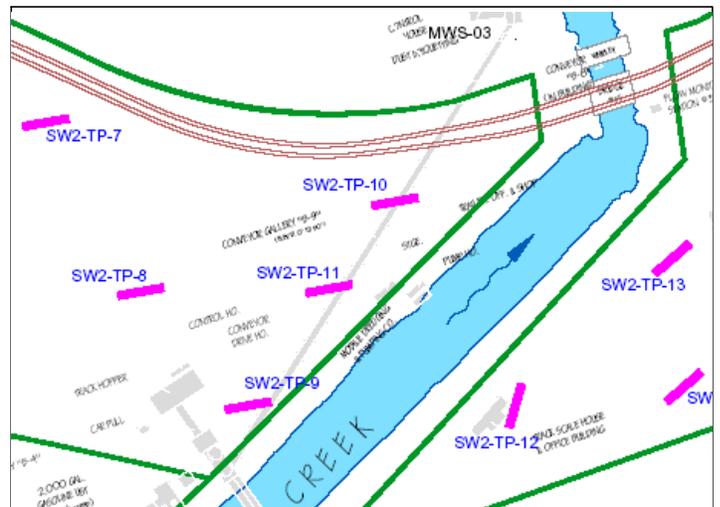
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**





# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** TP-9

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                         | PID<br>VOCs                     | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------------|---------------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol       |                                 |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                         | 0 25 50 75 100<br>ppm           |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense | [Cross-hatched pattern] | 0.0<br>0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 10.0               | -10.5<br>10.5   | End of Test Pit   |                         |                                 |               |         |
| 15.0               |                 |   |                         |                                 |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-19-09

**Length:** 15'

**Width:** 5'

**Depth:** 10.5'

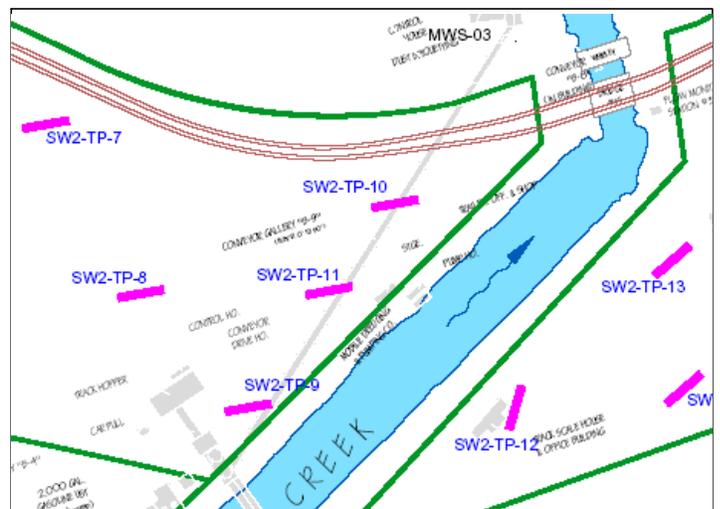
**Depth to Water:** 10'

**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-11

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                   |                          |               |         |
| 10.0               |                 |   |                   |                          |               |         |
| 15.0               |                 |   |                   |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-19-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

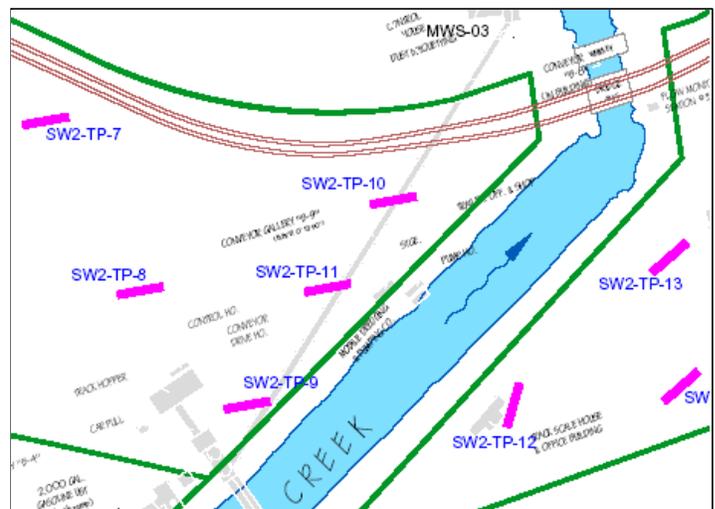
**Depth to Water:** 8'

**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-12

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawana Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.3<br>0.1 |               |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                   |                          |               |         |
| 10.0               |                 |   |                   |                          |               |         |
| 15.0               |                 |   |                   |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-19-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

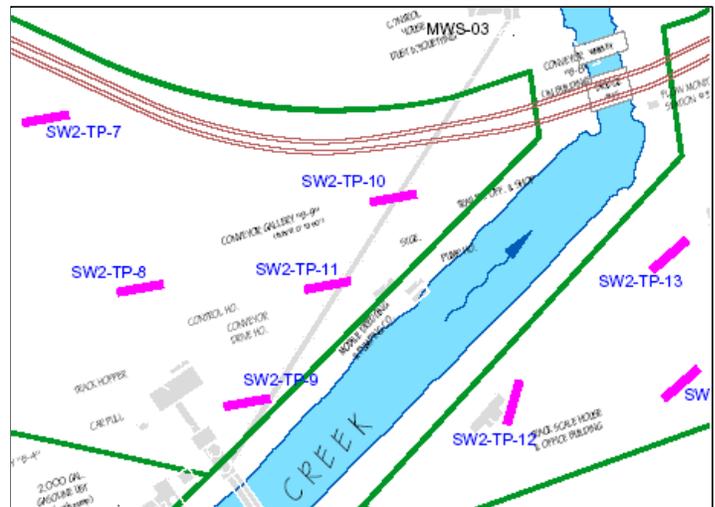
**Depth to Water:** 7.5'

**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-13

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs               | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|---------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                           |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm     |               |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>12.0<br>4.2 |               |         |
|                    | -8.0<br>8.0     | End of Test Pit   |                   |                           |               |         |
| 10.0               |                 |   |                   |                           |               |         |
| 15.0               |                 |   |                   |                           |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-19-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

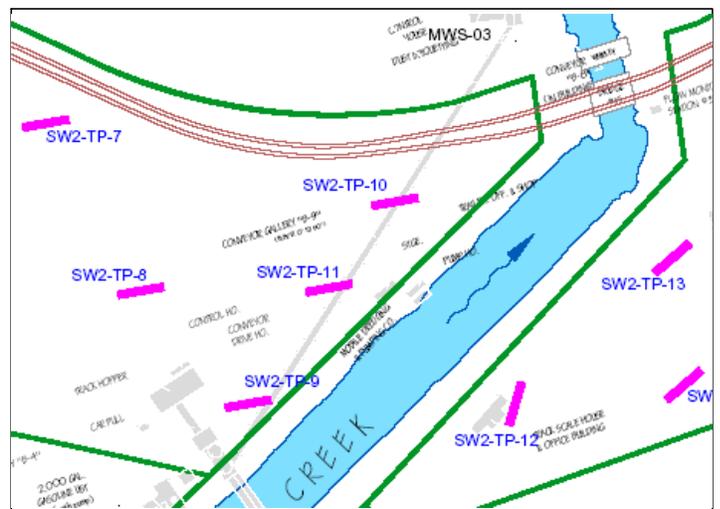
**Depth to Water:** 7.5'

**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-14</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs                | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|----------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                            |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm      |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>22.0<br>41.0<br>4.0 | Sampled<br>5-7' |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                   |                            |                 |         |
| 10.0               |                 |   |                   |                            |                 |         |
| 15.0               |                 |   |                   |                            |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-19-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

**Depth to Water:** 7.5'

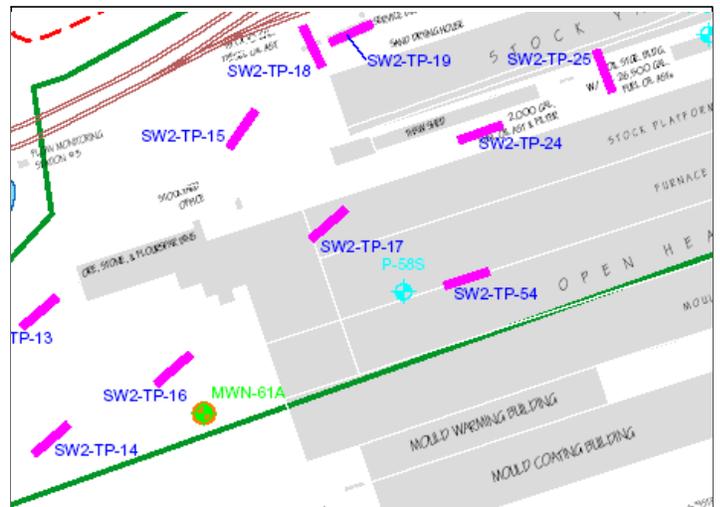
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-15</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|-------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |             |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0           |               |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 25          |               |         |
|                    |                 |   |                   | 50          |               |         |
| 5.0                |                 |   |                   | 75          |               |         |
|                    |                 |   |                   | 100         |               |         |
|                    | -7.0<br>7.0     | End of Test Pit   |                   | 0.0         |               |         |
|                    |                 |   |                   | 1.4         |               |         |
|                    |                 |   |                   | 4.1         |               |         |
|                    |                 |   |                   | 0.7         |               |         |
| 10.0               |                 |   |                   |             |               |         |
| 15.0               |                 |   |                   |             |               |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

**Depth:** 7'

**Depth to Water:** 6.5'

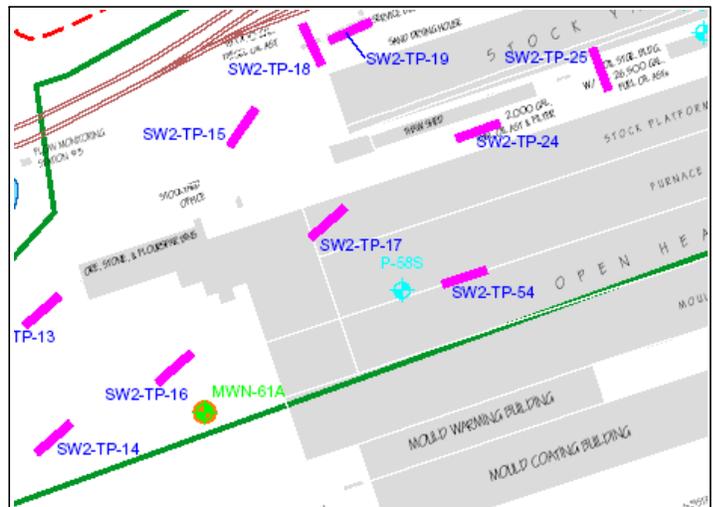
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-14</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|-------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |             |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0           |               |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 25          |               |         |
| 5.0                |                 |   |                   | 50          |               |         |
|                    |                 |   |                   | 75          |               |         |
|                    |                 |   |                   | 100         |               |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                   |             |               |         |
| 10.0               |                 |   |                   |             |               |         |
| 15.0               |                 |   |                   |             |               |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-19-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

**Depth to Water:** 7.5'

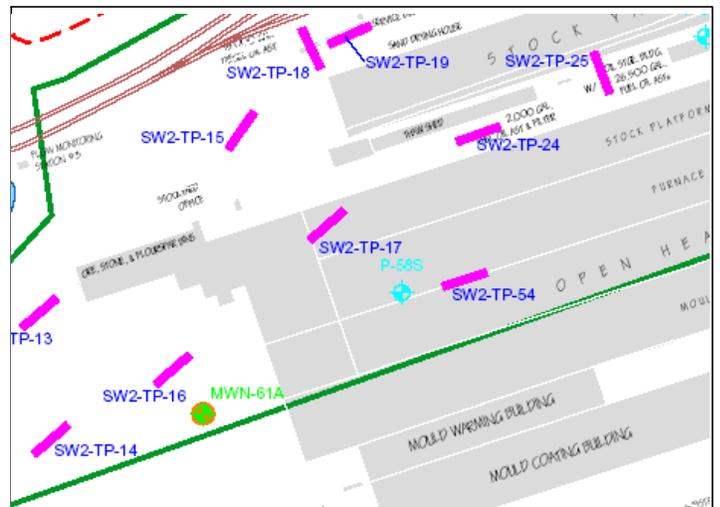
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-17</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|-------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |             |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0           |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 25          |                 |         |
|                    |                 |   |                   | 50          |                 |         |
| 5.0                |                 |   |                   | 75          | Sampled<br>3-6' |         |
|                    |                 |   |                   | 100         |                 |         |
|                    | -7.5<br>7.5     | End of Test Pit   |                   |             |                 |         |
| 10.0               |                 |   |                   |             |                 |         |
| 15.0               |                 |   |                   |             |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

**Depth:** 7.5'

**Depth to Water:** 7'

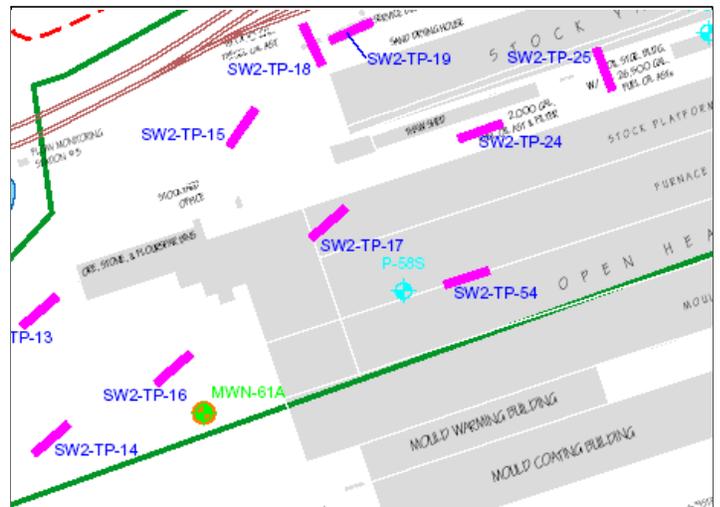
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-17</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs               | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|---------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                           |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm     |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 1.2<br>2.5<br>12.9<br>4.4 | Sampled<br>3-6' |         |
| 7.5                | -7.5<br>7.5     | End of Test Pit   |                   |                           |                 |         |
| 10.0               |                 |   |                   |                           |                 |         |
| 15.0               |                 |   |                   |                           |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

**Depth:** 7.5'

**Depth to Water:** 7'

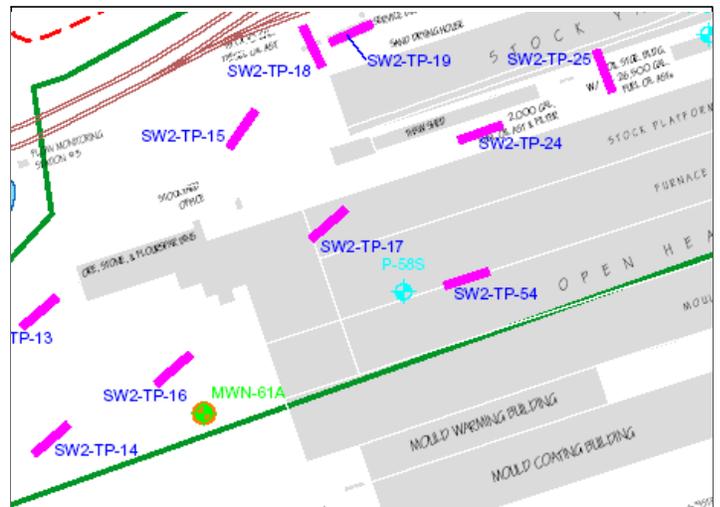
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**





# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-20

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs           | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|-----------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                       |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm |               |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0     |               |         |
| 5.0                | -6.0<br>6.0     | End of Test Pit   |                   |                       |               |         |
| 10.0               |                 |   |                   |                       |               |         |
| 15.0               |                 |   |                   |                       |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

**Depth:** 6'

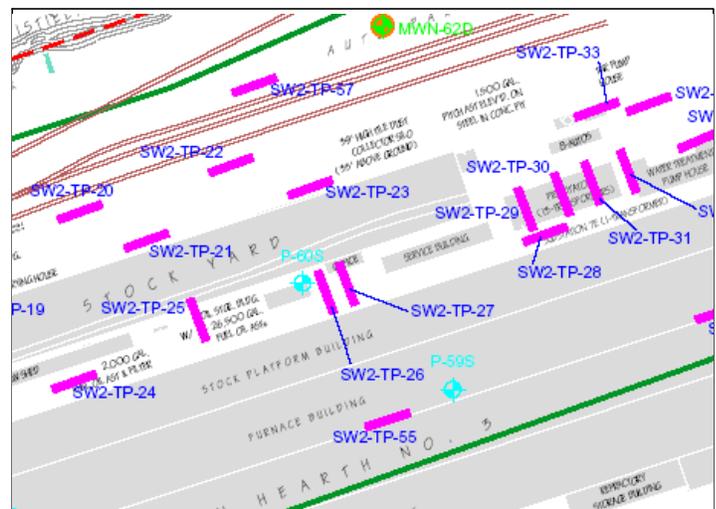
**Depth to Water:** 5.5'

**Visual Impacts:** slight sheen on water

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-21

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                        | PID<br>VOCs           | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|------------------------|-----------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol      |                       |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                        | 0 25 50 75 100<br>ppm |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense | [Cross-hatched symbol] | 0.0<br>1.4<br>3.3     |               |         |
| -6.5<br>6.5        | -6.5<br>6.5     | End of Test Pit   |                        | 0.0                   |               |         |
| 10.0               |                 |   |                        |                       |               |         |
| 15.0               |                 |   |                        |                       |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

**Depth:** 6.5'

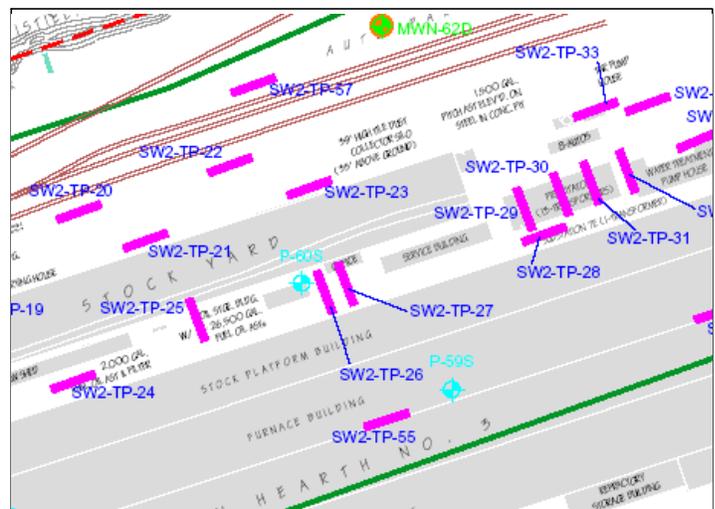
**Depth to Water:** 6'

**Visual Impacts:** slight sheen on water

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-22</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs           | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|-----------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                       |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm |               |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.4<br>1.0     | Sampled 0-2   |         |
| 5.0                | -6.0<br>6.0     | End of Test Pit   |                   |                       |               |         |
| 10.0               |                 |   |                   |                       |               |         |
| 15.0               |                 |   |                   |                       |               |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

**Depth:** 6'

**Depth to Water:** 5.5'

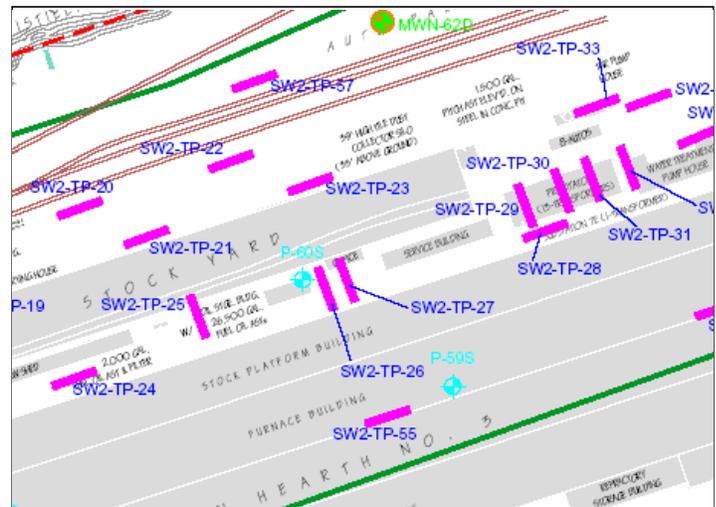
**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-23

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                        | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|------------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol      |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                        | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense | [Cross-hatched symbol] | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                        |                          |               |         |
| 10.0               |                 |   |                        |                          |               |         |
| 15.0               |                 |   |                        |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

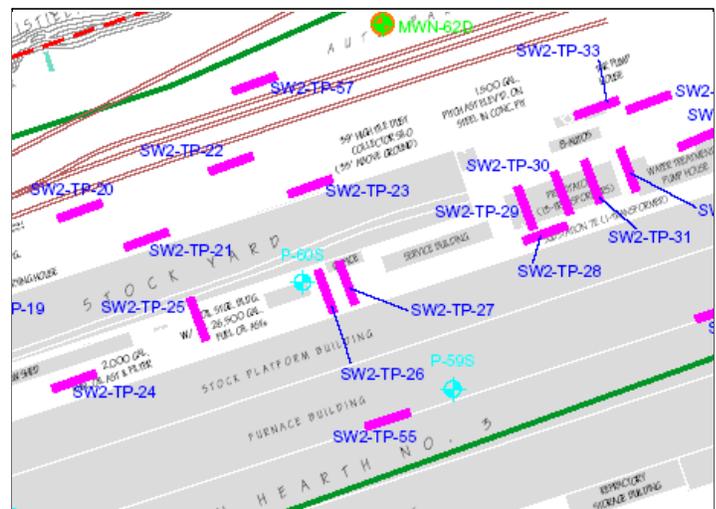
**Depth to Water:** 6'

**Visual Impacts:** none

**Olfactory Observations:** no odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-24

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
|                    | -7.0<br>7.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

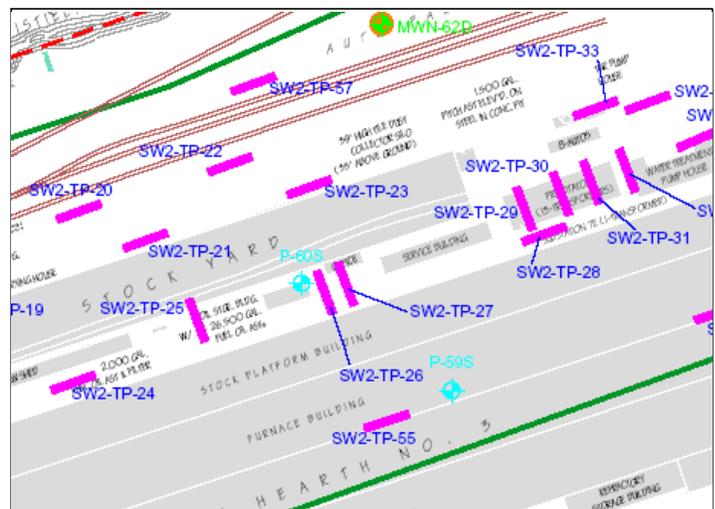
**Depth:** 7'

**Depth to Water:** 6.5'

**Visual Impacts:** none

**Olfactory Observations:** slight odor

**Comments:** reddish slag



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-25

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                        | PID<br>VOCs               | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|------------------------|---------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol      |                           |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                        |                           |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense | [Cross-hatched symbol] | 6.3<br>0.4<br>0.4<br>72.5 | Sampled<br>3-5' |         |
|                    | -7.0<br>7.0     | End of Test Pit   |                        |                           |                 |         |
| 10.0               |                 |   |                        |                           |                 |         |
| 15.0               |                 |   |                        |                           |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-20-09

**Length:** 15'

**Width:** 5'

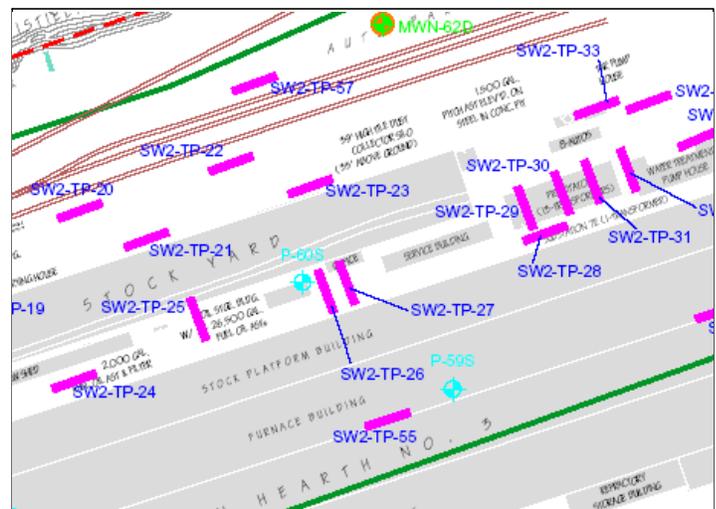
**Depth:** 7'

**Depth to Water:** 6.4'

**Visual Impacts:** none

**Olfactory Observations:** slight odor

**Comments:** Sampled just above water



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-26</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -9.0<br>9.0     | End of Test Pit   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

**Depth:** 9'

**Depth to Water:** 8.5'

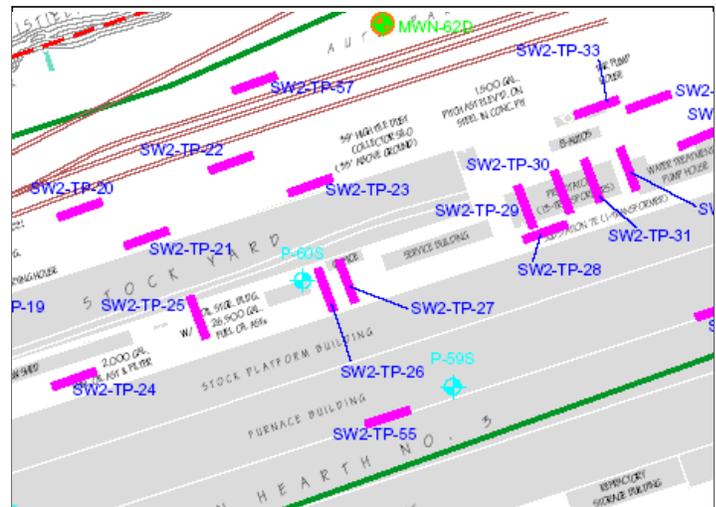
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-27

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
|                    | -8.0<br>8.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

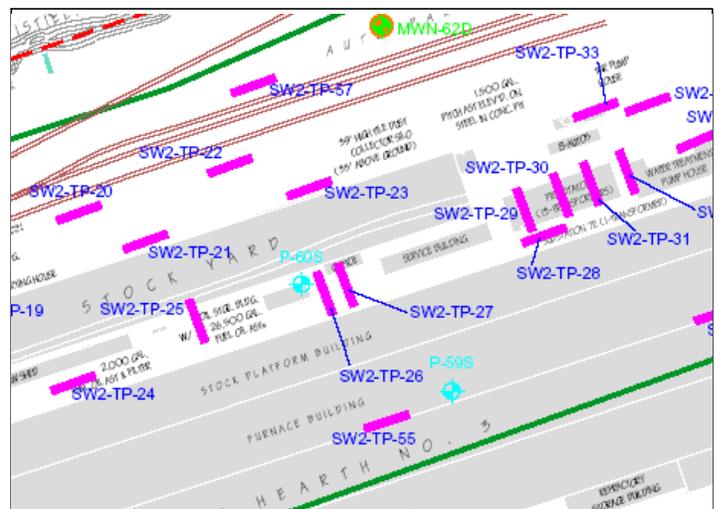
**Depth to Water:** 7.5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-28

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

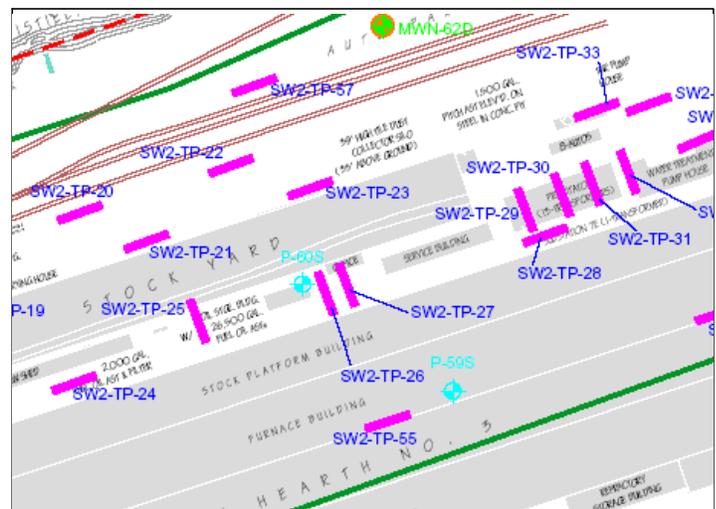
**Depth to Water:** 7.2'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-29

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 5.0                |                 |   |                   |                          |                 |         |
|                    | -8.0<br>8.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

**Depth to Water:** 7'

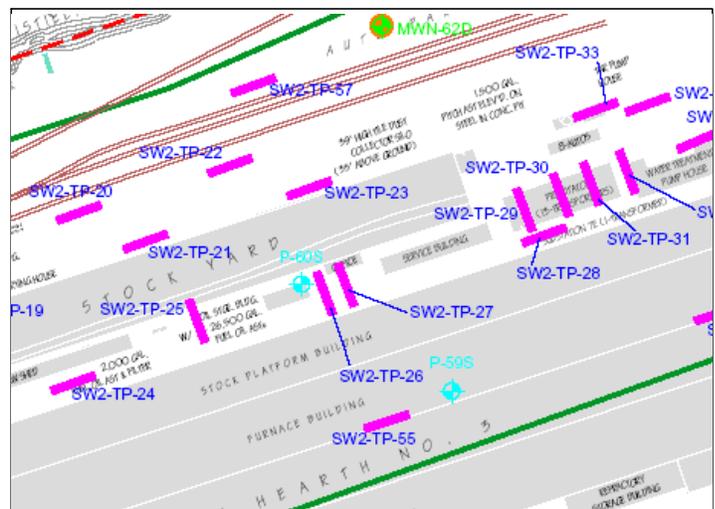
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-

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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-30

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>2-5' |         |
| -7.0<br>7.0        | -7.0<br>7.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

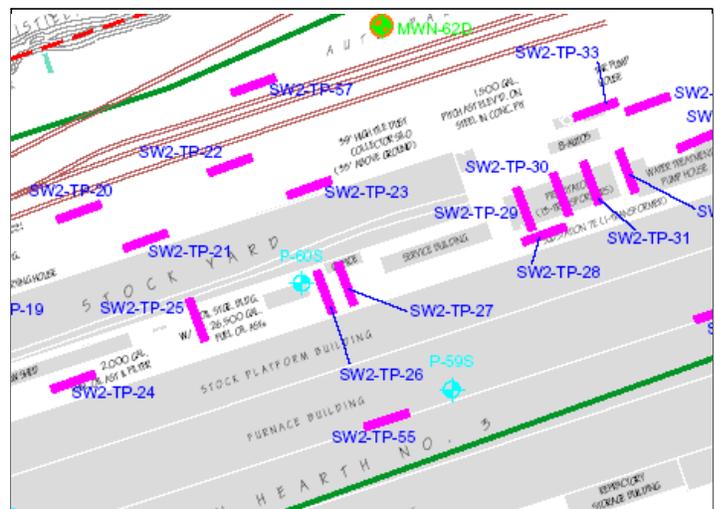
**Depth:** 7'

**Depth to Water:** 6.5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:** Could not sample 0-2 because of slag with no fines



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-31

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>3-5' |         |
|                    | -7.0<br>7.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

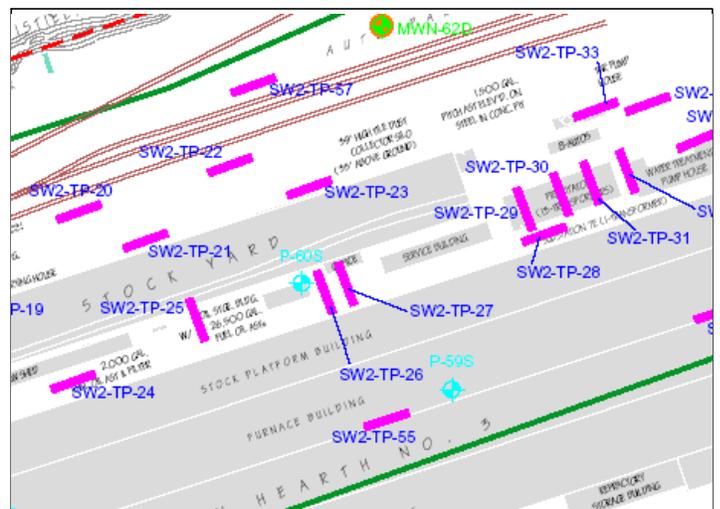
**Depth:** 7'

**Depth to Water:** 6.5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:** Could not sample 0-2 because of slag with no fines





# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-33

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense, layer of sand 5-6.5' followed by cinders |                   | 0.0<br>0.0<br>0.0<br>2.1 | Sampled<br>0-2' |         |
|                    | -7.0<br>7.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

**Depth:** 7'

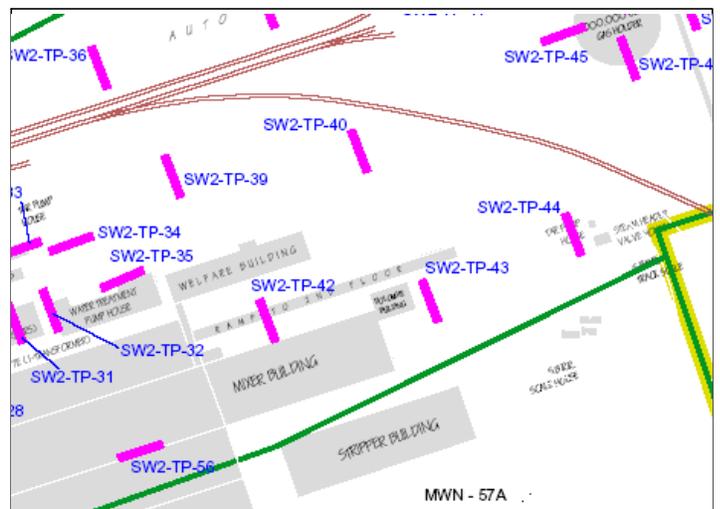
**Depth to Water:** 6.5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
--



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |                                    |
|--|------------------------------------|
| <b>Project No:</b> 0071-009-320                | <b>Test Pit I.D.:</b> BPA-3A-TP-34 |
| <b>Project:</b> Business Park Area 3A          | <b>Logged By:</b> BMG              |
| <b>Client:</b> Tecumseh Redevelopment Inc      | <b>Checked By:</b> BCH             |
| <b>Site Location:</b> Tecumseh Lackawanna Site |                                    |

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)   | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense, layer of sand at 7' same as TP-33 |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
|                    | -8.5<br>8.5     | End of Test Pit  |                   |                          |                 |         |
| 10.0               |                 |  |                   |                          |                 |         |
| 15.0               |                 |  |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

**Depth:** 8.5'

**Depth to Water:** 7'

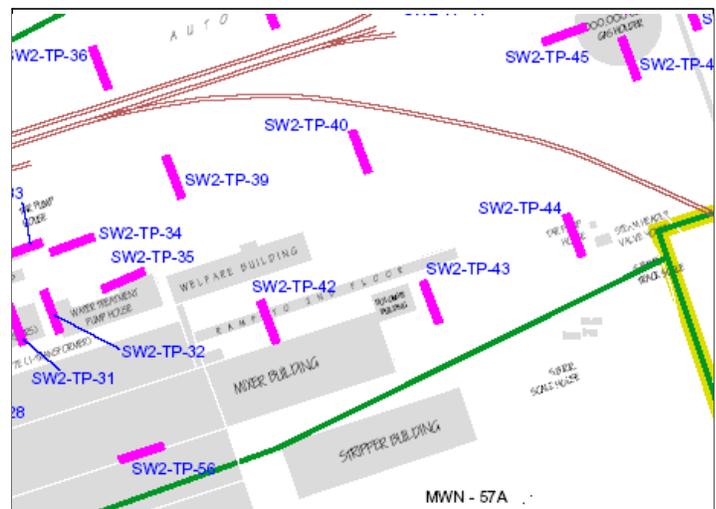
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-35

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense, layer of reddish silt (precipitator dust) between 5-6' |                   | 0.0<br>0.2<br>0.4<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -8.5<br>8.5     | End of Test Pit   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-23-09

**Length:** 15'

**Width:** 5'

**Depth:** 8.5'

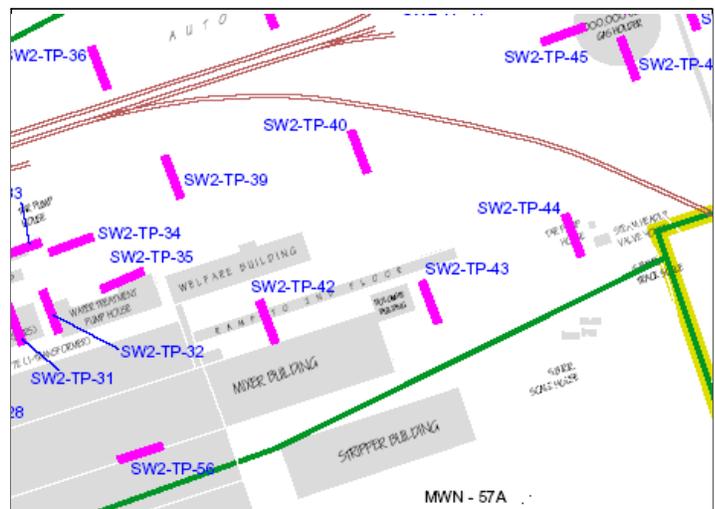
**Depth to Water:** 7'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-41

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |              |   |                         | PID VOCs<br>ppm<br>0 25 50 75 100 | Lab Sample | Remarks |
|--------------------|--------------|---|-------------------------|-----------------------------------|------------|---------|
| Depth (fbgs)       | Elev. /Depth | Description (ASTM D2488: Visual-Manual Procedure)                               | Lithologic Symbol       |                                   |            |         |
| 0.0                | 0.0<br>0.0   | Ground Surface  |                         |                                   |            |         |
|                    |              | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, sand and brick, dense | [Cross-hatched pattern] | 0.0<br>0.0<br>0.0<br>0.0          |            |         |
|                    | -8.0<br>8.0  | End of Test Pit   |                         |                                   |            |         |
| 10.0               |              |   |                         |                                   |            |         |
| 15.0               |              |   |                         |                                   |            |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

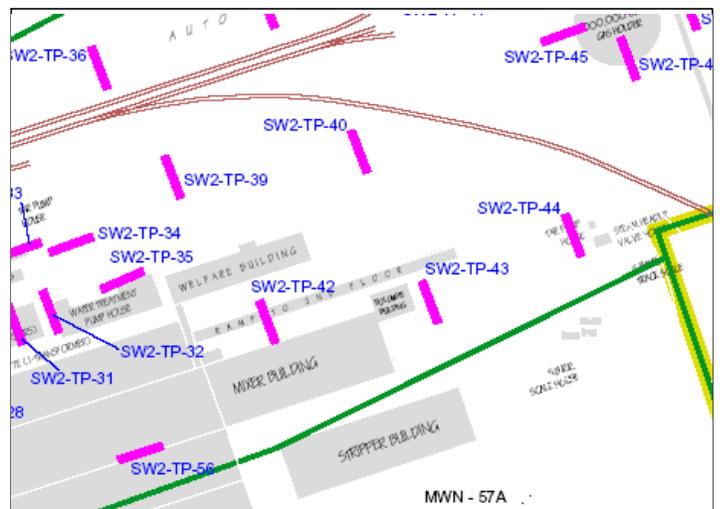
**Depth to Water:** 6'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-37

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                        | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|------------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                            | Lithologic Symbol      |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                        | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, sand and brick, dense | [Cross-hatched symbol] | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -9.5<br>9.5     | End of Test Pit   |                        |                          |                 |         |
| 15.0               |                 |   |                        |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 9.5'

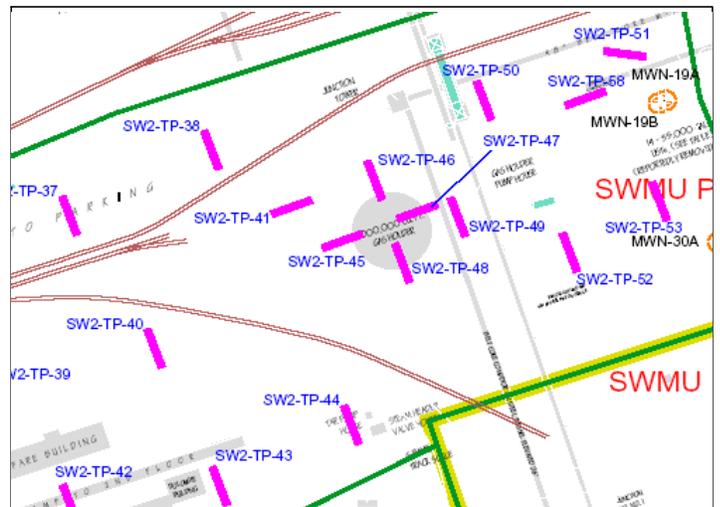
**Depth to Water:** 8'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-38

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                         | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                            | Lithologic Symbol       |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                         | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, sand and brick, dense | [Cross-hatched pattern] | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 10.0               | -10.0<br>10.0   | End of Test Pit   |                         |                          |               |         |
| 15.0               |                 |   |                         |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 10'

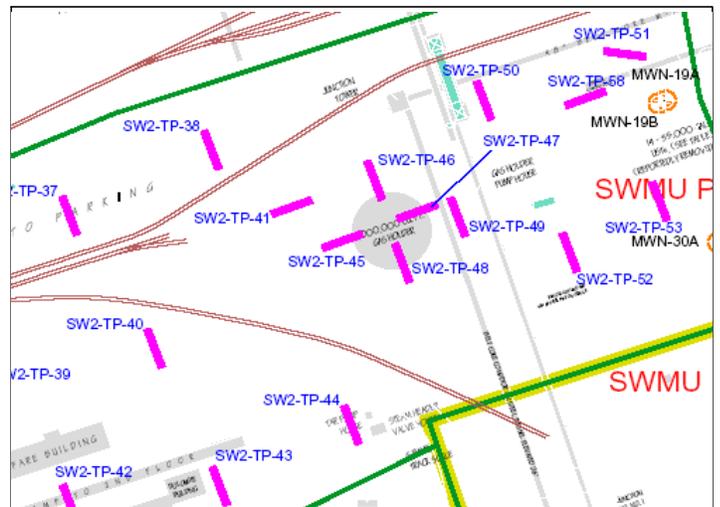
**Depth to Water:** 8'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-39

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs           | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|-----------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                       |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm |               |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense |                   | 0.0<br>0.0<br>0.3     |               |         |
|                    | -6.2<br>6.2     | End of Test Pit   |                   |                       |               |         |
| 10.0               |                 |   |                   |                       |               |         |
| 15.0               |                 |   |                   |                       |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 6.2'

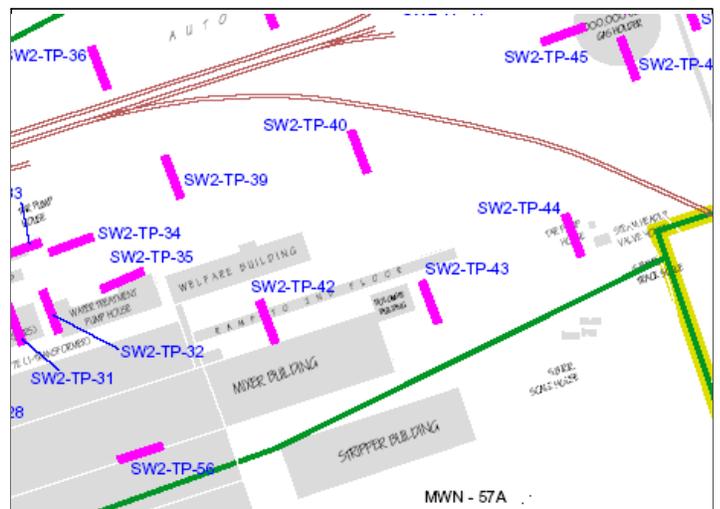
**Depth to Water:** 5.5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |                                    |
|--|------------------------------------|
| <b>Project No:</b> 0071-009-320                | <b>Test Pit I.D.:</b> BPA-3A-TP-40 |
| <b>Project:</b> Business Park Area 3A          | <b>Logged By:</b> BMG              |
| <b>Client:</b> Tecumseh Redevelopment Inc      | <b>Checked By:</b> BCH             |
| <b>Site Location:</b> Tecumseh Lackawanna Site |                                    |

| SUBSURFACE PROFILE |   |   |                          | PID<br>VOCs  | Lab<br>Sample   | Remarks         |
|--------------------|---|---|--------------------------|--|-----------------|-----------------|
| Depth<br>(fbgs)    | Elev.<br>/Depth                                 | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol        |  |                 |                 |
| 0.0                | 0.0<br>0.0                                      | Ground Surface  |                          | 0 25 50 75 100<br>ppm                                |                 |                 |
| 5.0                | -5.5<br>5.5                                     | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag and brick, dense                                 | [Cross-hatched symbol]   | 0.0<br>0.0<br>0.3<br>0.6<br>0.6<br>0.6<br>0.6<br>0.6 | Sampled<br>0-2' |                 |
| 15.0               | -14.0<br>14.0<br>-15.0<br>15.0<br>-16.0<br>16.0 | <b>Peat</b><br>Dark brown and black, moist, organic material, fibrous with wood chips and broken branches | [Wavy line symbol]       | 0.0  |                 |                 |
| 20.0               |   | <b>Silty Clay</b><br>Brown, moist, medium plasticity fines, stiff, massive, roots throughout              | [Horizontal line symbol] |  |                 | End of Test Pit |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 16'

**Depth to Water:** 5.5'

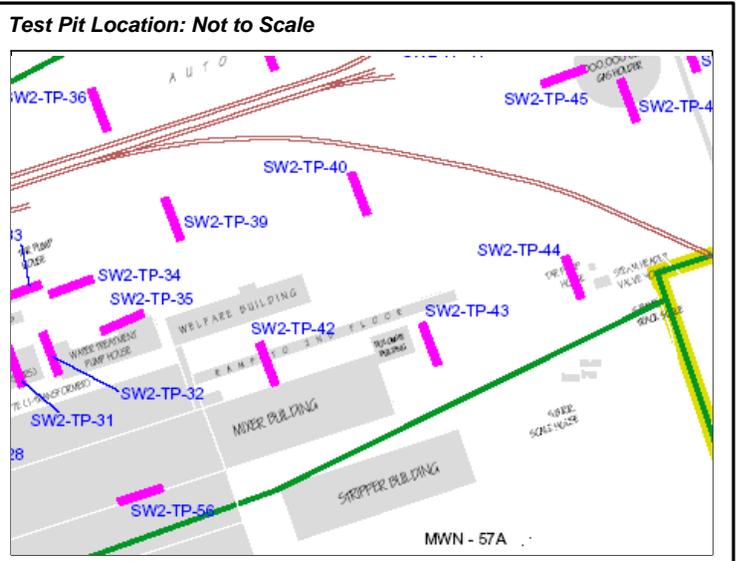
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-

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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-41

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                            | Lithologic Symbol |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, sand and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 7.2                | -7.2<br>7.2     | End of Test Pit   |                   |                          |               |         |
| 10.0               |                 |   |                   |                          |               |         |
| 15.0               |                 |   |                   |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 7.2'

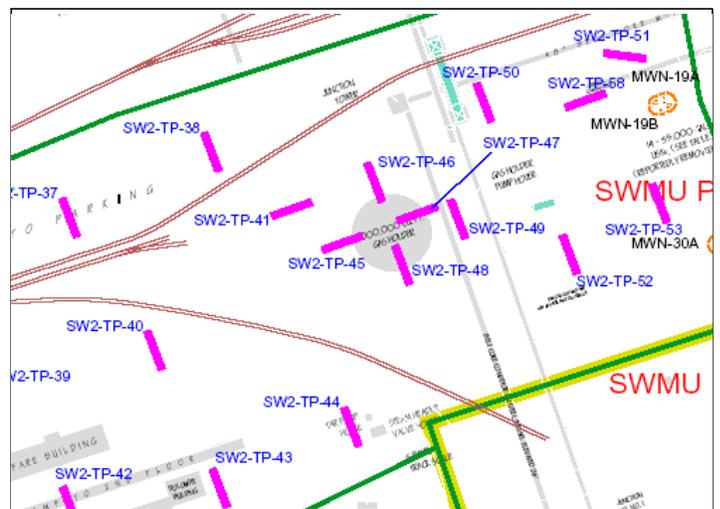
**Depth to Water:** 5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-42</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |   |                        | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|---|------------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol      |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                        | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, reddish brown silty material (precipitator dust) and brick, dense | [Cross-hatched symbol] | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit   |                        |                          |               |         |
| 10.0               |                 |   |                        |                          |               |         |
| 15.0               |                 |   |                        |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

**Depth to Water:** 7'

**Visual Impacts:** none

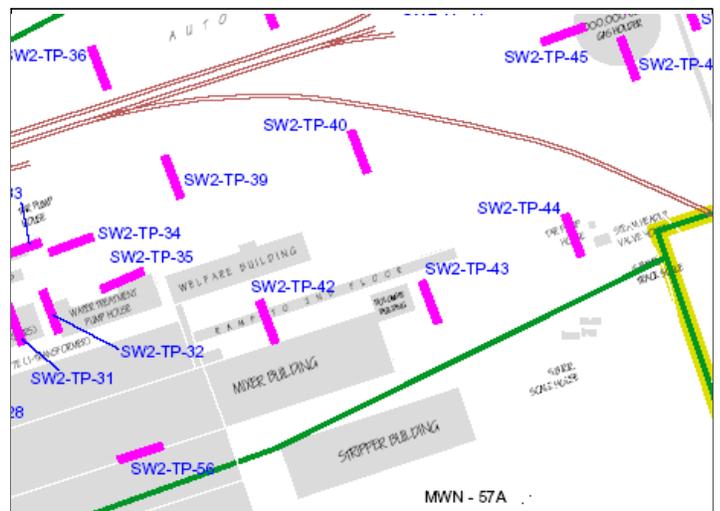
**Olfactory Observations:** none

**Comments:**

-

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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-43

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |  |                         | PID<br>VOCs              | Lab<br>Sample | Remarks |
|--------------------|-----------------|--|-------------------------|--------------------------|---------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol       |                          |               |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                         | 0 25 50 75 100<br>ppm    |               |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, and brick, dense | [Cross-hatched pattern] | 0.0<br>0.0<br>0.0<br>0.0 |               |         |
| 8.0                | -8.0<br>8.0     | End of Test Pit  |                         |                          |               |         |
| 10.0               |                 |  |                         |                          |               |         |
| 15.0               |                 |  |                         |                          |               |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

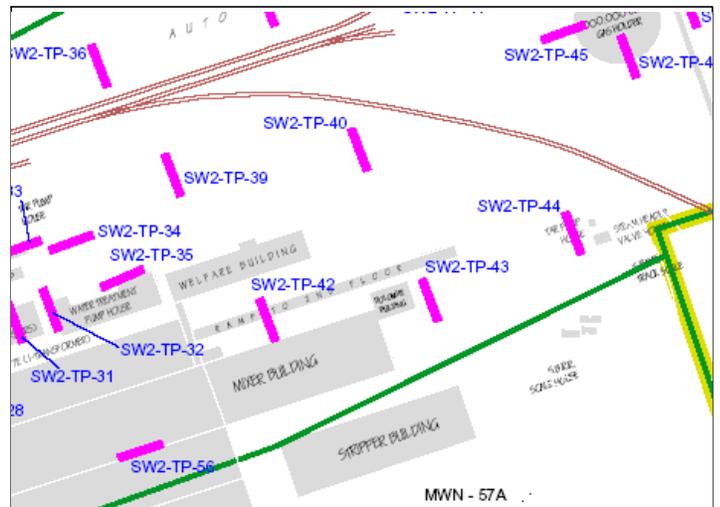
**Depth to Water:** 7'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-44</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|-------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |             |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0           |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, and brick, dense |                   | 25          |                 |         |
|                    |                 |  |                   | 50          |                 |         |
|                    |                 |  |                   | 75          |                 |         |
|                    |                 |  |                   | 100         |                 |         |
| 5.0                |                 |  |                   | 0.0         |                 |         |
|                    |                 |  |                   | 0.9         |                 |         |
|                    |                 |  |                   | 3.3         |                 |         |
|                    |                 |  |                   | 3.1         |                 |         |
|                    | -8.0<br>8.0     | End of Test Pit  |                   |             | Sampled<br>7-8' |         |
| 10.0               |                 |  |                   |             |                 |         |
| 15.0               |                 |  |                   |             |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

**Depth to Water:** 7'

**Visual Impacts:** Oil/tar soaked fill, with sheen on fill and water

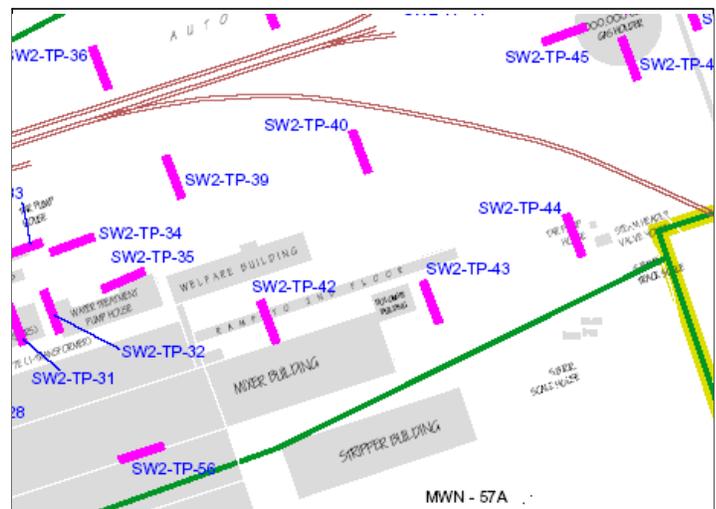
**Olfactory Observations:** moderate odor

**Comments:** Impacts seem to start at the water table

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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-45

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs           | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|-----------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                       |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, and brick, dense |                   | 0.0<br>0.0<br>0.0     | Sampled<br>0-2' |         |
| 5.0                | -5.0<br>5.0     | End of Test Pit  |                   |                       |                 |         |
| 10.0               |                 |  |                   |                       |                 |         |
| 15.0               |                 |  |                   |                       |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 5'

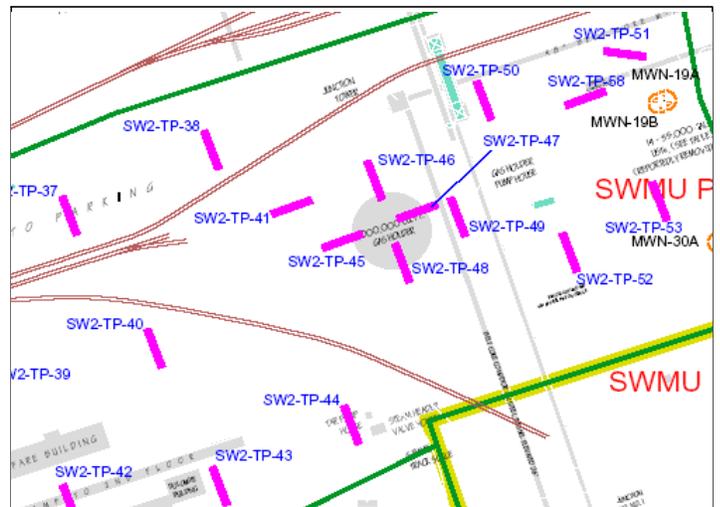
**Depth to Water:** 4'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-46

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs           | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|-----------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                       |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, and brick, dense |                   | 0.0<br>0.0<br>0.0     | Sampled<br>0-2' |         |
| 5.0                | -6.5<br>6.5     | End of Test Pit  |                   |                       |                 |         |
| 10.0               |                 |  |                   |                       |                 |         |
| 15.0               |                 |  |                   |                       |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 6.5'

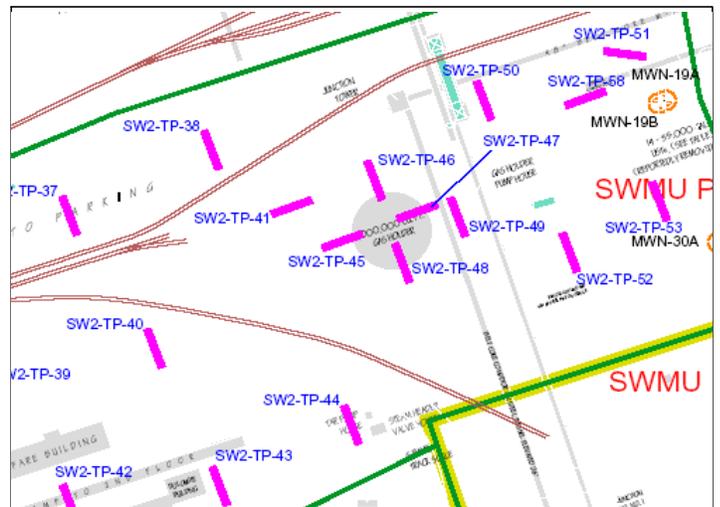
**Depth to Water:** 5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-47

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs           | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|-----------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                       |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, and brick, dense |                   | 0.0<br>0.0<br>0.0     | Sampled<br>0-2' |         |
| 5.0                | -5.0<br>5.0     | End of Test Pit  |                   |                       |                 |         |
| 10.0               |                 |  |                   |                       |                 |         |
| 15.0               |                 |  |                   |                       |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 5'

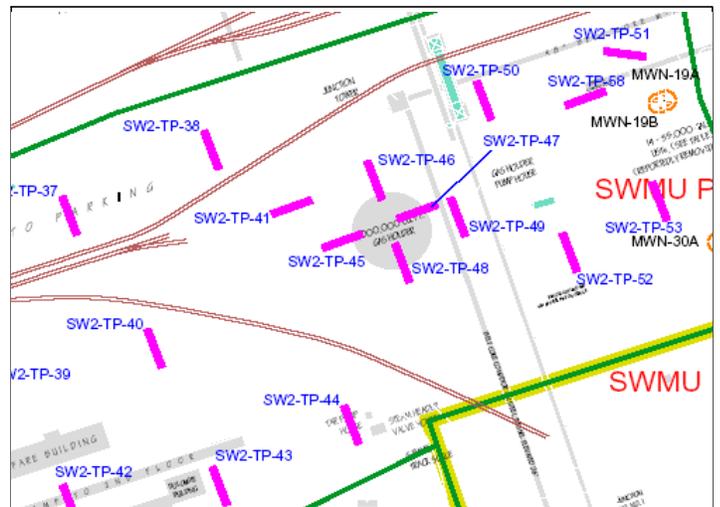
**Depth to Water:** 4'

**Visual Impacts:** Blue stained fill at the surface

**Olfactory Observations:** none

**Comments:**

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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-48

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs      | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                  |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0                |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, and brick, dense |                   | ppm<br>1000 2000 | Sampled<br>0-2' |         |
| 5.0                |                 |  |                   | 0.0              |                 |         |
|                    | -6.0<br>6.0     | End of Test Pit  |                   | 0.0              |                 |         |
| 10.0               |                 |  |                   |                  |                 |         |
| 15.0               |                 |  |                   |                  |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 6'

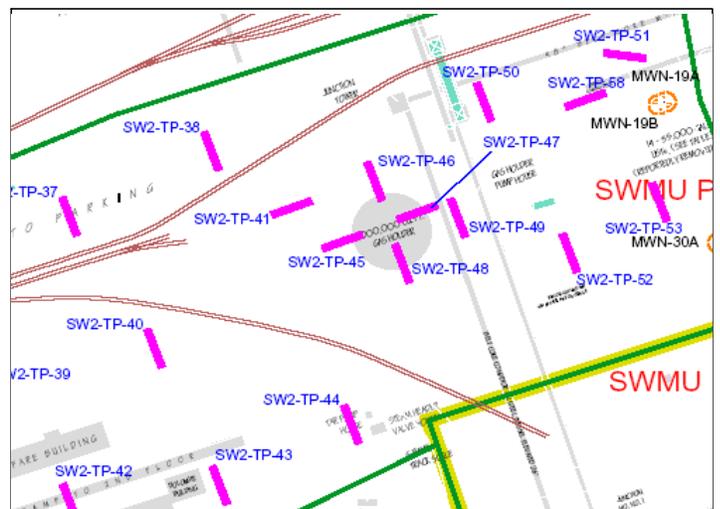
**Depth to Water:** 4.5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-49</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs                     | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|---------------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                                 |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm           |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, and brick, dense |                   | 0.0<br>0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -9.5<br>9.5     | End of Test Pit  |                   |                                 |                 |         |
| 15.0               |                 |  |                   |                                 |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 9.5'

**Depth to Water:** 7.5'

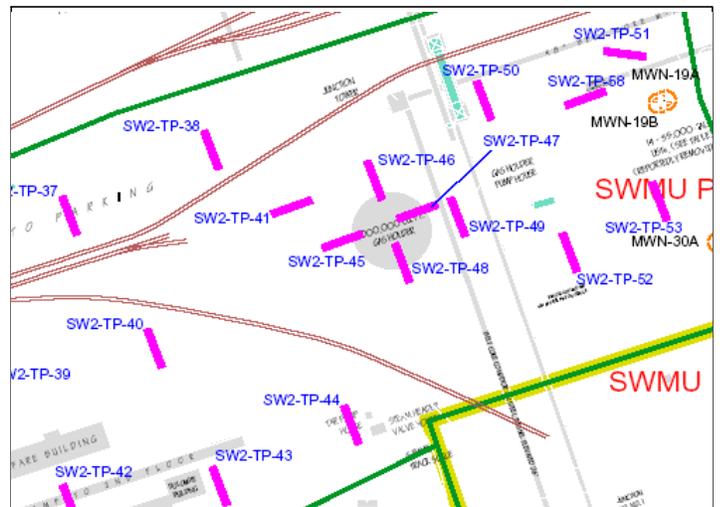
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-50

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with sand, cinder, ash, and slag, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
|                    | -8.0<br>8.0     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 8'

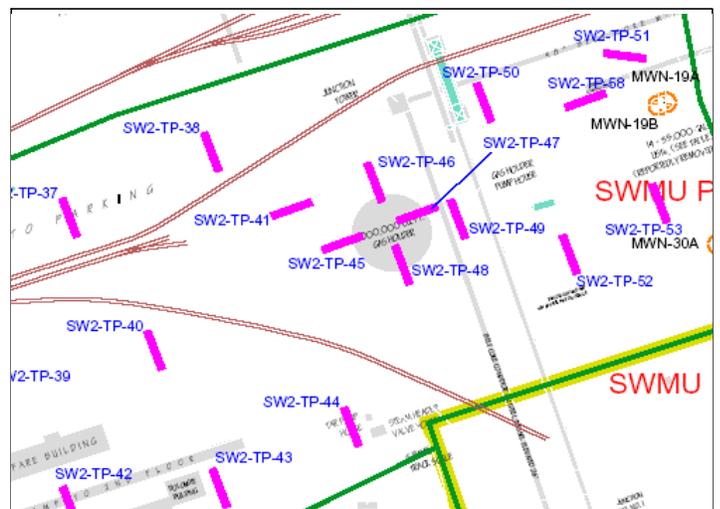
**Depth to Water:** 5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-51

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with sand, cinder, ash, and slag, dense |                   | 0.0<br>0.3<br>0.3<br>0.0 | Sampled<br>0-2' |         |
| 5.0                |                 |   |                   |                          |                 |         |
|                    | -8.5<br>8.5     | End of Test Pit   |                   |                          |                 |         |
| 10.0               |                 |   |                   |                          |                 |         |
| 15.0               |                 |   |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 8.5'

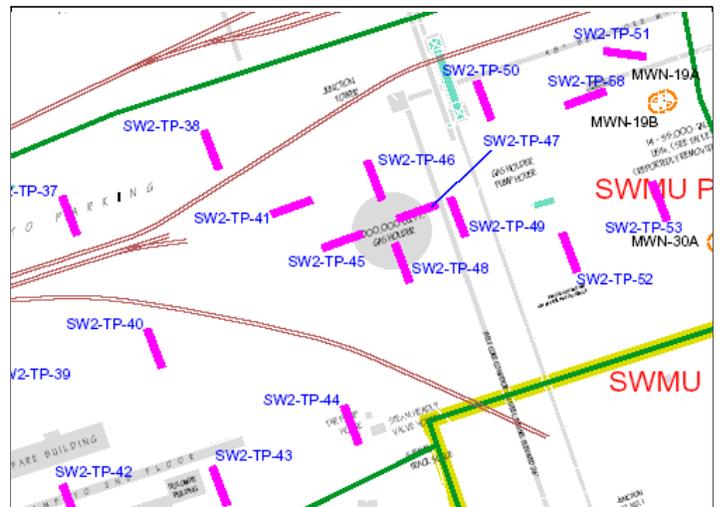
**Depth to Water:** 7'

**Visual Impacts:** none

**Olfactory Observations:** slight odor

**Comments:**

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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |                                    |
|--|------------------------------------|
| <b>Project No:</b> 0071-009-320                | <b>Test Pit I.D.:</b> BPA-3A-TP-52 |
| <b>Project:</b> Business Park Area 3A          | <b>Logged By:</b> BMG              |
| <b>Client:</b> Tecumseh Redevelopment Inc      | <b>Checked By:</b> BCH             |
| <b>Site Location:</b> Tecumseh Lackawanna Site |                                    |

| SUBSURFACE PROFILE |                                |   |                        | PID<br>VOCs                            | Lab<br>Sample   | Remarks |
|--------------------|--------------------------------|---|------------------------|--|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth                | Description<br>(ASTM D2488: Visual-Manual Procedure)  | Lithologic Symbol      |  |                 |         |
| 0.0                | 0.0<br>0.0                     | Ground Surface  |                        | 0 25 50 75 100<br>ppm                  |                 |         |
| 5.0                |                                | <b>Fill</b><br>Brown, moist, fill with cinder, ash, brick, and slag, dense                                | [Cross-hatched symbol] | 0.0<br>0.0<br>2.9<br>3.3<br>2.7<br>0.0 | Sampled<br>0-2' |         |
| 10.0               |                                | <b>Peat</b><br>Dark brown and black, moist, organic material, fibrous with wood chips and broken branches | [Wavy line symbol]     | 0.0                                    |                 |         |
| 15.0               | -12.0<br>12.0<br>-13.0<br>13.0 | End of Test Pit   |                        |  |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 12-2-09

**Length:** 15'

**Width:** 5'

**Depth:** 13'

**Depth to Water:** 5'

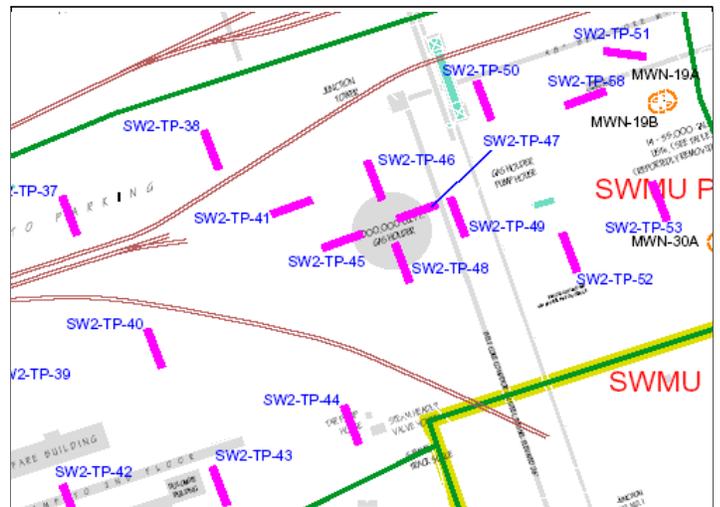
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-53

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |              |   |                   | PID VOCs<br>ppm<br>0 1000 2000  | Lab Sample      | Remarks |
|--------------------|--------------|---|-------------------|---------------------------------|-----------------|---------|
| Depth (fbgs)       | Elev. /Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                                 |                 |         |
| 0.0                | 0.0<br>0.0   | Ground Surface  |                   |                                 |                 |         |
|                    |              | <b>Fill</b><br>Brown, moist, fill with sand, cinder, ash, and slag, dense |                   | 17.3<br>120.0<br>400.0<br>187.0 |                 |         |
| 5.0                |              |   |                   |                                 | Sampled<br>5-7' |         |
|                    | -7.0<br>7.0  | End of Test Pit   |                   |                                 |                 |         |
| 10.0               |              |   |                   |                                 |                 |         |
| 15.0               |              |   |                   |                                 |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 12-1-09

**Length:** 15'

**Width:** 5'

**Depth:** 7'

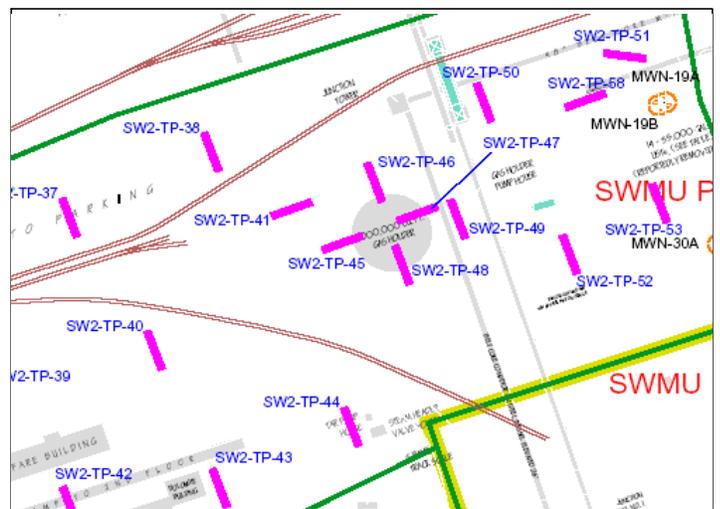
**Depth to Water:** 5'

**Visual Impacts:** Sheen on fill and water

**Olfactory Observations:** moderate odor

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-54</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, brick, and slag, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| -7.0<br>7.0        | -7.0<br>7.0     | End of Test Pit  |                   |                          |                 |         |
| 10.0               |                 |  |                   |                          |                 |         |
| 15.0               |                 |  |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 12-2-09

**Length:** 15'

**Width:** 5'

**Depth:** 7'

**Depth to Water:** NA

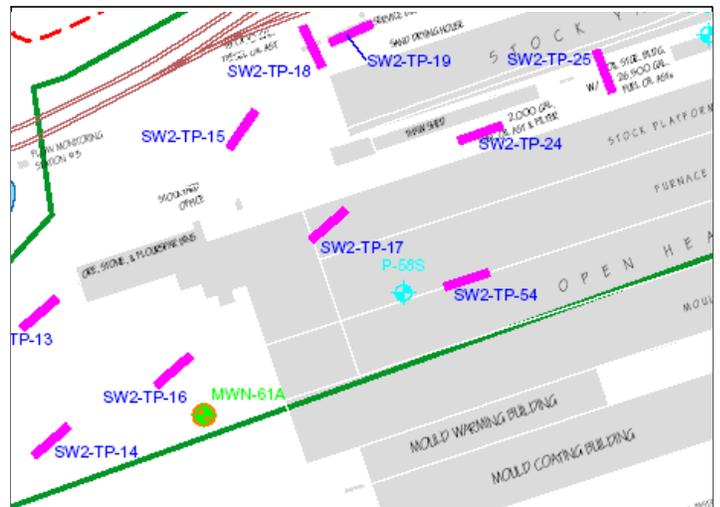
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:** refusal on hard slag

-  
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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

|  |  |
|--|--|
| <p><b>Project No:</b> 0071-009-320</p> <p><b>Project:</b> Business Park Area 3A</p> <p><b>Client:</b> Tecumseh Redevelopment Inc</p> <p><b>Site Location:</b> Tecumseh Lackawanna Site</p> | <p><b>Test Pit I.D.:</b> BPA-3A-TP-55</p> <p><b>Logged By:</b> BMG</p> <p><b>Checked By:</b> BCH</p> |
|--|--|

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, brick, and slag, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -10.5<br>10.5   | End of Test Pit  |                   |                          |                 |         |
| 15.0               |                 |  |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 12-2-09

**Length:** 15'

**Width:** 5'

**Depth:** 10.5'

**Depth to Water:** 7'

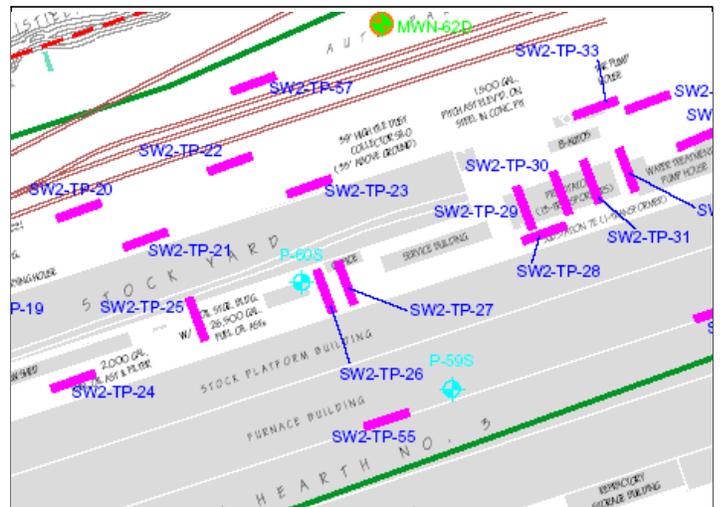
**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

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**Test Pit Location: Not to Scale**



# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-56

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |  |                   | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|--|-------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                       | Lithologic Symbol |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface   |                   | 0 25 50 75 100<br>ppm    |                 |         |
|                    |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, brick, and slag, dense |                   | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -9.0<br>9.0     | End of Test Pit  |                   |                          |                 |         |
| 15.0               |                 |  |                   |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 12-2-09

**Length:** 15'

**Width:** 5'

**Depth:** 9'

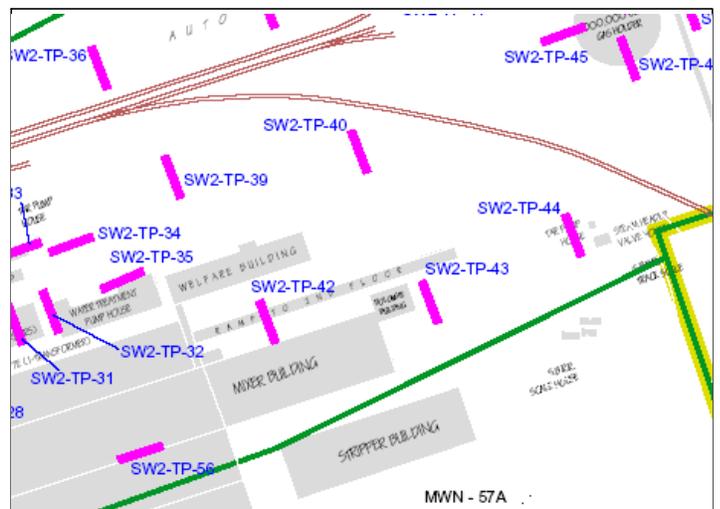
**Depth to Water:** 7.5'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-57

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                        | PID<br>VOCs              | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|------------------------|--------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                            | Lithologic Symbol      |                          |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                        | 0 25 50 75 100<br>ppm    |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with cinder, ash, slag, sand and brick, dense | [Cross-hatched symbol] | 0.0<br>0.0<br>0.0<br>0.0 | Sampled<br>0-2' |         |
| 10.0               | -8.5<br>8.5     | End of Test Pit   |                        |                          |                 |         |
| 15.0               |                 |   |                        |                          |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-24-09

**Length:** 15'

**Width:** 5'

**Depth:** 8.5'

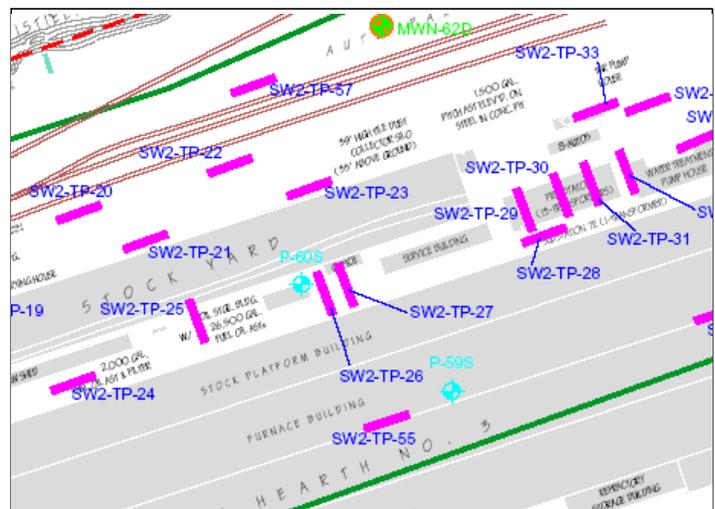
**Depth to Water:** 8'

**Visual Impacts:** none

**Olfactory Observations:** none

**Comments:**

-  
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# TEST PIT EXCAVATION LOG



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

**Project No:** 0071-009-320

**Test Pit I.D.:** BPA-3A-TP-58

**Project:** Business Park Area 3A

**Logged By:** BMG

**Client:** Tecumseh Redevelopment Inc

**Checked By:** BCH

**Site Location:** Tecumseh Lackawanna Site

| SUBSURFACE PROFILE |                 |   |                   | PID<br>VOCs                 | Lab<br>Sample   | Remarks |
|--------------------|-----------------|---|-------------------|-----------------------------|-----------------|---------|
| Depth<br>(fbgs)    | Elev.<br>/Depth | Description<br>(ASTM D2488: Visual-Manual Procedure)                      | Lithologic Symbol |                             |                 |         |
| 0.0                | 0.0<br>0.0      | Ground Surface  |                   | 0 25 50 75 100<br>ppm       |                 |         |
| 5.0                |                 | <b>Fill</b><br>Brown, moist, fill with sand, cinder, ash, and slag, dense |                   | 8.8<br>20.5<br>48.3<br>72.5 | Sampled<br>5-6' |         |
| -7.0<br>7.0        | -7.0<br>7.0     | End of Test Pit   |                   |                             |                 |         |
| 15.0               |                 |   |                   |                             |                 |         |

**Excavated By:** Zoladz Construction Inc.

**Test Pit Location:** Not to Scale

**Excavator Type:** John Deere 892 ELC

**Excavation Date(s):** 11-30-09

**Length:** 15'

**Width:** 5'

**Depth:** 7'

**Depth to Water:** 5.5'

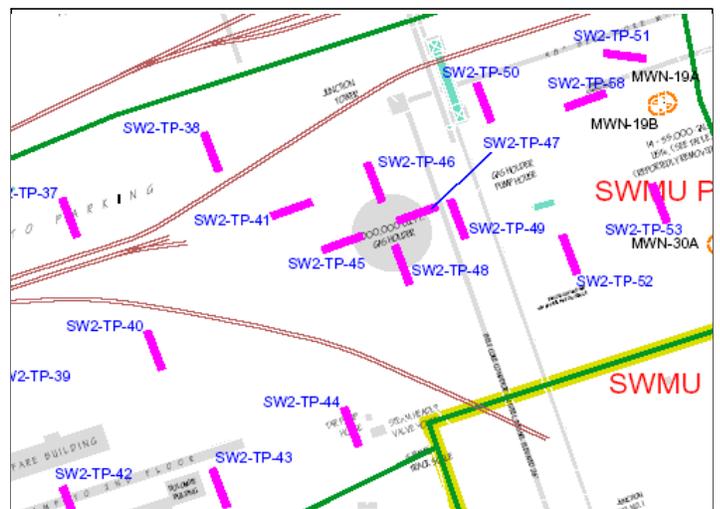
**Visual Impacts:** sheen on fill and water

**Olfactory Observations:** moderate odor

**Comments:**

-

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EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: Phase II BRA

Date: 10/17/08

Project No.:

Client: Tecumseh

Instrument Source:  TK  Rental

| METER TYPE   | UNITS             | TIME | MAKE/MODEL                        | SERIAL NUMBER      | CAL. BY | STANDARD                          | POST CAL. READING            | SETTINGS                      |
|--|-------------------|------|-----------------------------------|--------------------|---------|-----------------------------------|------------------------------|-------------------------------|
| <input checked="" type="checkbox"/> pH meter         | units             | 1000 | Myron L Company<br>Ultra Meter 6P | 606987             | TAB     | 4.00<br>7.00<br>10.01<br>< 0.4    | 4.00<br>7.00<br>9.98<br>0.31 | 4.00<br>7.00<br>10.00<br>0.01 |
| <input type="checkbox"/> Turbidity meter             | NTU               | 1010 | Hach 2100P<br>Turbidimeter        | 970600014560       | TAB     | 20<br>100<br>800                  | 22.0<br>100<br>792           | 20.0<br>100<br>800            |
| <input checked="" type="checkbox"/> Sp. Cond. meter  | uS<br>mS          | 1000 | Myron L Company<br>Ultra Meter 6P | 606987             | TAB     | 1413 mS @ 25 °C                   | 1414                         | 1413                          |
| <input type="checkbox"/> PID                         | ppm               |      | MinRAE 2000                       |                    |         | open air zero<br>___ ppm Iso. Gas |                              | MIBK response<br>factor = 1.0 |
| <input checked="" type="checkbox"/> Dissolved Oxygen | ppm               | 0.59 | <del>YSI Model 55</del>           | <del>05D2077</del> | TAB     |                                   | % Saturation                 |                               |
| <input type="checkbox"/> Particulate meter           | mg/m <sup>3</sup> |      |                                   |                    |         | zero air                          |                              |                               |
| <input type="checkbox"/> Oxygen                      | %                 |      |                                   |                    |         | open air                          |                              |                               |
| <input type="checkbox"/> Hydrogen sulfide            | ppm               |      |                                   |                    |         | open air                          |                              |                               |
| <input type="checkbox"/> Carbon monoxide             | ppm               |      |                                   |                    |         | open air                          |                              |                               |
| <input type="checkbox"/> LEL                         | %                 |      |                                   |                    |         | open air                          |                              |                               |
| <input type="checkbox"/> Radiation Meter             | uR/H              |      |                                   |                    |         | background area                   |                              |                               |

ADDITIONAL REMARKS:

PREPARED BY:

DATE: 10/17/08



Development  
**GROUNDWATER SAMPLING FORM**

Project Name: Phase III BPA Date: 10/17/08  
 Location: Phase III BPA, Newark Project No.: \_\_\_\_\_ Sampler(s): TAB

Note: All measurements are in feet, distance from top of riser. Note: 2" = 0.163 g/ft, 4" = 0.653 g/ft, 6" = 1.469 g/ft.

| Well No. <u>MWN-53A</u>       |                      | Diameter: <u>2"</u>            |            |                |                    | Sample Time: _____                  |           |          |                     |
|-------------------------------|----------------------|--------------------------------|------------|----------------|--------------------|-------------------------------------|-----------|----------|---------------------|
| Product Depth: _____          |                      | Water Column (B): <u>12.90</u> |            |                |                    | DTW when sampled: _____             |           |          |                     |
| DTW (static): <u>7.38</u>     |                      | Casing Volume: <u>2.10</u>     |            |                |                    | 80% Recovery (A - [B x 0.8]): _____ |           |          |                     |
| Total Depth (A): <u>20.28</u> |                      | Purge Volume: <u>21.07</u>     |            |                |                    | Purge Method: <u>Bailer</u>         |           |          |                     |
| Time                          | Water Level (ft FOR) | Acc. Volume (gallons)          | pH (units) | Temp. (deg. C) | <del>SC</del> (uS) | Turbidity (NTU)                     | DO (mg/L) | ORP (mV) | Appearance & Odor   |
| 1038                          | <del>7.38</del>      | 2.0                            | 7.28       | 15.8           | 10.97              | >1000                               | 6.25      | -165     | Dark Brown No. odor |
| 1043                          | 7.38                 | 4.0                            | 7.54       | 15.8           | 10.57              | >1000                               | 0.25      | -164     | Dark Brown SL musty |
| 1051                          | 7.38                 | 6.0                            | 7.70       | 15.4           | 10.40              | >1000                               | 0.39      | -162     | "                   |
| 1057                          | 7.38                 | 8.0                            | 7.77       | 15.4           | 10.36              | >1000                               | 0.51      | -158     | "                   |
| 1102                          | 7.39                 | 10.0                           | 7.89       | 15.4           | 10.17              | >1000                               | 0.85      | -141     | "                   |
| 1109                          | 7.39                 | 12.0                           | 8.08       | 15.0           | 10.11              | >1000                               | 0.92      | -134     | "                   |
| 1115                          | 7.36                 | 14.0                           | 7.75       | 14.6           | 10.08              | >1000                               | 1.18      | -114     | "                   |
| 1124                          | 7.36                 | 16.0                           | 8.06       | 15.2           | 10.15              | >1000                               | 0.74      | -134     | "                   |
| 1130                          | 7.37                 | 18.0                           | 8.07       | 15.3           | 10.10              | >1000                               | 1.02      | -133     | "                   |
| Sample Information:           |                      |                                |            |                |                    |                                     |           |          |                     |
| 1136                          | 7.37                 | 20.0                           | 8.01       | 15.6           | 10.17              | >1000                               | 0.83      | -137     | "                   |

| Well No. <u>MWN-54A</u>       |                      | Diameter: <u>2"</u>            |            |                |         | Sample Time: _____                  |           |          |                   |
|-------------------------------|----------------------|--------------------------------|------------|----------------|---------|-------------------------------------|-----------|----------|-------------------|
| Product Depth: _____          |                      | Water Column (B): <u>11.91</u> |            |                |         | DTW when sampled: _____             |           |          |                   |
| DTW (static): <u>9.47</u>     |                      | Casing Volume: <u>1.94</u>     |            |                |         | 80% Recovery (A - [B x 0.8]): _____ |           |          |                   |
| Total Depth (A): <u>21.38</u> |                      | Purge Volume: <u>19.41</u>     |            |                |         | Purge Method: <u>Bailer</u>         |           |          |                   |
| Time                          | Water Level (ft FOR) | Acc. Volume (gallons)          | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)                     | DO (mg/L) | ORP (mV) | Appearance & Odor |
| 1201                          | <del>9.88</del>      | 2.0                            | 6.64       | 13.7           | 3636    | >1000                               | 1.33      | -16      | Brown gel m. odor |
| 1208                          | 9.89                 | 4.0                            | 6.90       | 14.3           | 3563    | >1000                               | 1.05      | -100     | "                 |
| 1214                          | 10.05                | 6.0                            | 7.00       | 14.7           | 3471    | >1000                               | 1.20      | -107     | "                 |
| 1219                          | 10.03                | 8.0                            | 6.95       | 14.7           | 3344    | >1000                               | 1.14      | -101     | "                 |
| 1226                          | 10.15                | 10.0                           | 7.15       | 14.8           | 3293    | >1000                               | 1.44      | -108     | "                 |
| 1233                          | 10.13                | 12.0                           | 7.20       | 14.3           | 3352    | >1000                               | 1.20      | -105     | "                 |
| 1238                          | 9.95                 | 14.0                           | 7.28       | 14.1           | 3344    | >1000                               | 1.08      | -109     | "                 |
| 1245                          | 9.89                 | 16.0                           | 7.23       | 14.7           | 3360    | >1000                               | 0.80      | -108     | "                 |
| 1251                          | 9.99                 | 18.0                           | 7.31       | 15.0           | 3272    | >1000                               | 0.82      | -116     | "                 |
| Sample Information:           |                      |                                |            |                |         |                                     |           |          |                   |
| 1257                          | 10.00                | 20.0                           | 7.36       | 15.0           | 3242    | >1000                               | 1.09      | -110     | "                 |

REMARKS:

PREPARED BY: [Signature]



Developed  
**GROUNDWATER SAMPLING FORM**

Project Name: Phase III PBA  
Location: Tennant

Project No.: \_\_\_\_\_ Date: 10/17/08  
Sampler(s): TAIB

Note: All measurements are in feet, distance from top of riser.

Note: 2" = 0.163 g/ft, 4" = 0.653 g/ft, 6" = 1.469 g/ft.

| Well No. <u>MWN-55A</u>       |                      | Diameter: <u>2"</u>           |            |                |         | Sample Time: _____                  |           |          |                        |
|-------------------------------|----------------------|-------------------------------|------------|----------------|---------|-------------------------------------|-----------|----------|------------------------|
| Product Depth: _____          |                      | Water Column (B): <u>8.78</u> |            |                |         | DTW when sampled: _____             |           |          |                        |
| DTW (static): <u>10.91</u>    |                      | Casing Volume: <u>1.43</u>    |            |                |         | 80% Recovery (A - [B x 0.8]): _____ |           |          |                        |
| Total Depth (A): <u>19.69</u> |                      | Purge Volume: <u>14.31</u>    |            |                |         | Purge Method: <u>Back</u>           |           |          |                        |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)         | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)                     | DO (mg/L) | ORP (mV) | Appearance & Odor      |
| 1345                          | <u>Initial</u>       | 1.50                          | 7.40       | 14.6           | 535.7   | >1000                               | 0.16      | -127     | <u>grey and sticky</u> |
| 1353                          | 16.36                | 3.0                           | 7.35       | 13.6           | 530.8   | >1000                               | .06       | -146     | "                      |
| 1400                          | 15.55                | 4.5                           | 7.26       | 13.3           | 524.3   | >1000                               | .10       | -133     | "                      |
| 1407                          | 15.32                | 6.0                           | 7.14       | 12.5           | 511.7   | >1000                               | .21       | -116     | "                      |
| 1413                          | 15.56                | 7.5                           | 7.13       | 13.0           | 496.7   | >1000                               | .60       | -100     | "                      |
| 1420                          | 12.25                | 9.0                           | 7.17       | 13.1           | 477.7   | >1000                               | 1.17      | -91      | "                      |
| 1427                          | 12.20                | 10.5                          | 7.16       | 13.0           | 479.4   | >1000                               | 2.54      | -83      | <u>grey and sticky</u> |
| 1432                          | 12.03                | 12.0                          | 7.16       | 13.2           | 474.3   | >1000                               | 2.45      | -85      | "                      |
| 1440                          | 11.99                | 13.5                          | 7.15       | 13.1           | 478.4   | >1000                               | 0.50      | -89      | "                      |
| Sample Information:           |                      |                               |            |                |         |                                     |           |          |                        |
| 1445                          | 11.88                | 15.0                          | 7.15       | 13.3           | 482.1   | >1000                               | 0.61      | -91      | "                      |
| 1453                          | 11.76                | 16.5                          | 7.14       | 13.2           | 484.8   | >1000                               | 0.51      | -88      | "                      |

| Well No. <u>MWN-57A</u>       |                      | Diameter: <u>2"</u>            |            |                |         | Sample Time: _____                  |           |          |                        |
|-------------------------------|----------------------|--------------------------------|------------|----------------|---------|-------------------------------------|-----------|----------|------------------------|
| Product Depth: _____          |                      | Water Column (B): <u>10.63</u> |            |                |         | DTW when sampled: _____             |           |          |                        |
| DTW (static): <u>10.27</u>    |                      | Casing Volume: <u>1.73</u>     |            |                |         | 80% Recovery (A - [B x 0.8]): _____ |           |          |                        |
| Total Depth (A): <u>20.40</u> |                      | Purge Volume: <u>17.32</u>     |            |                |         | Purge Method: <u>Back</u>           |           |          |                        |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)          | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)                     | DO (mg/L) | ORP (mV) | Appearance & Odor      |
| 1514                          | <u>Initial</u>       | 1.75                           | 6.83       | 13.9           | 835.3   | >1000                               | 0.53      | -77      | <u>grey and sticky</u> |
| 1514                          | 10.42                | 3.50                           | 7.26       | 14.4           | 718.1   | >1000                               | 0.72      | -126     | "                      |
| 1524                          | 10.55                | 5.25                           | 7.39       | 14.5           | 694.0   | >1000                               | 1.38      | -128     | <u>grey and sticky</u> |
| 1530                          | 10.45                | 7.00                           | 7.40       | 14.8           | 673.8   | >1000                               | 1.47      | -126     | "                      |
| 1536                          | 10.56                | 8.75                           | 7.63       | 14.8           | 662.3   | >1000                               | 2.22      | -124     | "                      |
| 1540                          | 10.47                | 10.50                          | 7.57       | 14.9           | 663.5   | >1000                               | 2.16      | -121     | "                      |
| 1546                          | 10.46                | 12.25                          | 7.61       | 14.8           | 657.5   | >1000                               | 2.44      | -122     | "                      |
| 1551                          | 10.51                | 14.00                          | 7.68       | 14.8           | 646.4   | >1000                               | 2.89      | -121     | "                      |
| 1557                          | 10.40                | 15.75                          | 7.72       | 15.0           | 642.4   | >1000                               | 2.94      | -125     | "                      |
| Sample Information:           |                      |                                |            |                |         |                                     |           |          |                        |
| 1602                          | 10.55                | 17.50                          | 7.71       | 14.9           | 640.2   | >1000                               | 2.90      | -125     | "                      |

REMARKS: On MWN-55A Double checked Bottom. New Bottom @ 20.88 removed 1 extra volume.

PREPARED BY: TAIB



# GROUNDWATER SAMPLING FORM

Project Name: Phase III BPA

Date: 10/20/05

Location: Tenniscel

Project No.:

Sampler(s): TAB

Note: All measurements are in feet, distance from top of riser.

Note: 2" = 0.163 g/ft, 4" = 0.653 g/ft, 6" = 1.469 g/ft.

| Well No. <u>MWN-56A</u>       |                      | Diameter:                      |             |                |               | Sample Time:                  |           |             |   |
|-------------------------------|----------------------|--------------------------------|-------------|----------------|---------------|-------------------------------|-----------|-------------|---|
| Product Depth:                |                      | Water Column (B): <u>10.23</u> |             |                |               | DTW when sampled:             |           |             |   |
| DTW (static): <u>11.09</u>    |                      | Casing Volume: <u>1.66</u>     |             |                |               | 80% Recovery (A - [B x 0.8]): |           |             |   |
| Total Depth (A): <u>21.32</u> |                      | Purge Volume: <u>16.67</u>     |             |                |               | Purge Method: <u>Bailer</u>   |           |             |   |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)          | pH (units)  | Temp. (deg. C) | SC (uS)       | Turbidity (NTU)               | DO (mg/L) | ORP (mV)    | Appearance & Odor                                   |
| 1001                          | <u>Initial</u>       | <u>1.5</u>                     | <u>7.27</u> | <u>13.0</u>    | <u>780.3</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-102</u> | <u>Brown and</u><br><u>slightly</u><br><u>musty</u> |
| 1005                          | <u>11.71</u>         | <u>3.0</u>                     | <u>7.04</u> | <u>13.1</u>    | <u>769.80</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-89</u>  | <u>"</u>  |
| 1009                          | <u>11.70</u>         | <u>4.5</u>                     | <u>7.03</u> | <u>13.2</u>    | <u>768.50</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-85</u>  | <u>"</u>  |
| 1015                          | <u>11.62</u>         | <u>6.0</u>                     | <u>7.08</u> | <u>13.3</u>    | <u>753.5</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-78</u>  | <u>" No odor</u>                                    |
| 1019                          | <u>11.77</u>         | <u>7.5</u>                     | <u>7.11</u> | <u>13.2</u>    | <u>742.9</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-72</u>  | <u>"</u>  |
| 1023                          | <u>11.84</u>         | <u>9.0</u>                     | <u>7.12</u> | <u>13.1</u>    | <u>738.1</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-68</u>  | <u>"</u>  |
| 1028                          | <u>11.57</u>         | <u>10.5</u>                    | <u>7.13</u> | <u>13.0</u>    | <u>735.0</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-65</u>  | <u>"</u>  |
| 1034                          | <u>11.74</u>         | <u>12.0</u>                    | <u>7.16</u> | <u>12.8</u>    | <u>730.4</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-62</u>  | <u>"</u>  |
| 1039                          | <u>11.70</u>         | <u>13.5</u>                    | <u>7.16</u> | <u>12.9</u>    | <u>725.7</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-64</u>  | <u>"</u>  |
| Sample Information:           |                      |                                |             |                |               |                               |           |             |   |
| 1044                          | <u>11.74</u>         | <u>15.0</u>                    | <u>7.15</u> | <u>12.9</u>    | <u>728.4</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-62</u>  | <u>"</u>  |

| Well No. <u>MWS-34A</u>       |                      | Diameter: <u>2"</u>           |             |                |              | Sample Time: <u>✓</u>         |           |            |   |
|-------------------------------|----------------------|-------------------------------|-------------|----------------|--------------|-------------------------------|-----------|------------|---|
| Product Depth:                |                      | Water Column (B): <u>9.80</u> |             |                |              | DTW when sampled:             |           |            |   |
| DTW (static): <u>11.51</u>    |                      | Casing Volume: <u>1.59</u>    |             |                |              | 80% Recovery (A - [B x 0.8]): |           |            |   |
| Total Depth (A): <u>21.31</u> |                      | Purge Volume: <u>15.97</u>    |             |                |              | Purge Method: <u>Bailer</u>   |           |            |   |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)         | pH (units)  | Temp. (deg. C) | SC (uS)      | Turbidity (NTU)               | DO (mg/L) | ORP (mV)   | Appearance & Odor                                   |
| 1101                          | <u>Initial</u>       | <u>1.50</u>                   | <u>6.73</u> | <u>15.2</u>    | <u>1022</u>  | <u>&gt;1000</u>               | <u>-</u>  | <u>-61</u> | <u>Brown and</u><br><u>slightly</u><br><u>musty</u> |
| 1106                          | <u>12.15</u>         | <u>3.00</u>                   | <u>6.78</u> | <u>15.8</u>    | <u>906.0</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-70</u> | <u>just</u><br><u>slightly</u><br><u>musty</u>      |
| 1110                          | <u>13.0</u>          | <u>4.50</u>                   | <u>6.87</u> | <u>16.0</u>    | <u>858.7</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-74</u> | <u>"</u>  |
| 1115                          | <u>12.10</u>         | <u>6.0</u>                    | <u>6.92</u> | <u>16.0</u>    | <u>828.8</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-77</u> | <u>g.2 and</u><br><u>no odor</u>                    |
| 1118                          | <u>12.22</u>         | <u>7.5</u>                    | <u>7.00</u> | <u>16.2</u>    | <u>776.0</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-76</u> | <u>"</u>  |
| 1123                          | <u>11.65</u>         | <u>9.0</u>                    | <u>7.05</u> | <u>16.2</u>    | <u>761.4</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-75</u> | <u>"</u>  |
| 1128                          | <u>11.86</u>         | <u>10.5</u>                   | <u>7.05</u> | <u>16.5</u>    | <u>755.0</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-75</u> | <u>"</u>  |
| 1132                          | <u>12.50</u>         | <u>12.0</u>                   | <u>7.05</u> | <u>16.5</u>    | <u>746.1</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-76</u> | <u>"</u>  |
| 1136                          | <u>13.10</u>         | <u>13.5</u>                   | <u>7.05</u> | <u>16.5</u>    | <u>743.6</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-75</u> | <u>"</u>  |
| Sample Information:           |                      |                               |             |                |              |                               |           |            |   |
| 1141                          | <u>12.31</u>         | <u>15.0</u>                   | <u>7.04</u> | <u>17.0</u>    | <u>734.8</u> | <u>&gt;1000</u>               | <u>-</u>  | <u>-80</u> | <u>"</u>  |

REMARKS:

PREPARED BY: TAB



# GROUNDWATER SAMPLING FORM

Project Name: MW 35A Phase III BPA  
 Location: Tecumseh

Date: 10/20/08  
 Sampler(s): TRB

Note: All measurements are in feet, distance from top of riser.

Note: 2" = 0.163 g/ft, 4" = 0.653 g/ft, 6" = 1.469 g/ft.

| Well No. <u>MW 35A</u>        |                      | Diameter:                      |            |                |         | Sample Time:                  |           |          |                        |
|-------------------------------|----------------------|--------------------------------|------------|----------------|---------|-------------------------------|-----------|----------|------------------------|
| Product Depth:                |                      | Water Column (B): <u>10.22</u> |            |                |         | DTW when sampled:             |           |          |                        |
| DTW (static): <u>10.61</u>    |                      | Casing Volume: <u>1.66</u>     |            |                |         | 80% Recovery (A - [B x 0.8]): |           |          |                        |
| Total Depth (A): <u>20.83</u> |                      | Purge Volume: <u>16.65</u>     |            |                |         | Purge Method:                 |           |          |                        |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)          | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)               | DO (mg/L) | ORP (mV) | Appearance & Odor      |
| 1251                          | <del>11.86</del>     | 6.50                           | 10.70      | 17.3           | 807.2   | >1000                         | -         | -240     | <del>Big red mud</del> |
| 1258                          | 10.67                | 3.0                            | 10.51      | 14.1           | 780.5   | >1000                         | -         | -281     | Br. mud                |
| 1304                          | 10.85                | 4.5                            | 10.61      | 13.9           | 722.7   | >1000                         | -         | -282     | "                      |
| 1308                          | 10.86                | 6.0                            | 10.66      | 13.8           | 616.7   | >1000                         | -         | -300     | "                      |
| 1315                          | 10.76                | 7.5                            | 10.70      | 13.5           | 657.9   | >1000                         | -         | -288     | "                      |
| 1320                          | 10.80                | 9.0                            | 10.72      | 13.6           | 628.3   | >1000                         | -         | -246     | "                      |
| 1326                          | 10.77                | 10.5                           | 10.61      | 13.5           | 585.1   | >1000                         | -         | -230     | "                      |
| 1331                          | 10.71                | 12.0                           | 10.65      | 13.7           | 579.6   | >1000                         | -         | -226     | "                      |
| 1336                          | 10.71                | 13.5                           | 10.66      | 13.8           | 572.3   | >1000                         | -         | -205     | "                      |
| Sample Information:           |                      |                                |            |                |         |                               |           |          |                        |
| 1341                          | 10.77                | 15.0                           | 10.61      | 13.6           | 550.5   | >1000                         | -         | -202     | "                      |

odor  
 cant  
 tell

| Well No. <u>MWS-33A</u>       |                      | Diameter: <u>2"</u>           |            |                |         | Sample Time:                  |           |          |                   |
|-------------------------------|----------------------|-------------------------------|------------|----------------|---------|-------------------------------|-----------|----------|-------------------|
| Product Depth:                |                      | Water Column (B): <u>9.76</u> |            |                |         | DTW when sampled:             |           |          |                   |
| DTW (static): <u>11.66</u>    |                      | Casing Volume: <u>1.54</u>    |            |                |         | 80% Recovery (A - [B x 0.8]): |           |          |                   |
| Total Depth (A): <u>21.12</u> |                      | Purge Volume: <u>15.71</u>    |            |                |         | Purge Method:                 |           |          |                   |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)         | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)               | DO (mg/L) | ORP (mV) | Appearance & Odor |
| 1413                          | <del>11.83</del>     | 1.5                           | 7.03       | 13.8           | 1089    | 606                           | -         | -74      | gray mud          |
| 1418                          | 11.65                | 3.0                           | 6.33       | 13.3           | 1066    | >1000                         | -         | 543      | "                 |
| 1423                          | DRY                  | 4.0                           | 6.32       | 12.9           | 1011    | >1000                         | -         | -44      | "                 |
| 1543                          | DRY                  | 5.5                           | 6.52       | 13.1           | 969.6   | >1000                         | -         | -34      | "                 |
| 1149                          | 10.90                | 7.0                           | 6.11       | 12.2           | 890.5   | 579                           | -         | -8       | "                 |
| 1155                          | 10.55                | 8.5                           | 6.02       | 11.2           | 909.2   | >1000                         | -         | -26      | "                 |
| 12.01                         | DRY                  | 9.5                           | 5.98       | 10.8           | 856.2   | >1000                         | -         | -19      | "                 |
| 1530                          | 15.85                | 11.0                          | 6.02       | 10.1           | 833.3   | 788                           | -         | -55      | "                 |
| 1537                          | 19.00                | 12.5                          | 6.51       | 10.2           | 843.8   | >1000                         | -         | -47      | "                 |
| Sample Information:           |                      |                               |            |                |         |                               |           |          |                   |
| 1553                          | DRY                  | 13.5                          | 6.54       | 9.7            | 835.2   | >1000                         | -         | -52      | "                 |

gray  
 mud  
 must  
 be

REMARKS:

cont on 10/21/08  
 WLC 11.78

PREPARED BY: TRB



# GROUNDWATER SAMPLING FORM

Project Name: Phase III PBA  
 Location: Turner

Date: 10/20/08  
 Project No.: \_\_\_\_\_  
 Sampler(s): TAB

Note: All measurements are in feet, distance from top of riser.

Note: 2" = 0.163 g/ft, 4" = 0.653 g/ft, 6" = 1.469 g/ft.

| Well No. <u>MWS-30A</u>       |                      | Diameter: <u>2"</u>            |            |                |         | Sample Time:                  |           |          |                       |
|-------------------------------|----------------------|--------------------------------|------------|----------------|---------|-------------------------------|-----------|----------|-----------------------|
| Product Depth:                |                      | Water Column (B): <u>11.18</u> |            |                |         | DTW when sampled:             |           |          |                       |
| DTW (static): <u>9.24</u>     |                      | Casing Volume: <u>1.82</u>     |            |                |         | 80% Recovery (A - [B x 0.8]): |           |          |                       |
| Total Depth (A): <u>20.42</u> |                      | Purge Volume: <u>18.22</u>     |            |                |         | Purge Method:                 |           |          |                       |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)          | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)               | DO (mg/L) | ORP (mV) | Appearance & Odor     |
| 1439                          | <del>9.46</del>      | 1.75                           | 6.83       | 14.7           | 868.5   | >1000                         | -         | -53      | grey/brown<br>no odor |
| 1445                          | 9.56                 | 3.50                           | 7.02       | 14.9           | 857.5   | >1000                         | -         | -58      | "                     |
| 1452                          | 9.46                 | 5.25                           | 7.05       | 14.8           | 847.2   | >1000                         | -         | -52      | "                     |
| 1457                          | 9.56                 | 7.00                           | 7.11       | 15.0           | 842.4   | >1000                         | -         | -51      | "                     |
| 1501                          | 9.51                 | 8.75                           | 7.14       | 14.9           | 838.8   | >1000                         | -         | -51      | "                     |
| 1506                          | 9.41                 | 9.50                           | 7.14       | 14.9           | 837.2   | >1000                         | -         | -49      | "                     |
| 1511                          | 9.49                 | 11.25                          | 7.16       | 14.8           | 833.5   | >1000                         | -         | -47      | "                     |
| 1517                          | 9.40                 | 13.00                          | 7.19       | 14.8           | 830.4   | >1000                         | -         | -47      | "                     |
| 1522                          | 9.50                 | 14.75                          | 7.23       | 14.9           | 830.8   | >1000                         | -         | -51      | "                     |
| Sample Information:           |                      |                                |            |                |         |                               |           |          |                       |
| 1528                          | 9.50                 | 16.50                          | 7.24       | 14.8           | 831.2   | >1000                         | -         | -48      | "                     |

| Well No. <u>MWN-10</u>        |                      | Diameter: <u>4"</u>           |            |                |         | Sample Time:                  |           |          |                         |
|-------------------------------|----------------------|-------------------------------|------------|----------------|---------|-------------------------------|-----------|----------|-------------------------|
| Product Depth:                |                      | Water Column (B): <u>9.46</u> |            |                |         | DTW when sampled:             |           |          |                         |
| DTW (static): <u>8.87</u>     |                      | Casing Volume: <u>6.17</u>    |            |                |         | 80% Recovery (A - [B x 0.8]): |           |          |                         |
| Total Depth (A): <u>18.33</u> |                      | Purge Volume: <u>61.77</u>    |            |                |         | Purge Method:                 |           |          |                         |
| Time                          | Water Level (ft TOR) | Acc. Volume (gallons)         | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)               | DO (mg/L) | ORP (mV) | Appearance & Odor       |
| 1612                          | <del>9.32</del>      | 6.0                           | 8.96       | 14.7           | 1788    | 76                            | -         | -188     | sl. cloud<br>musty odor |
| 1620                          | 9.34                 | 12.0                          | 9.57       | 14.9           | 1772    | 71                            | -         | -208     | "                       |
| 1632                          | 9.27                 | 18.0                          | 9.65       | 14.6           | 1783    | 68                            | -         | -211     | "                       |
| 1222                          | 9.30                 | 24.0                          | 9.61       | 11.4           | 1799    | 93                            | -         | -200     | "                       |
| 1231                          | 9.50                 | 30.0                          | 10.01      | 12.0           | 1804    | 71                            | -         | -215     | "                       |
| 1240                          | 9.46                 | 36.0                          | 9.94       | 12.3           | 1814    | 73                            | -         | -211     | "                       |
| 1249                          | 9.56                 | 42.0                          | 10.29      | 11.4           | 1814    | 75                            | -         | -215     | "                       |
| 1256                          | 9.59                 | 48.0                          | 10.38      | 12.1           | 1828    | 76                            | -         | -213     | "                       |
| 1305                          | 9.43                 | 54.0                          | 10.43      | 12.2           | 1841    | 84                            | -         | -214     | "                       |
| Sample Information:           |                      |                               |            |                |         |                               |           |          |                         |
| 1317                          | 9.31                 | 60.0                          | 10.40      | 10.9           | 1832    | 92                            | -         | -206     | "                       |

REMARKS:

10/21/08  
 WLE 887

PREPARED BY:

TAB

**PROJECT INFORMATION:**

Project Name: \_\_\_\_\_  
Project No.: \_\_\_\_\_  
Client: \_\_\_\_\_

Date: 1/14/09  
Instrument Source:  BM  Rental

| METER TYPE   | UNITS             | TIME | MAKE/MODEL                        | SERIAL NUMBER | CAL. BY | STANDARD                            | POST CAL. READING           | SETTINGS                             |
|--|-------------------|------|-----------------------------------|---------------|---------|-------------------------------------|-----------------------------|--------------------------------------|
| <input checked="" type="checkbox"/> pH meter         | units             | 8:30 | Myron L Company<br>Ultra Meter 6P | 606987        | PWW     | 4.00<br>7.00<br>10.01               | 3.99<br>7.00<br>10.00       | 4.00 ok<br>7.00 ok<br>10.00 ok       |
| <input checked="" type="checkbox"/> Turbidity meter  | NTU               | 8:35 | Hach 2100P<br>Turbidimeter        | 970600014560  | PWW     | < 0.4<br>20<br>100<br>800           | 0.29<br>19.3<br>97.9<br>793 | 20.4 ok<br>20 ok<br>100 ok<br>800 ok |
| <input checked="" type="checkbox"/> Sp. Cond. meter  | uS<br>mS          | 8:30 | Myron L Company<br>Ultra Meter 6P | 606987        | PWW     | 2764 mS @ 25 °C                     | 2762                        | 2764 ok                              |
| <input type="checkbox"/> PID                         | ppm               |      | MinRAE 2000                       |               |         | open air zero<br>_____ ppm Iso. Gas |                             | MIBK response<br>factor = 1.0        |
| <input checked="" type="checkbox"/> Dissolved Oxygen | ppm               | 8:40 | YSI Model 55                      | 05D2677       | PWW     | 100%                                | 100%                        | 100% ok                              |
| <input type="checkbox"/> Particulate meter           | mg/m <sup>3</sup> |      |                                   |               |         | zero air                            |                             |                                      |
| <input type="checkbox"/> Oxygen                      | %                 |      |                                   |               |         | open air                            |                             |                                      |
| <input type="checkbox"/> Hydrogen sulfide            | ppm               |      |                                   |               |         | open air                            |                             |                                      |
| <input type="checkbox"/> Carbon monoxide             | ppm               |      |                                   |               |         | open air                            |                             |                                      |
| <input type="checkbox"/> LEL                         | %                 |      |                                   |               |         | open air                            |                             |                                      |
| <input type="checkbox"/> Radiation Meter             | uR/H              |      |                                   |               |         | background area                     |                             |                                      |
| <input type="checkbox"/>                             |                   |      |                                   |               |         |                                     |                             |                                      |

**ADDITIONAL REMARKS:**

**PREPARED BY:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

Project Name: Phase III BPA

Date: 1/14/09

Location: Tecumseh

Project No.:

Field Team: TAB/PLW

| Well No. <u>MWN-56A</u>           |                     | Diameter (inches): <u>2"</u>           |            |                |                       | Sample Time: <u>10:00</u>  |           |          |                          |
|-----------------------------------|---------------------|--|------------|----------------|-----------------------|--|-----------|----------|--------------------------|
| Product Depth (fbTOR): <u>-</u>   |                     | Water Column (ft): <u>13.49</u>        |            |                |                       | DTW when sampled: <u>6.82</u>  |           |          |                          |
| DTW (static) (fbTOR): <u>6.79</u> |                     | Casing Volume: <u>2.03</u> <u>2.14</u> |            |                |                       | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                          |
| Total Depth (fbTOR): <u>20.28</u> |                     | Purge Volume (gal):                    |            |                |                       | Purge Method: <u>Low Flow</u>  |           |          |                          |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons)                  | pH (units) | Temp. (deg. C) | SC (uS) <sub>ms</sub> | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor        |
| 1:35                              | 0 Initial           | 2.25                                   | 6.19       | 10.3           | 21.25                 | 28.6   | 1.49      | 77       | slight turbid brown      |
| 9:41                              | 6.79                | 1 gal                                  | 6.98       | 10.9           | 19.45                 | 187  | 1.60      | -18      | slight turbid brown      |
| 9:47                              | 6.82                | 2.50                                   | 7.67       | 9.8            | 18.80                 | 52.4   | 1.77      | -109     | clear/slight sulfur odor |
| 9:51                              | 6.82                | 3.5                                    | 7.98       | 10.5           | 18.70                 | 31.4   | 1.78      | -145     | "                        |
| 9:53                              | 6.82                | 4.5                                    | 8.06       | 10.5           | 18.65                 | 23.7   | 1.66      | -162     | "                        |
| 9:56                              | 6.82                | 5                                      | 8.13       | 10.6           | 18.64                 | 19.6   | 1.51      | -170     | "                        |
| 6                                 |                     |  |            |                |                       |  |           |          |                          |
| 7                                 |                     |  |            |                |                       |  |           |          |                          |
| 8                                 |                     |  |            |                |                       |  |           |          |                          |
| 9                                 |                     |  |            |                |                       |  |           |          |                          |
| 10                                |                     |  |            |                |                       |  |           |          |                          |
| Sample Information:               |                     |  |            |                |                       |  |           |          |                          |
| 9:58                              | S1 6.82             | 5.5                                    | 8.14       | 10.6           | 18.61                 | 11.2   | 1.21      | -182     | "                        |
| 10:16                             | S2 6.82             | -                                      | 8.13       | 10.6           | 18.52                 | 8.08   | 1.10      | -173     | "                        |

Slight sulfur odor

| Well No. <u>MWN-57A</u>           |                     | Diameter (inches): <u>2"</u>    |            |                |         | Sample Time: <u>10:55</u>  |           |          |                          |
|-----------------------------------|---------------------|---------------------------------|------------|----------------|---------|--|-----------|----------|--------------------------|
| Product Depth (fbTOR): <u>-</u>   |                     | Water Column (ft): <u>12.94</u> |            |                |         | DTW when sampled: <u>8.62</u>  |           |          |                          |
| DTW (static) (fbTOR): <u>8.54</u> |                     | Casing Volume: <u>2.11</u>      |            |                |         | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                          |
| Total Depth (fbTOR): <u>21.38</u> |                     | Purge Volume (gal): <u>-</u>    |            |                |         | Purge Method: <u>Low Flow</u>  |           |          |                          |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons)           | pH (units) | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor        |
| 10:35                             | 0 Initial           | 2.25                            | 7.14       | 10.1           | 4058    | 306  | 1.89      | -88      | slight turbid brown      |
| 10:41                             | 8.54                | 1.0                             | 7.17       | 10.4           | 4013    | 89.5   | 1.69      | -88      | clear/slight sulfur odor |
| 10:44                             | 8.54                | 2.0                             | 7.23       | 10.7           | 4131    | 57.8   | 1.59      | -95      | "                        |
| 10:46                             | 8.54                | 2.5                             | 7.24       | 11.0           | 4153    | 43.0   | 1.49      | -98      | "                        |
| 10:48                             | 8.54                | 3.0                             | 7.24       | 11.1           | 4190    | 32.2   | 1.74      | -104     | "                        |
| 5                                 |                     |                                 |            |                |         |  |           |          |                          |
| 6                                 |                     |                                 |            |                |         |  |           |          |                          |
| 7                                 |                     |                                 |            |                |         |  |           |          |                          |
| 8                                 |                     |                                 |            |                |         |  |           |          |                          |
| 9                                 |                     |                                 |            |                |         |  |           |          |                          |
| 10                                |                     |                                 |            |                |         |  |           |          |                          |
| Sample Information:               |                     |                                 |            |                |         |  |           |          |                          |
| 10:52                             | S1 8.52             | 3.5                             | 7.25       | 10.3           | 4192    | 34.1   | 1.78      | -105     | "                        |
| 11:05                             | S2 8.60             | 4.0                             | 7.31       | 10.8           | 4010    | 22.8   | 1.48      | -109     | "                        |

Slight sulfur odor

REMARKS: MWN-56A M5/M57  
MWN-57A Dept

Volume Calculation

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

Stabilization Criteria

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

Note: All measurements are in feet, distance from top of riser.

PREPARED BY:

*Paul W. West*

Project Name: Phase III BPA

Date: 1/14/09

Location: \_\_\_\_\_ Project No.: \_\_\_\_\_

Field Team: PWW/TAB

| <b>Well No.</b> <u>MWN-10</u>     |                     | Diameter (inches): <u>4"</u>    |            | Sample Time: <u>11:35</u>  |         |                 |           |          |                         |
|-----------------------------------|---------------------|---------------------------------|------------|--|---------|-----------------|-----------|----------|-------------------------|
| Product Depth (fbTOR):            |                     | Water Column (ft): <u>10.32</u> |            | DTW when sampled: <u>8.31</u>  |         |                 |           |          |                         |
| DTW (static) (fbTOR): <u>8.01</u> |                     | Casing Volume: <u>6.74</u>      |            | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |         |                 |           |          |                         |
| Total Depth (fbTOR): <u>18.33</u> |                     | Purge Volume (gal): <u>-</u>    |            | Purge Method: <u>Low Flow</u>  |         |                 |           |          |                         |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons)           | pH (units) | Temp. (deg. C)   | SC (uS) | Turbidity (NTU) | DO (mg/L) | ORP (mV) | Appearance & Odor       |
| 11:20                             | 0 Initial           | 2.25                            | 10.18      | 9.9  | 1869    | 10.8            | 1.58      | -159     | clear / slight S. smell |
| 11:24                             | 1 8.31              | 1.0                             | 10.09      | 10.2   | 1863    | 8.55            | 1.74      | -163     | "                       |
| 11:28                             | 2 8.31              | 2.0                             | 10.05      | 10.5   | 1871    | 5.85            | 1.44      | -164     | "                       |
| 11:31                             | 3 8.31              | 3.5                             | 10.02      | 10.4   | 1887    | 4.98            | 1.28      | -184     | "                       |
|                                   | 4                   |                                 |            |  |         |                 |           |          |                         |
|                                   | 5                   |                                 |            |  |         |                 |           |          |                         |
|                                   | 6                   |                                 |            |  |         |                 |           |          |                         |
|                                   | 7                   |                                 |            |  |         |                 |           |          |                         |
|                                   | 8                   |                                 |            |  |         |                 |           |          |                         |
|                                   | 9                   |                                 |            |  |         |                 |           |          |                         |
|                                   | 10                  |                                 |            |  |         |                 |           |          |                         |
| <b>Sample Information:</b>        |                     |                                 |            |  |         |                 |           |          |                         |
| 11:33                             | S1 8.31             | 4.5                             | 10.00      | 10.4   | 1873    | 3.44            | 1.35      | -191     | "                       |
| 11:40                             | S2 8.31             | 5                               | 10.00      | 10.6   | 1869    | 2.88            | 1.42      | -195     | "                       |

| <b>Well No.</b> <u>MWN-58A</u>     |                     | Diameter (inches): <u>2"</u>    |            | Sample Time: <u>13:15</u>  |         |                 |           |          |                                   |
|------------------------------------|---------------------|---------------------------------|------------|--|---------|-----------------|-----------|----------|-----------------------------------|
| Product Depth (fbTOR):             |                     | Water Column (ft): <u>10.81</u> |            | DTW when sampled: <u>10.28</u>   |         |                 |           |          |                                   |
| DTW (static) (fbTOR): <u>10.12</u> |                     | Casing Volume: <u>1.76</u>      |            | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |         |                 |           |          |                                   |
| Total Depth (fbTOR): <u>20.93</u>  |                     | Purge Volume (gal): <u>-</u>    |            | Purge Method: <u>Low Flow</u>  |         |                 |           |          |                                   |
| Time                               | Water Level (fbTOR) | Acc. Volume (gallons)           | pH (units) | Temp. (deg. C)   | SC (uS) | Turbidity (NTU) | DO (mg/L) | ORP (mV) | Appearance & Odor                 |
| 12:59                              | 0 Initial           | 2.25                            | 7.89       | 10.2   | 420.2   | 71000           | 2.00      | -148     | Turbid brown / slight sulfur odor |
| 13:01                              | 1 10.26             | 1.5                             | 7.80       | 10.2   | 418.1   | 71000           | 2.09      | -130     | "                                 |
| 13:04                              | 2 10.26             | 2.5                             | 7.75       | 10.2   | 417.2   | 204             | 1.47      | -126     | slight Turbid / "                 |
| 13:06                              | 3 10.28             | 3                               | 7.73       | 10.0   | 414.5   | 101             | 1.65      | -121     | clear / "                         |
| 13:08                              | 4 10.28             | 4                               | 7.72       | 10.0   | 412.9   | 50              | 1.94      | -124     | " / "                             |
| 13:10                              | 5 10.28             | 4.5                             | 7.71       | 10.1   | 412.5   | 41.4            | 1.47      | -120     | " / "                             |
|                                    | 6                   |                                 |            |  |         |                 |           |          |                                   |
|                                    | 7                   |                                 |            |  |         |                 |           |          |                                   |
|                                    | 8                   |                                 |            |  |         |                 |           |          |                                   |
|                                    | 9                   |                                 |            |  |         |                 |           |          |                                   |
|                                    | 10                  |                                 |            |  |         |                 |           |          |                                   |
| <b>Sample Information:</b>         |                     |                                 |            |  |         |                 |           |          |                                   |
| 13:12                              | S1 10.28            | 5                               | 7.71       | 10.3   | 412.4   | 31.1            | 1.61      | -128     | "                                 |
| 13:20                              | S2 10.28            | 5.5                             | 7.71       | 9.3  | 411.5   | 22.6            | 1.91      | -120     | "                                 |

**REMARKS:**

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Note: All measurements are in feet, distance from top of riser.

**Volume Calculation**

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

**Stabilization Criteria**

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

PREPARED BY: [Signature]

Project Name: Phase III BPA

Date: 11/14/09

Location: \_\_\_\_\_ Project No.: \_\_\_\_\_

Field Team: PWW/TAB

| Well No. <u>MWN-59A</u>            |                     |                       | Diameter (inches): <u>2"</u>    |                |         | Sample Time: <u>14:30</u>  |           |          |                     |
|------------------------------------|---------------------|-----------------------|---------------------------------|----------------|---------|--|-----------|----------|---------------------|
| Product Depth (fbTOR): _____       |                     |                       | Water Column (ft): <u>11.06</u> |                |         | DTW when sampled: <u>10.45</u>   |           |          |                     |
| DTW (static) (fbTOR): <u>10.32</u> |                     |                       | Casing Volume: <u>1.80</u>      |                |         | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                     |
| Total Depth (fbTOR): <u>21.38</u>  |                     |                       | Purge Volume (gal): _____       |                |         | Purge Method: <u>Low Flow</u>  |           |          |                     |
| Time                               | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                      | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor   |
| 14:12                              | 0 Initial           | 6.25                  | 7.59                            | 8.4            | 718.9   | 71000  | 1.79      | -91      | Brown so<br>no odor |
| 14:15                              | 1 10.46             | .75                   | 7.35                            | 9.0            | 721.2   | 607  | 2.11      | -84      | "                   |
| 14:19                              | 2 10.45             | 1.5                   | 7.40                            | 9.0            | 723.0   | 175  | 2.02      | -124     | clear/no odor       |
| 14:23                              | 3 10.45             | 2.5                   | 7.45                            | 9.1            | 712.0   | 81.6   | 1.96      | -132     | "                   |
| 14:25                              | 4 10.45             | 3gal                  | 7.50                            | 9.3            | 708.1   | 48.0   | 2.01      | -138     | "                   |
|                                    | 5                   |                       |                                 |                |         |  |           |          |                     |
|                                    | 6                   |                       |                                 |                |         |  |           |          |                     |
|                                    | 7                   |                       |                                 |                |         |  |           |          |                     |
|                                    | 8                   |                       |                                 |                |         |  |           |          |                     |
|                                    | 9                   |                       |                                 |                |         |  |           |          |                     |
|                                    | 10                  |                       |                                 |                |         |  |           |          |                     |
| Sample Information:                |                     |                       |                                 |                |         |  |           |          |                     |
| 14:27                              | S1 10.45            | 3.5                   | 7.55                            | 9.1            | 704.3   | 24.4   | 1.78      | -142     | "                   |
| 14:35                              | S2 10.45            | 4.0                   | 7.60                            | 8.8            | 700.8   | 11.1   | 1.96      | -142     | "                   |

| Well No. <u>MWN-60A</u>           |                     |                       | Diameter (inches): <u>2"</u>    |                |         | Sample Time: <u>13:55</u>  |           |          |                             |
|-----------------------------------|---------------------|-----------------------|---------------------------------|----------------|---------|--|-----------|----------|-----------------------------|
| Product Depth (fbTOR): _____      |                     |                       | Water Column (ft): <u>11.29</u> |                |         | DTW when sampled: <u>9.80</u>  |           |          |                             |
| DTW (static) (fbTOR): <u>9.67</u> |                     |                       | Casing Volume: <u>1.84</u>      |                |         | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                             |
| Total Depth (fbTOR): <u>20.96</u> |                     |                       | Purge Volume (gal): _____       |                |         | Purge Method: <u>Low Flow</u>  |           |          |                             |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                      | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor           |
| 13:37                             | 0 Initial           | 6.50                  | 6.56                            | 9.4            | 1158    | 71000  | 1.14      | -58      | Turbid brown / Sulfur color |
| 13:39                             | 1 9.81              | 1                     | 6.78                            | 10.1           | 714.5   | 484  | 1.69      | -63      | "                           |
| 13:46                             | 2 9.80              | 2                     | 7.25                            | 9.9            | 587.0   | 81.8   | 1.90      | -92      | clear / "                   |
| 13:42                             | 3 9.80              | 2.5                   | 7.71                            | 9.7            | 584.7   | 37.9   | 1.34      | -136     | " / "                       |
| 13:45                             | 4 9.80              | 3.0                   | 8.02                            | 9.6            | 593.2   | 20.1   | 1.67      | -170     | " / "                       |
| 13:48                             | 5 9.80              | 3.5                   | 8.18                            | 9.8            | 606.5   | 11.8   | 1.71      | -192     | " / "                       |
| 13:49                             | 6 9.80              | 4gal                  | 8.27                            | 9.8            | 609.3   | 8.25   | 1.28      | -204     | " / "                       |
| 13:51                             | 7 9.80              | 4.25                  | 8.27                            | 9.5            | 611.8   | 7.61   | 1.42      | -190     | " / "                       |
|                                   | 8                   |                       |                                 |                |         |  |           |          |                             |
|                                   | 9                   |                       |                                 |                |         |  |           |          |                             |
|                                   | 10                  |                       |                                 |                |         |  |           |          |                             |
| Sample Information:               |                     |                       |                                 |                |         |  |           |          |                             |
| 13:53                             | S1 9.80             | 4.5                   | 8.28                            | 9.6            | 614.8   | 5.57   | 1.33      | -197     | " / "                       |
| 14:00                             | S2 9.80             | 5                     | 8.29                            | 9.6            | 619.0   | 4.54   | 1.63      | -189     | " / "                       |

**REMARKS:**

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Note: All measurements are in feet, distance from top of riser.

**Volume Calculation**

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

**Stabilization Criteria**

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

PREPARED BY: [Signature]

Project Name: Phase III PBA  
Location: Teaswell Rehabilitation

Date: 1/16/05  
Field Team: TAB, BC

Project No.: \_\_\_\_\_

| <b>Well No.</b> <u>MWS-34A</u>     |                     |                       | Diameter (inches): <u>2"</u>    |                |         | Sample Time: <u>922</u>  |           |          |                   |
|------------------------------------|---------------------|-----------------------|---------------------------------|----------------|---------|--|-----------|----------|-------------------|
| Product Depth (fbTOR): <u>-</u>    |                     |                       | Water Column (ft): <u>9.29</u>  |                |         | DTW when sampled: <u>11.85</u>   |           |          |                   |
| DTW (static) (fbTOR): <u>11.49</u> |                     |                       | Casing Volume: <u>1.59</u>      |                |         | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                   |
| Total Depth (fbTOR): <u>21.28</u>  |                     |                       | Purge Volume (gal): <u>4.78</u> |                |         | Purge Method: <u>low Flow</u>  |           |          |                   |
| Time                               | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                      | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor |
| 906                                | 0 Initial           | 0.25                  | 6.26                            | 10.0           | 1078    | 21000  | 1.34      | -60      | Brown red / muddy |
| 907                                | 1 11.65             | 0.75                  | 6.41                            | 10.0           | 938.4   | 410  | 1.34      | -71      | "                 |
| 910                                | 2 11.65             | 1.25                  | 6.61                            | 9.6            | 936.5   | 221  | 1.02      | -81      | "                 |
| 912                                | 3 11.66             | 2.0                   | 6.82                            | 9.6            | 937.3   | 80.1   | 1.26      | -100     | SL Turb. St       |
| 914                                | 4 11.65             | 2.5                   | 6.90                            | 9.6            | 937.3   | 45.2   | 1.16      | -107     | "                 |
| 916                                | 5 11.64             | 3.0                   | 6.98                            | 9.2            | 932.4   | 30.1   | 1.05      | -113     | "                 |
| 6                                  |                     |                       |                                 |                |         |  |           |          |                   |
| 7                                  |                     |                       |                                 |                |         |  |           |          |                   |
| 8                                  |                     |                       |                                 |                |         |  |           |          |                   |
| 9                                  |                     |                       |                                 |                |         |  |           |          |                   |
| 10                                 |                     |                       |                                 |                |         |  |           |          |                   |
| <b>Sample Information:</b>         |                     |                       |                                 |                |         |  |           |          |                   |
| 922                                | S1 11.85            | 3.5                   | 7.07                            | 7.9            | 933.6   | 25.8   | 1.31      | -119     | "                 |
| 926                                | S2 11.85            | -                     | 7.16                            | 8.9            | 902.4   | 19.5   | 1.09      | -118     | "                 |

| <b>Well No.</b> <u>MWS-33A</u>     |                     |                       | Diameter (inches): <u>2"</u>    |                |         | Sample Time: _____   |           |          |                    |
|------------------------------------|---------------------|-----------------------|---------------------------------|----------------|---------|--|-----------|----------|--------------------|
| Product Depth (fbTOR): <u>-</u>    |                     |                       | Water Column (ft): <u>9.44</u>  |                |         | DTW when sampled: _____  |           |          |                    |
| DTW (static) (fbTOR): <u>10.79</u> |                     |                       | Casing Volume: <u>1.53</u>      |                |         | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                    |
| Total Depth (fbTOR): <u>20.18</u>  |                     |                       | Purge Volume (gal): <u>4.61</u> |                |         | Purge Method: <u>Low Flow</u>  |           |          |                    |
| Time                               | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                      | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor  |
| 1054                               | 0 Initial           | 0                     | 7.58                            | 5.3            | 1142    | 347  | 9.01      | -32      | Brown light turbid |
| 1101                               | 1 11.99             | 0.5                   | 7.27                            | 4.1            | 1107    | 357  | 7.59      | -9       | " "                |
| 1104                               | 2 12.15             | 1.0                   | 7.08                            | 4.8            | 1104    | 270  | 7.90      | 534      | " "                |
| 1107                               | 3 13.04             | 1.25                  | 7.13                            | 5.9            | 1104    | 172  | 7.27      | 5        | " "                |
| 1109                               | 4 13.41             | 1.50                  | 7.10                            | 4.6            | 1105    | 140  | 6.64      | -31      | less turbid        |
| 1112                               | 5 13.65             | 1.75                  | 7.06                            | 3.8            | 1090    | 128  | 6.60      | -39      | " "                |
| 1114                               | 6 13.97             | 2.0                   | 7.03                            | 3.3            | 1082    | 107  | 6.09      | -35      | " "                |
| 1116                               | 7 14.34             | 2.25                  | 6.91                            | 5.8            | 1066    | 69.7   | 4.36      | -35      | " "                |
| 1119                               | 8 14.69             | 3.0                   | 6.85                            | 3.7            | 1033    | 45.2   | 3.28      | -42      | " "                |
| 1123                               | 9 15.36             | 3.25                  | 6.71                            | 5.1            | 1035    | 34.6   | 2.69      | -48      | " "                |
| 10                                 |                     |                       |                                 |                |         |  |           |          |                    |
| <b>Sample Information:</b>         |                     |                       |                                 |                |         |  |           |          |                    |
| 1125                               | S1 15.87            | 3.50                  | 6.73                            | 1.9            | 1031    | 43.2   | 2.07      | -44      | " "                |
| 1132                               | S2 15.76            | 3.75                  | 6.28                            | 5.9            | 947.7   | 38.2   | 3.29      | 0        | " "                |

**REMARKS:**

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Note: All measurements are in feet, distance from top of riser.

Volume Calculation

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

Stabilization Criteria

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

**PREPARED BY:**

Project Name: Phase III BPA

Date: 1-16-08

Location: Tecumseh

Project No.: 0071-00

Field Team: TAB, BB

| <b>Well No. 35A</b>               |                     |                       | Diameter (inches): <u>2"</u>    |                |         | Sample Time:   |           |          |                                 |
|-----------------------------------|---------------------|-----------------------|---------------------------------|----------------|---------|--|-----------|----------|---------------------------------|
| Product Depth (fbTOR): <u>-</u>   |                     |                       | Water Column (ft): <u>11.01</u> |                |         | DTW when sampled:  |           |          |                                 |
| DTW (static) (fbTOR): <u>9.97</u> |                     |                       | Casing Volume: <u>1.79</u>      |                |         | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                                 |
| Total Depth (fbTOR): <u>20.98</u> |                     |                       | Purge Volume (gal): <u>5.38</u> |                |         | Purge Method: <u>Low Flow</u>  |           |          |                                 |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                      | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor               |
| 9.51                              | 0 Initial           | 0                     | 9.49                            | 6.9            | 802.4   | 71000  | 0.36      | -280     | Brown Turbid <sup>no</sup> odor |
| 9.55                              | 1 10.02             | 1                     | 9.49                            | 7.5            | 485.6   | 71000  | 0.85      | -225     | " "                             |
| 9.58                              | 2 10.02             | 1.5                   | 9.82                            | 6.8            | 455.8   | 71000  | 1.63      | -182     | less turbid                     |
| 10.00                             | 3 10.02             | 1.75                  | 10.25                           | 6.9            | 445.3   | 848  | 0.88      | -175     | " "                             |
| 10.02                             | 4 10.00             | 2.0                   | 10.62                           | 7.4            | 458.7   | 520  | 1.72      | -182     | " "                             |
| 10.04                             | 5 10.04             | 2.25                  | 10.97                           | 7.5            | 482.8   | 249  | 1.26      | -184     | " "                             |
| 10.07                             | 6 10.04             | 2.75                  | 11.22                           | 7.9            | 540.5   | 85.6   | 1.26      | -184     | " "                             |
| 10.12                             | 7 10.04             | 3.25                  | 11.37                           | 7.8            | 509.2   | 52.0   | 1.86      | -172     | less turbid                     |
| 10.15                             | 8 10.04             | 3.75                  | 11.52                           | 8.0            | 551.3   | 46.5   | 0.75      | -171     | " "                             |
| 9                                 |                     |                       |                                 |                |         |  |           |          |                                 |
| 10                                |                     |                       |                                 |                |         |  |           |          |                                 |
| <b>Sample Information:</b>        |                     |                       |                                 |                |         |  |           |          |                                 |
| 10.17                             | S1 10.04            | 4.25                  | 11.30                           | 8.2            | 544.6   | 37.5   | 1.50      | -169     | " "                             |
| 10.32                             | S2 11.04            | 6.0                   | 11.14                           | 7.7            | 482.4   | 22.7   | 6.39      | -161     | " "                             |

| <b>Well No. MWD-30A</b>           |                     |                       | Diameter (inches): <u>2"</u>    |                |         | Sample Time: <u>1/15/09</u>  |           |          |                     |
|-----------------------------------|---------------------|-----------------------|---------------------------------|----------------|---------|--|-----------|----------|---------------------|
| Product Depth (fbTOR): <u>-</u>   |                     |                       | Water Column (ft): <u>11.53</u> |                |         | DTW when sampled:  |           |          |                     |
| DTW (static) (fbTOR): <u>8.85</u> |                     |                       | Casing Volume: <u>1.87</u>      |                |         | Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sampling |           |          |                     |
| Total Depth (fbTOR): <u>20.38</u> |                     |                       | Purge Volume (gal):             |                |         | Purge Method: <u>Bailer</u>  |           |          |                     |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                      | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor   |
| 13.43                             | 0 Initial           | 0                     | 7.39                            | 6.1            | 841.1   | 1000   | 1.92      | -110     | Slight Brown turbid |
| 13.46                             | 1 9.11              | 0.5                   | 7.46                            | 7.2            | 841.3   | 126  | 2.25      | -110     | " "                 |
| 13.50                             | 2 9.13              | 1.25                  | 7.60                            | 7.9            | 833.0   | 56.9   | 2.27      | -21      | " "                 |
| 13.53                             | 3 9.13              | 1.75                  | 7.69                            | 7.5            | 833.2   | 23.5   | 1.86      | -25      | " "                 |
| 4                                 |                     |                       |                                 |                |         |  |           |          |                     |
| 5                                 |                     |                       |                                 |                |         |  |           |          |                     |
| 6                                 |                     |                       |                                 |                |         |  |           |          |                     |
| 7                                 |                     |                       |                                 |                |         |  |           |          |                     |
| 8                                 |                     |                       |                                 |                |         |  |           |          |                     |
| 9                                 |                     |                       |                                 |                |         |  |           |          |                     |
| 10                                |                     |                       |                                 |                |         |  |           |          |                     |
| <b>Sample Information:</b>        |                     |                       |                                 |                |         |  |           |          |                     |
| 13.56                             | S1 9.14             | 2.50                  | 7.69                            | 7.6            | 834.7   | 130  | 2.04      | -36      | " "                 |
| 14.0                              | S2 9.15             | 2.75                  | 7.74                            | 7.5            | 836.7   | 6.84   | 2.47      | -61      | " "                 |

**REMARKS:**

35A -> MS, MSD, + B.L.D.

**Volume Calculation**

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

**Stabilization Criteria**

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

Note: All measurements are in feet, distance from top of riser.

**EQUIPMENT CALIBRATION LOG**

**PROJECT INFORMATION:**

Project Name: Phase III BPA

Date: 1/16/09

Project No.:

Client: Trumid

Instrument Source:  BM  Rental

| METER TYPE  | UNITS             | TIME | MAKE/MODEL                        | SERIAL NUMBER | CAL. BY | STANDARD                  | POST CAL. READING           | SETTINGS                      |
|---|-------------------|------|-----------------------------------|---------------|---------|---------------------------|-----------------------------|-------------------------------|
| <input checked="" type="checkbox"/> pH meter        | units             | 0745 | Myron L Company<br>Ultra Meter 6P | 606987        | TAB     | 4.00<br>7.00<br>10.01     | 5.98<br>7.02<br>9.95        | 4.0<br>7.00<br>10.0           |
| <input checked="" type="checkbox"/> Turbidity meter | NTU               | 750  | Hach 2100P<br>Turbidimeter        | 970600014560  | TAB     | < 0.4<br>20<br>100<br>800 | 0.17<br>19.4<br>99.9<br>799 | 0.1<br>20<br>100<br>800       |
| <input checked="" type="checkbox"/> Sp. Cond. meter | uS<br>mS          | 753  | Myron L Company<br>Ultra Meter 6P | 606987        | TAB     | 1413 mS @ 25 °C           | 1413                        | 1413                          |
| <input type="checkbox"/> PID                        | ppm               |      | MinRAE 2000                       |               |         | open air zero             |                             | MIBK response<br>factor = 1.0 |
| <input type="checkbox"/> Dissolved Oxygen           | ppm               |      | YSI Model 55                      | 05D2677       |         | ppm Iso. Gas              |                             |                               |
| <input type="checkbox"/> Particulate meter          | mg/m <sup>3</sup> |      |                                   |               |         | zero air                  |                             |                               |
| <input checked="" type="checkbox"/> Oxygen / 00     | %                 | 794  | Hach                              |               | TAB     | open air<br>saturation    | 107%                        | saturation                    |
| <input type="checkbox"/> Hydrogen sulfide           | ppm               |      |                                   |               |         | open air                  |                             |                               |
| <input type="checkbox"/> Carbon monoxide            | ppm               |      |                                   |               |         | open air                  |                             |                               |
| <input type="checkbox"/> LEL                        | %                 |      |                                   |               |         | open air                  |                             |                               |
| <input type="checkbox"/> Radiation Meter            | uR/H              |      |                                   |               |         | background area           |                             |                               |
| <input type="checkbox"/>                            |                   |      |                                   |               |         |                           |                             |                               |

**ADDITIONAL REMARKS:**

PREPARED BY: [Signature]

DATE: 1/15/09



**EQUIPMENT CALIBRATION LOG**

**PROJECT INFORMATION:**

Project Name: phase IIIA BPA  
 Project No.: \_\_\_\_\_  
 Client: Tenneco

Date: 1/14/09  
 Instrument Source:  BM  Rental

| METER TYPE  | UNITS             | TIME | MAKE/MODEL                        | SERIAL NUMBER   | CAL. BY | STANDARD                           | POST CAL. READING     | SETTINGS                      |
|---|-------------------|------|-----------------------------------|---|---------|------------------------------------|-----------------------|-------------------------------|
| <input checked="" type="checkbox"/> pH meter        | units             | 900  | Myron L Company<br>Ultra Meter 6P | 606987 <input type="checkbox"/><br>6212375 <input checked="" type="checkbox"/>            | TAB     | 4.00<br>7.00<br>10.01              | 4.04<br>6.94<br>9.93  | 4.0<br>20<br>10.0             |
| <input checked="" type="checkbox"/> Turbidity meter | NTU               | 915  | Hach 2100P<br>Turbidimeter        | 06120C020523 <input checked="" type="checkbox"/><br>07110C026405 <input type="checkbox"/> | TAB     | < 0.4<br>20<br>100<br>800          | .1<br>23<br>99<br>298 | .1<br>20<br>100<br>500        |
| <input checked="" type="checkbox"/> Sp. Cond. meter | uS<br>mS          | 900  | Myron L Company<br>Ultra Meter 6P | 606987 <input type="checkbox"/><br>6212375 <input checked="" type="checkbox"/>            | TAB     | 1713 mS @ 25 °C                    | 1413                  | 1413                          |
| <input type="checkbox"/> PID                        | ppm               |      | MinRAE 2000                       |   |         | open air zero<br>____ ppm Iso. Gas |                       | MIBK response<br>factor = 1.0 |
| <input type="checkbox"/> Dissolved Oxygen           | ppm               |      | HACH Model HQ30d                  |   |         | 100% Satuartion                    |                       |                               |
| <input type="checkbox"/> Particulate meter          | mg/m <sup>3</sup> |      |                                   |   |         | zero air                           |                       |                               |
| <input type="checkbox"/> Oxygen                     | %                 |      |                                   |   |         | open air                           |                       |                               |
| <input type="checkbox"/> Hydrogen sulfide           | ppm               |      |                                   |   |         | open air                           |                       |                               |
| <input type="checkbox"/> Carbon monoxide            | ppm               |      |                                   |   |         | open air                           |                       |                               |
| <input type="checkbox"/> LEL                        | %                 |      |                                   |   |         | open air                           |                       |                               |
| <input type="checkbox"/> Radiation Meter            | uR/H              |      |                                   |   |         | background area                    |                       |                               |
| <input type="checkbox"/>                            |                   |      |                                   |   |         |                                    |                       |                               |

**ADDITIONAL REMARKS:**

PREPARED BY: TAB DATE: 1/14/09



**EQUIPMENT CALIBRATION LOG**

**PROJECT INFORMATION:**

Project Name: phase III (us) ~~BB~~ BPA  
 Project No.: \_\_\_\_\_  
 Client: Turnkey

Date: 1/15/10  
 Instrument Source:  BM  Rental

| METER TYPE  | UNITS             | TIME        | MAKE/MODEL                        | SERIAL NUMBER  | CAL. BY    | STANDARD                       | POST CAL. READING                         | SETTINGS                                  |
|---|-------------------|-------------|-----------------------------------|--|------------|--------------------------------|---|---|
| <input checked="" type="checkbox"/> pH meter        | units             | <u>1000</u> | Myron L Company<br>Ultra Meter 6P | 606987 <input type="checkbox"/><br>6212375 <input checked="" type="checkbox"/> | <u>TAB</u> | 4.00<br>7.00<br>10.01<br>< 0.4 | <u>4.01</u><br><u>7.02</u><br><u>9.98</u> | <u>4.00</u><br><u>7.0</u><br><u>10.00</u> |
| <input checked="" type="checkbox"/> Turbidity meter | NTU               | <u>1605</u> | Hach 2100P<br>Turbidimeter        | 06120C020523 <input type="checkbox"/><br>07110C026405 <input type="checkbox"/> | <u>TAB</u> | 20<br>100<br>800               |   |   |
| <input checked="" type="checkbox"/> Sp. Cond. meter | uS<br>mS          | <u>1000</u> | Myron L Company<br>Ultra Meter 6P | 606987 <input type="checkbox"/><br>6212375 <input checked="" type="checkbox"/> | <u>TAB</u> | <u>1413</u> mS @ 25 °C         | <u>1413</u>                               | <u>1413</u>                               |
| <input type="checkbox"/> PID                        | ppm               |             | MinRAE 2000                       |  |            | open air zero                  |   | MIBK response factor = 1.0                |
| <input type="checkbox"/> Dissolved Oxygen           | ppm               |             | HACH Model HQ30d                  |  |            | ____ ppm Iso. Gas              |   |   |
| <input type="checkbox"/> Particulate meter          | mg/m <sup>3</sup> |             |                                   |  |            | 100% Satuartion                |   |   |
| <input type="checkbox"/> Oxygen                     | %                 |             |                                   |  |            | zero air                       |   |   |
| <input type="checkbox"/> Hydrogen sulfide           | ppm               |             |                                   |  |            | open air                       |   |   |
| <input type="checkbox"/> Carbon monoxide            | ppm               |             |                                   |  |            | open air                       |   |   |
| <input type="checkbox"/> LEL                        | %                 |             |                                   |  |            | open air                       |   |   |
| <input type="checkbox"/> Radiation Meter            | uR/H              |             |                                   |  |            | background area                |   |   |

**ADDITIONAL REMARKS:**

PREPARED BY: TAB

DATE: 1/15/10



# GROUNDWATER FIELD FORM

Project Name: Phase III A BPA

Date: 1/14/10

Location: Tecumseh

Project No.:

Field Team: TAB

| <b>Well No.</b> <u>MWN-62D</u>   |                     |                       | <b>Diameter (inches):</b> <u>2"</u>           |                |              | <b>Sample Date / Time:</b> <u>1/14/09</u>   |           |            |                               |
|--|---------------------|-----------------------|---|----------------|--------------|---|-----------|------------|-------------------------------|
| <b>Product Depth (ftTOR):</b>  |                     |                       | <b>Water Column (ft):</b> <u>57.74</u>        |                |              | <b>DTW when sampled:</b>  |           |            |                               |
| <b>DTW (static) (ftTOR):</b> <u>11.30</u>  |                     |                       | <b>One Well Volume (gal):</b> <u>8.43</u>     |                |              | <b>Purpose:</b> <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |           |            |                               |
| <b>Total Depth (ftTOR):</b> <u>65.50</u>   |                     |                       | <b>Total Volume Purged (gal):</b> <u>97.0</u> |                |              | <b>Purge Method:</b> <u>pusher / submersible pump</u>   |           |            |                               |
| Time   | Water Level (ftTOR) | Acc. Volume (gallons) | pH (units)                                    | Temp. (deg. C) | SC (uS)      | Turbidity (NTU)   | DO (mg/L) | ORP (mV)   | Appearance & Odor             |
| <u>1021</u>  | 0 Initial           | <del>0</del>          | <u>8.15</u>                                   | <u>9.6</u>     | <u>582.7</u> | <u>71000</u>  | -         | <u>208</u> | <u>8.15 sec 2 no odor</u>     |
| <u>1034</u>  | 1 <u>47.8</u>       | <u>8.50</u>           | <u>6.96</u>                                   | <u>9.9</u>     | <u>1313</u>  | <u>71000</u>  | -         | <u>-2</u>  | <u>11 sec 5.2 sulfur odor</u> |
| <u>1055</u>  | 2 <u>DRY</u>        | <u>17.0</u>           | <u>6.83</u>                                   | <u>9.1</u>     | <u>1749</u>  | <u>71000</u>  | -         | <u>0</u>   | <u>11 sec 5.2 sulfur odor</u> |
| <u>1124</u>  | 3                   |                       |   |                |              |   |           |            |                               |
| <u>1345</u>  | 4 <u>12.45</u>      | <u>20.0</u>           | <u>6.85</u>                                   | <u>9.9</u>     | <u>1675</u>  | <u>334</u>  | -         | <u>-7</u>  | <u>5.11 sec 5.2</u>           |
| <u>1400</u>  | 5 <u>31.59</u>      | <u>40.0</u>           | <u>7.05</u>                                   | <u>11.5</u>    | <u>1540</u>  | <u>58.0</u>   | -         | <u>-63</u> | <u>11</u>                     |
| <u>1412</u>  | 6 <u>30.30</u>      | <u>60.0</u>           | <u>7.05</u>                                   | <u>11.7</u>    | <u>1530</u>  | <u>27.7</u>   | -         | <u>-78</u> | <u>11</u>                     |
| <u>1427</u>  | 7 <u>30.71</u>      | <u>80.0</u>           | <u>6.90</u>                                   | <u>12.17</u>   | <u>1530</u>  | <u>44.1</u>   | -         | <u>-71</u> | <u>11</u>                     |
| 8  |                     |                       |   |                |              |   |           |            |                               |
| 9  |                     |                       |   |                |              |   |           |            |                               |
| 10   |                     |                       |   |                |              |   |           |            |                               |
| <b>Sample Information:</b> <u>NEW Bottom = 65.97, 11/5/09 = flow rate = 1.90 gal/min</u> |                     |                       |   |                |              |   |           |            |                               |
| S1   |                     |                       |   |                |              |   |           |            |                               |
| S2   |                     |                       |   |                |              |   |           |            |                               |

| <b>Well No.</b> <u>MWN-61A</u>           |                     |                       | <b>Diameter (inches):</b> <u>2"</u>           |                |              | <b>Sample Date / Time:</b> <u>1/17/09</u>   |           |             |                              |
|--|---------------------|-----------------------|---|----------------|--------------|---|-----------|-------------|------------------------------|
| <b>Product Depth (ftTOR):</b>            |                     |                       | <b>Water Column (ft):</b> <u>9.25</u>         |                |              | <b>DTW when sampled:</b>  |           |             |                              |
| <b>DTW (static) (ftTOR):</b> <u>9.94</u> |                     |                       | <b>One Well Volume (gal):</b> <u>1.51</u>     |                |              | <b>Purpose:</b> <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |           |             |                              |
| <b>Total Depth (ftTOR):</b> <u>19.22</u> |                     |                       | <b>Total Volume Purged (gal):</b> <u>15.0</u> |                |              | <b>Purge Method:</b> <u>Builder</u>   |           |             |                              |
| Time                                     | Water Level (ftTOR) | Acc. Volume (gallons) | pH (units)                                    | Temp. (deg. C) | SC (uS)      | Turbidity (NTU)   | DO (mg/L) | ORP (mV)    | Appearance & Odor            |
| <u>1110</u>                              | 0 Initial           | -                     | <u>7.75</u>                                   | <u>8.0</u>     | <u>852.9</u> | <u>71000</u>  | -         | <u>-82</u>  | <u>11 sec 1.6 mth br. 11</u> |
| <u>1113</u>                              | 1 <u>4.95</u>       | <u>1.5</u>            | <u>7.84</u>                                   | <u>10.0</u>    | <u>697.0</u> | <u>71000</u>  | -         | <u>-103</u> | <u>11</u>                    |
| <u>1115</u>                              | 2 <u>4.95</u>       | <u>3.0</u>            | <u>7.76</u>                                   | <u>10.2</u>    | <u>613.2</u> | <u>71000</u>  | -         | <u>-111</u> | <u>11</u>                    |
| <u>1119</u>                              | 3 <u>4.95</u>       | <u>4.5</u>            | <u>7.91</u>                                   | <u>10.1</u>    | <u>686.5</u> | <u>71000</u>  | -         | <u>-106</u> | <u>11 sec 1.6 mth br. 11</u> |
| <u>1124</u>                              | 4 <u>4.95</u>       | <u>6.0</u>            | <u>7.91</u>                                   | <u>10.2</u>    | <u>706.0</u> | <u>71000</u>  | -         | <u>-112</u> | <u>11</u>                    |
| <u>1128</u>                              | 5 <u>4.95</u>       | <u>7.5</u>            | <u>8.0</u>                                    | <u>10.2</u>    | <u>650.9</u> | <u>71000</u>  | -         | <u>-117</u> | <u>11</u>                    |
| <u>1130</u>                              | 6 <u>4.95</u>       | <u>9.0</u>            | <u>8.15</u>                                   | <u>10.3</u>    | <u>632.5</u> | <u>71000</u>  | -         | <u>-114</u> | <u>11</u>                    |
| <u>1134</u>                              | 7 <u>4.95</u>       | <u>10.5</u>           | <u>8.02</u>                                   | <u>10.3</u>    | <u>675.4</u> | <u>71000</u>  | -         | <u>-121</u> | <u>11</u>                    |
| <u>1138</u>                              | 8 <u>4.95</u>       | <u>12.0</u>           | <u>7.97</u>                                   | <u>10.5</u>    | <u>681.3</u> | <u>71000</u>  | -         | <u>-114</u> | <u>11</u>                    |
| <u>1141</u>                              | 9 <u>4.95</u>       | <u>13.5</u>           | <u>7.97</u>                                   | <u>10.5</u>    | <u>678.9</u> | <u>71000</u>  | -         | <u>-110</u> | <u>11</u>                    |
| <u>1045</u>                              | 10 <u>4.95</u>      | <u>15.0</u>           | <u>8.03</u>                                   | <u>10.3</u>    | <u>658.9</u> | <u>71000</u>  | -         | <u>-111</u> | <u>11</u>                    |
| <b>Sample Information:</b>               |                     |                       |   |                |              |   |           |             |                              |
| S1                                       |                     |                       |   |                |              |   |           |             |                              |
| S2                                       |                     |                       |   |                |              |   |           |             |                              |

**REMARKS:**

Note: All measurements are in feet, distance from top of riser.

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

PREPARED BY: TAB



# GROUNDWATER FIELD FORM

Project Name: Phase IIIA BPA  
 Location: Tamarack

Date: 1/14/16  
 Field Team: TAB/RLD

| Well No. MW-19B            |                     |                       | Diameter (inches): 2"       |                |         | Sample Date / Time: 1/14/16  |           |          |                   |
|----------------------------|---------------------|-----------------------|-----------------------------|----------------|---------|--|-----------|----------|-------------------|
| Product Depth (fbTOR):     |                     |                       | Water Column (ft): 15.72    |                |         | DTW when sampled: -  |           |          |                   |
| DTW (static) (fbTOR): 9.86 |                     |                       | One Well Volume (gal): 3.05 |                |         | Purpose: <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |           |          |                   |
| Total Depth (fbTOR): 27.78 |                     |                       | Total Volume Purged (gal):  |                |         | Purge Method: Bail   |           |          |                   |
| Time                       | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                  | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor |
| 1338                       | 0 Initial           | -                     | 6.06                        | 12.0           | 1034    | 949  | -         | 27       | White color       |
|                            | 1 1830              | 3                     | 6.16                        | 11.7           | 1027    | 941  | -         | 21       | " "               |
| 1553                       | 2 2245              | 6                     | 6.11                        | 10.8           | 1031    | 949  | -         | 18       | Brown color       |
| 1403                       | 3 2350              | 9                     | 6.24                        | 10.2           | 1089    | >1000  | -         | 7        | TURBID            |
|                            | 4                   |                       |                             |                |         |  |           |          |                   |
|                            | 5                   |                       |                             |                |         |  |           |          |                   |
|                            | 6                   |                       |                             |                |         |  |           |          |                   |
|                            | 7                   |                       |                             |                |         |  |           |          |                   |
|                            | 8                   |                       |                             |                |         |  |           |          |                   |
|                            | 9                   |                       |                             |                |         |  |           |          |                   |
|                            | 10                  |                       |                             |                |         |  |           |          |                   |
| Sample Information:        |                     |                       |                             |                |         |  |           |          |                   |
|                            | S1                  |                       |                             |                |         |  |           |          |                   |
|                            | S2                  |                       |                             |                |         |  |           |          |                   |

| Well No. MW-19A            |                     |                       | Diameter (inches): 2"       |                |         | Sample Date / Time: 1/14/16  |           |          |                   |
|----------------------------|---------------------|-----------------------|-----------------------------|----------------|---------|--|-----------|----------|-------------------|
| Product Depth (fbTOR):     |                     |                       | Water Column (ft): 9.97     |                |         | DTW when sampled: -  |           |          |                   |
| DTW (static) (fbTOR): 8.23 |                     |                       | One Well Volume (gal): 1.57 |                |         | Purpose: <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |           |          |                   |
| Total Depth (fbTOR): 18.00 |                     |                       | Total Volume Purged (gal):  |                |         | Purge Method: <del>Footwater Bail</del> Bail   |           |          |                   |
| Time                       | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                  | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor |
| 1341                       | 0 Initial           | -                     | 6.65                        | 11.5           | 1847    | >1000  | -         | -16      | Highly odor Black |
| 1346                       | 1 8:31              | 1.5                   | 6.31                        | 10.9           | 1848    | 753  | -         | -31      | " "               |
| 1352                       | 2 8:41              | 3.0                   | 6.96                        | 10.5           | 1854    | 769  | -         | -50      | " "               |
| 1357                       | 3 8:45              | 4.5                   | 6.91                        | 10.1           | 1163    | 662  | -         | -35      | " "               |
| 1404                       | 4 8:42              | 6.0                   | 6.92                        | 10.0           | 1157    | >1000  | -         | -60      | " "               |
| 1409                       | 5 8:41              | 7.5                   | 6.90                        | 10.1           | 1089    | >1000  | -         | -65      | " "               |
| 1412                       | 6 8:46              | 9                     | 6.89                        | 10.5           | 1158    | >1000  | -         | -66      | Brown / white     |
| 1416                       | 7 8:46              | 10.5                  | 6.89                        | 10.3           | 1162    | >1000  | -         | -73      | COOL LINE LINE    |
| 1419                       | 8 8:46              | 12                    | 6.88                        | 10.2           | 1158    | >1000  | -         | -59      | " "               |
| 1421                       | 9 8:46              | 13.5                  | 6.88                        | 10.4           | 1152    | >1000  | -         | -58      | " "               |
| 1425                       | 10 8:46             | 15                    | 6.43                        | 9.7            | 1132    | >1000  | -         | -64      | " "               |
| Sample Information:        |                     |                       |                             |                |         |  |           |          |                   |
|                            | S1                  |                       |                             |                |         |  |           |          |                   |
|                            | S2                  |                       |                             |                |         |  |           |          |                   |

REMARKS: MW-19B purged to dry well

Note: All measurements are in feet, distance from top of riser.

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

PREPARED BY: TAB



# GROUNDWATER FIELD FORM

Project Name: Phase IIIA BPA  
 Location: Tecumseh

Date: 1/14/10  
 Field Team: TAB/RLD

Project No.:

| <b>Well No.</b> <u>MW 30A</u>                                  |                     |                       | <b>Diameter (inches):</b> <u>2"</u>       |                |         | <b>Sample Date / Time:</b> <u>1/15/10</u>   |           |          |                        |
|--|---------------------|-----------------------|---|----------------|---------|---|-----------|----------|------------------------|
| <b>Product Depth (fbTOR):</b> <u>-</u>                         |                     |                       | <b>Water Column (ft):</b> <u>12.52</u>    |                |         | <b>DTW when sampled:</b>  |           |          |                        |
| <b>DTW (static) (fbTOR):</b> <u>8.44</u>                       |                     |                       | <b>One Well Volume (gal):</b> <u>2.67</u> |                |         | <b>Purpose:</b> <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |           |          |                        |
| <b>Total Depth (fbTOR):</b> <u>20.96</u>                       |                     |                       | <b>Total Volume Purged (gal):</b>         |                |         | <b>Purge Method:</b> <u>Booster Foot valve</u>  |           |          |                        |
| Time   | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                                | Temp. (deg. C) | SC (uS) | Turbidity (NTU)   | DO (mg/L) | ORP (mV) | Appearance & Odor      |
| 1031   | 0 Initial           | -                     | 6.83                                      | 8.9            | 2821    | 71000   | -         | -106     | Black, sleeky, no odor |
| 1033   | 1 8.52              | 2.0                   | 7.20                                      | 10.0           | 2140    | 7000  | -         | -190     | "                      |
| 1037   | 2 8.50              | 4.0                   | 7.52                                      | 10.2           | 2046    | >1000   | -         | -227     | "                      |
| 1042   | 3 8.50              | 6.0                   | 7.69                                      | 9.7            | 2012    | >1000   | -         | -239     | "                      |
| 1048   | 4 8.54              | 8.0                   | 7.61                                      | 9.7            | 1919    | 71000   | -         | -248     | "                      |
| 1052   | 5 8.54              | 10.0                  | 7.75                                      | 10.0           | 1818    | >1000   | -         | -253     | "                      |
| 1057   | 6 8.54              | 12.0                  | 7.78                                      | 10.2           | 1784    | 128   | -         | -259     | "                      |
| 1102   | 7 8.54              | 14.0                  | 7.95                                      | 10.2           | 1718    | 107   | -         | -258     | "                      |
| 1106   | 8 8.47              | 16.0                  | 7.99                                      | 10.0           | 1669    | 164   | -         | -267     | SL Turbid "            |
| 1108   | 9 8.50              | 18.0                  | 7.92                                      | 11.2           | 1656    | 97.4  | -         | -266     | "                      |
| 1110   | 10 8.50             | 20.0                  | 7.96                                      | 11.0           | 1582    | 95.1  | -         | -264     | "                      |
| <b>Sample Information:</b> <u>Obstruction In Well, (pinch)</u> |                     |                       |   |                |         |   |           |          |                        |
| S1   |                     |                       |   |                |         |   |           |          |                        |
| S2   |                     |                       |   |                |         |   |           |          |                        |

| <b>Well No.</b> <u>MWS-314</u>            |                     |                       | <b>Diameter (inches):</b> <u>2"</u>       |                |         | <b>Sample Date / Time:</b> <u>1/14/10</u>   |           |          |                   |
|---|---------------------|-----------------------|---|----------------|---------|---|-----------|----------|-------------------|
| <b>Product Depth (fbTOR):</b> <u>-</u>    |                     |                       | <b>Water Column (ft):</b> <u>3.98</u>     |                |         | <b>DTW when sampled:</b>  |           |          |                   |
| <b>DTW (static) (fbTOR):</b> <u>10.39</u> |                     |                       | <b>One Well Volume (gal):</b> <u>0.64</u> |                |         | <b>Purpose:</b> <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |           |          |                   |
| <b>Total Depth (fbTOR):</b> <u>14.37</u>  |                     |                       | <b>Total Volume Purged (gal):</b>         |                |         | <b>Purge Method:</b> <u>Booster</u>   |           |          |                   |
| Time                                      | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                                | Temp. (deg. C) | SC (uS) | Turbidity (NTU)   | DO (mg/L) | ORP (mV) | Appearance & Odor |
| 1506                                      | 0 Initial           | -                     | 8.42                                      | 7.9            | 738.2   | >1000   | -         | 73       | Blank sl          |
| 1509                                      | 1 10.45             | 0.25                  | 9.13                                      | 8.1            | 774.8   | >1000   | -         | 67       | " SL sleek        |
| 1511                                      | 2 10.45             | 1.50                  | 9.50                                      | 8.3            | 672.1   | >1000   | -         | 80       | "                 |
| 1512                                      | 3 10.45             | 2.25                  | 9.69                                      | 9.0            | 658.9   | 71000   | -         | 81       | "                 |
| 1513                                      | 4 10.45             | 3.0                   | 9.76                                      | 8.9            | 652.2   | >1000   | -         | 79       | "                 |
| 1514                                      | 5 10.45             | 3.75                  | 9.82                                      | 9.1            | 672.1   | >1000   | -         | 75       | "                 |
| 1515                                      | 6 10.45             | 4.50                  | 9.86                                      | 9.2            | 670.9   | >1000   | -         | 71       | "                 |
| 1516                                      | 7 10.45             | 5.25                  | 9.88                                      | 9.7            | 668.8   | >1000   | -         | 65       | "                 |
| 1518                                      | 8 10.45             | 6.0                   | 9.86                                      | 9.2            | 680.8   | >1000   | -         | 66       | "                 |
| 1519                                      | 9 10.45             | 6.75                  | 9.93                                      | 9.3            | 657.2   | >1000   | -         | 61       | "                 |
| 1520                                      | 10 10.45            | 7.50                  | 9.94                                      | 9.3            | 655.4   | >1000   | -         | 57       | "                 |
| <b>Sample Information:</b>                |                     |                       |   |                |         |   |           |          |                   |
| S1  |                     |                       |   |                |         |   |           |          |                   |
| S2  |                     |                       |   |                |         |   |           |          |                   |

**REMARKS:**

**Volume Calculation**

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

**Stabilization Criteria**

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

Note: All measurements are in feet, distance from top of riser.

PREPARED BY: TAB



# GROUNDWATER FIELD FORM

Project Name: Phase IIIA BPA

Date: 1/14/09

Location: Remediation Redevelopment Project No.:

Field Team: TAB/RLD

| <b>Well No.</b> <u>MWS-04</u>     |                     | Diameter (inches): <u>4"</u>       |              | Sample Date / Time: <u>1/14/09</u>   |            |                 |           |            |                   |
|-----------------------------------|---------------------|------------------------------------|--------------|--|------------|-----------------|-----------|------------|-------------------|
| Product Depth (fbTOR):            |                     | Water Column (ft): <u>10.69</u>    |              | DTW when sampled:  |            |                 |           |            |                   |
| DTW (static) (fbTOR): <u>9.79</u> |                     | One Well Volume (gal): <u>6.98</u> |              | Purpose: <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |            |                 |           |            |                   |
| Total Depth (fbTOR): <u>20.47</u> |                     | Total Volume Purged (gal):         |              | Purge Method: <u>Boiler</u>  |            |                 |           |            |                   |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons)              | pH (units)   | Temp. (deg. C)   | SC (uS)    | Turbidity (NTU) | DO (mg/L) | ORP (mV)   | Appearance & Odor |
|                                   | 0 Initial           |                                    | <u>10.61</u> | <u>8.7</u>   | <u>538</u> | <u>21000</u>    | -         | <u>152</u> | <u>Grey</u>       |
| <u>1536</u>                       | 1 <u>11.60</u>      | <u>7</u>                           | <u>11.39</u> | <u>9.3</u>   | <u>825</u> | <u>260</u>      | -         | <u>-53</u> | " "               |
| <u>1546</u>                       | 2 <u>12.00</u>      | <u>14</u>                          | <u>11.41</u> | <u>9.1</u>   | <u>867</u> | <u>284</u>      | -         | <u>-74</u> | " "               |
| <u>1548</u>                       | 3 <u>11.94</u>      | <u>21</u>                          | <u>11.37</u> | <u>9.2</u>   | <u>811</u> | <u>236</u>      | -         | <u>-63</u> | " "               |
| <u>1558</u>                       | 4 <u>12.24</u>      | <u>28</u>                          | <u>11.24</u> | <u>8.7</u>   | <u>753</u> | <u>194</u>      | -         | <u>-57</u> | " "               |
|                                   | 5                   |                                    |              |  |            |                 |           |            |                   |
|                                   | 6                   |                                    |              |  |            |                 |           |            |                   |
|                                   | 7                   |                                    |              |  |            |                 |           |            |                   |
|                                   | 8                   |                                    |              |  |            |                 |           |            |                   |
|                                   | 9                   |                                    |              |  |            |                 |           |            |                   |
|                                   | 10                  |                                    |              |  |            |                 |           |            |                   |
| <b>Sample Information:</b>        |                     |                                    |              |  |            |                 |           |            |                   |
|                                   | S1                  |                                    |              |  |            |                 |           |            |                   |
|                                   | S2                  |                                    |              |  |            |                 |           |            |                   |

| <b>Well No.</b> <u>MW-62D</u>      |                     | Diameter (inches): <u>2"</u>       |             | Sample Date / Time: <u>1-15-10</u>   |             |                 |           |            |                   |
|------------------------------------|---------------------|------------------------------------|-------------|--|-------------|-----------------|-----------|------------|-------------------|
| Product Depth (fbTOR):             |                     | Water Column (ft): <u>51.05</u>    |             | DTW when sampled:  |             |                 |           |            |                   |
| DTW (static) (fbTOR): <u>12.45</u> |                     | One Well Volume (gal): <u>0.32</u> |             | Purpose: <input checked="" type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |             |                 |           |            |                   |
| Total Depth (fbTOR): <u>63.50</u>  |                     | Total Volume Purged (gal):         |             | Purge Method:  |             |                 |           |            |                   |
| Time                               | Water Level (fbTOR) | Acc. Volume (gallons)              | pH (units)  | Temp. (deg. C)   | SC (uS)     | Turbidity (NTU) | DO (mg/L) | ORP (mV)   | Appearance & Odor |
| <u>13:45</u>                       | 0 Initial           | <u>20.0</u>                        | <u>6.85</u> | <u>9.9</u>   | <u>1675</u> | <u>334</u>      |           | <u>-9</u>  | <u>Grey</u>       |
| <u>14:01</u>                       | 1 <u>3:57</u>       | <u>900</u>                         | <u>7.05</u> | <u>11.5</u>  | <u>1540</u> | <u>220</u>      |           | <u>-63</u> | <u>Grey</u>       |
| <u>14:07</u>                       | 2 <u>3:30</u>       | <u>200</u>                         | <u>7.05</u> | <u>11.5</u>  | <u>1540</u> | <u>220</u>      |           | <u>-78</u> | <u>Grey</u>       |
| <u>14:27</u>                       | 3 <u>3:07</u>       | <u>800</u>                         | <u>6.90</u> | <u>12.12</u>   | <u>1550</u> | <u>44.1</u>     |           | <u>-71</u> | <u>Grey</u>       |
|                                    | 4                   |                                    |             |  |             |                 |           |            |                   |
|                                    | 5                   |                                    |             |  |             |                 |           |            |                   |
|                                    | 6                   |                                    |             |  |             |                 |           |            |                   |
|                                    | 7                   |                                    |             |  |             |                 |           |            |                   |
|                                    | 8                   |                                    |             |  |             |                 |           |            |                   |
|                                    | 9                   |                                    |             |  |             |                 |           |            |                   |
|                                    | 10                  |                                    |             |  |             |                 |           |            |                   |
| <b>Sample Information:</b>         |                     |                                    |             |  |             |                 |           |            |                   |
|                                    | S1                  |                                    |             |  |             |                 |           |            |                   |
|                                    | S2                  |                                    |             |  |             |                 |           |            |                   |

**REMARKS:**

11/15/09 - 1/15/10  
2.5 gal - 2.3 min  
3.5 gal - 2.3 min

**Volume Calculation**

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

**Stabilization Criteria**

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

Note: All measurements are in feet, distance from top of riser.

PREPARED BY: TAB



# EQUIPMENT CALIBRATION LOG

## PROJECT INFORMATION:

Project Name: Tecumseh Phase III CBA

Date: 1/21/18

Project No.:

Client: Tecumseh

Instrument Source:  BM  Rental

| METER TYPE  | UNITS             | TIME | MAKE/MODEL                        | SERIAL NUMBER   | CAL. BY | STANDARD                 | POST CAL. READING           | SETTINGS                   |
|---|-------------------|------|-----------------------------------|---|---------|--------------------------|-----------------------------|----------------------------|
| <input checked="" type="checkbox"/> pH meter        | units             | 0761 | Myron L Company<br>Ultra Meter 6P | 606987 <input checked="" type="checkbox"/><br>6212375 <input type="checkbox"/>            | TAB     | 4.00<br>7.00<br>10.01    | 4.00<br>6.94<br>10.96       | 4.0<br>7.0<br>10.0         |
| <input checked="" type="checkbox"/> Turbidity meter | NTU               | 0760 | Hach 2100P<br>Turbidimeter        | 06120C020523 <input type="checkbox"/><br>07110C026405 <input checked="" type="checkbox"/> | TAB     | <0.4<br>20<br>100<br>800 | 0.247<br>21.5<br>100<br>116 | 0.10<br>20<br>100<br>800   |
| <input checked="" type="checkbox"/> Sp. Cond. meter | uS<br>mS          | 0805 | Myron L Company<br>Ultra Meter 6P | 606987 <input checked="" type="checkbox"/><br>6212375 <input type="checkbox"/>            | TAB     | 1412 mS @ 25 °C          | 1414                        | 1413                       |
| <input type="checkbox"/> PID                        | ppm               |      | MinRAE 2000                       |   |         | open air zero            |                             | MIBK response factor = 1.0 |
| <input type="checkbox"/> Dissolved Oxygen           | ppm               |      | HACH Model HQ30d                  |   |         | 100% Saturation          |                             |                            |
| <input type="checkbox"/> Particulate meter          | mg/m <sup>3</sup> |      |                                   |   |         | zero air                 |                             |                            |
| <input type="checkbox"/> Oxygen                     | %                 |      |                                   |   |         | open air                 |                             |                            |
| <input type="checkbox"/> Hydrogen sulfide           | ppm               |      |                                   |   |         | open air                 |                             |                            |
| <input type="checkbox"/> Carbon monoxide            | ppm               |      |                                   |   |         | open air                 |                             |                            |
| <input type="checkbox"/> LEL                        | %                 |      |                                   |   |         | open air                 |                             |                            |
| <input type="checkbox"/> Radiation Meter            | uR/H              |      |                                   |   |         | background area          |                             |                            |

## ADDITIONAL REMARKS:

PREPARED BY: TAB

DATE: 1/21/18



# GROUNDWATER FIELD FORM

Project Name: Tecumseh Phase III A BPA

Date: 1-21-10

Location: Tecumseh

Project No.:

Field Team: T+B (PWW)

| <b>Well No.</b> <u>MWS-24</u>            |                     |                       | <b>Diameter (inches):</b> <u>4"</u>           |                |         | <b>Sample Date / Time:</b> <u>1-21-10 11:00</u>   |           |          |                     |
|--|---------------------|-----------------------|---|----------------|---------|---|-----------|----------|---------------------|
| <b>Product Depth (fbTOR):</b> <u>—</u>   |                     |                       | <b>Water Column (ft):</b> <u>10.58</u>        |                |         | <b>DTW when sampled:</b> <u>10.31</u>   |           |          |                     |
| <b>DTW (static) (fbTOR):</b> <u>9.85</u> |                     |                       | <b>One Well Volume (gal):</b> <u>670</u>      |                |         | <b>Purpose:</b> <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample |           |          |                     |
| <b>Total Depth (fbTOR):</b> <u>20.43</u> |                     |                       | <b>Total Volume Purged (gal):</b> <u>4.75</u> |                |         | <b>Purge Method:</b> <u>low flow (minimissor)</u>   |           |          |                     |
| Time                                     | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                                    | Temp. (deg. C) | SC (uS) | Turbidity (NTU)   | DO (mg/L) | ORP (mV) | Appearance & Odor   |
| 10:47                                    | 0 Initial           | 2.25                  | 7.93  | 8.9            | 530.8   | 701   |           | 97       | clear/slight turbid |
| 10:49                                    | 1 10.42             | 1                     | 9.06  | 10.5           | 489.8   | 62.7  |           | 53       | clear/white         |
| 10:51                                    | 2 10.44             | 1.5                   | 9.30  | 10.7           | 487.4   | 48.4  |           | 41       | "                   |
| 10:53                                    | 3 10.41             | 2                     | 9.36  | 10.8           | 490.7   | 44.0  |           | 20       | "                   |
| 10:55                                    | 4 10.42             | 2.5                   | 9.44  | 10.7           | 490.0   | 40.4  |           | 8        | "                   |
| 10:57                                    | 5 10.42             | 3                     | 9.60  | 10.8           | 492.5   | 36.3  |           | -39      | "                   |
| 10:59                                    | 6 10.36             | 3.5                   | 9.64  | 10.7           | 497.8   | 34.7  |           | -87      | "                   |
|  | 7 10.34             | 4                     | 9.63  | 10.8           | 504.1   | 33.9  |           | -101     | "                   |
|  | 8                   |                       |   |                |         |   |           |          |                     |
|  | 9                   |                       |   |                |         |   |           |          |                     |
|  | 10                  |                       |   |                |         |   |           |          |                     |
| <b>Sample Information:</b>               |                     |                       |   |                |         |   |           |          |                     |
| 11:00                                    | S1 10.34            | 4.5                   | 9.57  | 10.5           | 506.5   | 33.5  |           | -121     | "                   |
| 11:06                                    | S2 10.34            | 4.75                  | 9.90  | 10.1           | 537.5   | 25.0  |           | -149     | "                   |

| <b>Well No.</b> <u>MWS-31a</u>            |                     |                       | <b>Diameter (inches):</b> <u>2"</u>          |                |         | <b>Sample Date / Time:</b> <u>1-21-09 11:17</u>   |           |          |                      |
|---|---------------------|-----------------------|--|----------------|---------|---|-----------|----------|----------------------|
| <b>Product Depth (fbTOR):</b> <u>—</u>    |                     |                       | <b>Water Column (ft):</b> <u>3.84</u>        |                |         | <b>DTW when sampled:</b> <u>10.48</u>   |           |          |                      |
| <b>DTW (static) (fbTOR):</b> <u>10.44</u> |                     |                       | <b>One Well Volume (gal):</b> <u>2.65</u>    |                |         | <b>Purpose:</b> <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample |           |          |                      |
| <b>Total Depth (fbTOR):</b> <u>14.28</u>  |                     |                       | <b>Total Volume Purged (gal):</b> <u>1.6</u> |                |         | <b>Purge Method:</b> <u>low flow (minimissor)</u>   |           |          |                      |
| Time                                      | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                                   | Temp. (deg. C) | SC (uS) | Turbidity (NTU)   | DO (mg/L) | ORP (mV) | Appearance & Odor    |
| 11:09                                     | 0 Initial           | 2.25                  | 9.19   | 7.1            | 584.4   | 71000   |           | 58       | Turbid/black/No odor |
| 11:11                                     | 1 10.50             | .25                   | 9.26   | 8.4            | 555.1   | 71000   |           | -54      | "                    |
| 11:13                                     | 2 10.50             | .30                   | 9.34   | 8.9            | 551.0   | 71000   |           | -56      | "                    |
| 11:15                                     | 3 10.48             | .40                   | 9.35   | 8.7            | 542.4   | 71000   |           | -59      | "                    |
|   | 4                   |                       |  |                |         |   |           |          |                      |
|   | 5                   |                       |  |                |         |   |           |          |                      |
|   | 6                   |                       |  |                |         |   |           |          |                      |
|   | 7                   |                       |  |                |         |   |           |          |                      |
|   | 8                   |                       |  |                |         |   |           |          |                      |
|   | 9                   |                       |  |                |         |   |           |          |                      |
|   | 10                  |                       |  |                |         |   |           |          |                      |
| <b>Sample Information:</b>                |                     |                       |  |                |         |   |           |          |                      |
| 11:17                                     | S1 10.48            | .5                    | 9.31   | 8.7            | 537.2   | 71000   |           | -61      | "                    |
|   | S2 10.48            | .6                    | 9.41   | 9.0            | 547.0   | 71000   |           | -63      | "                    |

**REMARKS:** sol metal sample to be filtered in lab -> MWS 31a

361

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

Note: All measurements are in feet, distance from top of riser.

PREPARED BY: Paul W. [Signature]



# GROUNDWATER FIELD FORM

Project Name: Tecumseh Phase III BFF  
 Location: Tecumseh Project No.:

Date: 1-21-10  
 Field Team: DB/AM

65-68  
28

| <b>Well No.</b> <u>MWN-61A</u>     |                     |                       | Diameter (inches): <u>2"</u>           |                |         | Sample Date / Time: <u>1-21-10 11:50</u>   |           |          |                      |
|------------------------------------|---------------------|-----------------------|--|----------------|---------|--|-----------|----------|----------------------|
| Product Depth (fbTOR):             |                     |                       | Water Column (ft): <u>7.67</u>         |                |         | DTW when sampled: <u>10.06</u>   |           |          |                      |
| DTW (static) (fbTOR): <u>10.96</u> |                     |                       | One Well Volume (gal): <u>1.25</u>     |                |         | Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample |           |          |                      |
| Total Depth (fbTOR): <u>18.63</u>  |                     |                       | Total Volume Purged (gal): <u>3.25</u> |                |         | Purge Method: <u>low flow (mini mason)</u>   |           |          |                      |
| Time                               | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                             | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor    |
| 11:35                              | 0 Initial           | 2.5                   | 7.39                                   | 8.1            | 1196    | 7100   |           | -155     | Faint brown          |
| 11:37                              | 1 10.07             | 0.5                   | 7.38                                   | 8.9            | 824.8   | 784  |           | -165     | "                    |
| 11:39                              | 2 10.06             | 0.75                  | 7.46                                   | 9.5            | 608.1   | 492  |           | -157     | "                    |
| 11:41                              | 3 10.06             | 1.5                   | 7.57                                   | 9.7            | 614.5   | 236  |           | -140     | "                    |
| 11:43                              | 4 10.06             | <del>1.25</del> 2.0   | 7.64                                   | 9.9            | 624.7   | 115  |           | -136     | clear*/Mothball odor |
| 11:45                              | 5 10.06             | 2.5                   | 7.67                                   | 9.8            | 625.7   | 53.2   |           | -143     | "                    |
| 11:47                              | 6 10.06             | <del>2.25</del> 3.25  | 7.69                                   | 10.0           | 625.9   | 33.5   |           | -151     | "                    |
| 7                                  |                     |                       |  |                |         |  |           |          |                      |
| 8                                  |                     |                       |  |                |         |  |           |          |                      |
| 9                                  |                     |                       |  |                |         |  |           |          |                      |
| 10                                 |                     |                       |  |                |         |  |           |          |                      |
| <b>Sample Information:</b>         |                     |                       |  |                |         |  |           |          |                      |
| 11:50                              | S1 10.06            | 3                     | 7.67                                   | 9.5            | 625.9   | 21.0   |           | -145     | "                    |
| 11:57                              | S2 10.06            | 3.25                  | 7.65                                   | 9.4            | 623.8   | 11.2   |           | -136     | "                    |

ball odor

| <b>Well No.</b> <u>MWN-62D</u>          |                     |                       | Diameter (inches): <u>2"</u>       |                |         | Sample Date / Time: <u>1-21-10</u>   |           |          |                          |
|---|---------------------|-----------------------|------------------------------------|----------------|---------|--|-----------|----------|--------------------------|
| Product Depth (fbTOR): <del>12.60</del> |                     |                       | Water Column (ft): <u>53.28</u>    |                |         | DTW when sampled:  |           |          |                          |
| DTW (static) (fbTOR): <u>12.60</u>      |                     |                       | One Well Volume (gal): <u>8.68</u> |                |         | Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample |           |          |                          |
| Total Depth (fbTOR): <u>65.96</u>       |                     |                       | Total Volume Purged (gal):         |                |         | Purge Method: <u>low flow (mini mason)</u>   |           |          |                          |
| Time                                    | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                         | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor        |
| 13:14                                   | 0 Initial           | 0.25                  | 5.68                               | 9.0            | 1620    | 14.1   |           | 117      | clear/No odor            |
| 13:16                                   | 1 14.87             | 0.5                   | 6.06                               | 10.1           | 1674    | 28.5   |           | 44       | "                        |
| 13:18                                   | 2 15.11             | 0.75                  | 6.20                               | 10.5           | 1660    | 30.8   |           | 17       | "                        |
| 13:20                                   | 3 14.91             | 1                     | 6.30                               | 10.5           | 1645    | 39.0   |           | -0       | "                        |
| 13:22                                   | 4 15.05             | 1.10                  | 6.36                               | 10.7           | 1640    | 66.7   |           | -40      | "                        |
| 13:24                                   | 5 14.75             | 1.20                  | 6.41                               | 10.2           | 1635    | 111  |           | -63      | slight turbid brown      |
| 13:26                                   | 6 14.92             | 1.25                  | 6.43                               | 10.7           | 1637    | 140  |           | -73      | " / "                    |
| 13:28                                   | 7 15.10             | 1.5                   | 6                                  | 10.4           | 1637    |  |           | -85      | "                        |
| 8                                       |                     |                       |                                    |                |         |  |           |          |                          |
| 9                                       |                     |                       |                                    |                |         |  |           |          |                          |
| 10                                      |                     |                       |                                    |                |         |  |           |          |                          |
| <b>Sample Information:</b>              |                     |                       |                                    |                |         |  |           |          |                          |
| 13:28                                   | S1 15.10            | 1.5                   | 6.47                               | 10.4           | 1633    | 47.2   |           | -85      | clear/slight sulfur odor |
| 13:36                                   | S2 14.71            | <del>1.25</del> 2.0   | 6.51                               | 9.2            | 1625    | 13.3   |           | -92      | "                        |

slight sulfur odor

REMARKS: soluble metals false filtering Lab

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

Note: All measurements are in feet, distance from top of riser.

PREPARED BY: Paul W. [Signature]



**GROUNDWATER FIELD FORM**

Project Name: Tecumseh Phase IIIA BPA  
 Location: Tecumseh

Date: 1/21/10  
 Field Team: TAB/PLW

| <b>Well No. MWN 19B</b>            |                     |                       | Diameter (inches): <u>2"</u>          |                |         | Sample Date / Time: <u>1-21-10 14:11</u>   |           |          |                               |
|------------------------------------|---------------------|-----------------------|---------------------------------------|----------------|---------|--|-----------|----------|-------------------------------|
| Product Depth (fbTOR): <u>—</u>    |                     |                       | Water Column (ft): <u>18.55</u>       |                |         | DTW when sampled: <u>14.05</u>   |           |          |                               |
| DTW (static) (fbTOR): <u>10.26</u> |                     |                       | One Well Volume (gal): <u>3.02</u>    |                |         | Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample |           |          |                               |
| Total Depth (fbTOR): <u>28.81</u>  |                     |                       | Total Volume Purged (gal): <u>1.5</u> |                |         | Purge Method: <u>lowflow (mini monsoon)</u>  |           |          |                               |
| Time                               | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                            | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor             |
| 14:02                              | 0 Initial           | 2.25                  | 6.01                                  | 9.6            | 1156    | 110  |           | 84       | slight turned brown / No odor |
| 14:05                              | 1 11.86             | <del>1.5</del>        | 5.88                                  | 10.7           | 1204    | 117  |           | 65       | "                             |
| 14:07                              | 2 12.95             | .5                    | 5.89                                  | 10.9           | 1159    | 124  |           | -55      | "                             |
| 14:09                              | 3 12.95             | 1.0                   | 5.90                                  | 12.1           | 1114    | 135  |           | -57      | "                             |
|                                    | 4                   |                       |                                       |                |         |  |           |          |                               |
|                                    | 5                   |                       |                                       |                |         |  |           |          |                               |
|                                    | 6                   |                       |                                       |                |         |  |           |          |                               |
|                                    | 7                   |                       |                                       |                |         |  |           |          |                               |
|                                    | 8                   |                       |                                       |                |         |  |           |          |                               |
|                                    | 9                   |                       |                                       |                |         |  |           |          |                               |
|                                    | 10                  |                       |                                       |                |         |  |           |          |                               |
| <b>Sample Information:</b>         |                     |                       |                                       |                |         |  |           |          |                               |
| 14:11                              | S1 14.05            | 1.25                  | 5.89                                  | 12.0           | 1077    | 128  |           | -51      | "                             |
| 14:15                              | S2 18.23            | 1.50                  | 5.81                                  | 11.5           | 1050    | 91.4   |           | -0       | "                             |

| <b>Well No. MWN-19A</b>           |                     |                       | Diameter (inches): <u>2"</u>           |                |         | Sample Date / Time: <u>1-21-10 14:34</u>   |           |          |                                |
|-----------------------------------|---------------------|-----------------------|--|----------------|---------|--|-----------|----------|--------------------------------|
| Product Depth (fbTOR): <u>—</u>   |                     |                       | Water Column (ft): <u>9.83</u>         |                |         | DTW when sampled: <u>8.68</u>  |           |          |                                |
| DTW (static) (fbTOR): <u>8.41</u> |                     |                       | One Well Volume (gal): <u>1.60</u>     |                |         | Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample |           |          |                                |
| Total Depth (fbTOR): <u>18.24</u> |                     |                       | Total Volume Purged (gal): <u>3.25</u> |                |         | Purge Method: <u>lowflow (mini monsoon)</u>  |           |          |                                |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                             | Temp. (deg. C) | SC (uS) | Turbidity (NTU)  | DO (mg/L) | ORP (mV) | Appearance & Odor              |
| 14:21                             | 0 Initial           | 2.25                  | 6.38                                   | 9.6            | 1199    | 400  |           | -76      | Turbid brown / Petro like odor |
| 14:25                             | 1 8.61              | .75                   | 6.47                                   | 9.9            | 1197    | 94.7   |           | -91      | clear / petro like odor        |
| 14:27                             | 2 8.66              | 1.5                   | 6.51                                   | 10.5           | 1192    | 50.6   |           | -93      | "                              |
| 14:30                             | 3 8.68              | 2.5                   | 6.54                                   | 10.4           | 1189    | 18.0   |           | -102     | "                              |
|                                   | 4                   |                       |  |                |         |  |           |          |                                |
|                                   | 5                   |                       |  |                |         |  |           |          |                                |
|                                   | 6                   |                       |  |                |         |  |           |          |                                |
|                                   | 7                   |                       |  |                |         |  |           |          |                                |
|                                   | 8                   |                       |  |                |         |  |           |          |                                |
|                                   | 9                   |                       |  |                |         |  |           |          |                                |
|                                   | 10                  |                       |  |                |         |  |           |          |                                |
| <b>Sample Information:</b>        |                     |                       |  |                |         |  |           |          |                                |
| 14:34                             | S1 8.68             | 3                     | 6.55                                   | 10.8           | 1187    | 14.6   |           | -98      | "                              |
| 15:00                             | S2 8.66             | 3.25                  | 6.49                                   | 9.2            | 1205    | 7.91   |           | -100     | "                              |

**REMARKS:** MWN-19A MS/MSD taken + Blind Duplicate  
MWN-19B -> sol metals to be filtered in Lab  
MWN-19-A -> Full parameter List

Note: All measurements are in feet, distance from top of riser.

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

PREPARED BY: Paul W. [Signature]



# GROUNDWATER FIELD FORM

Project Name: Tecumseh Phase IIIA BPA

Date: 1-21-10

Location: Tecumseh

Project No.:

Field Team: TAB/PW

| <b>Well No.</b> <u>MWN-30A</u>    |                     |                       | Diameter (inches): <u>2"</u>       |                |             | Sample Date / Time: <u>1-21-10</u>   |           |             |  |
|-----------------------------------|---------------------|-----------------------|------------------------------------|----------------|-------------|--|-----------|-------------|--|
| Product Depth (fbTOR): <u>—</u>   |                     |                       | Water Column (ft): <u>11.53</u>    |                |             | DTW when sampled:  |           |             |  |
| DTW (static) (fbTOR): <u>9.42</u> |                     |                       | One Well Volume (gal): <u>1.88</u> |                |             | Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample |           |             |  |
| Total Depth (fbTOR): <u>20.95</u> |                     |                       | Total Volume Purged (gal):         |                |             | Purge Method: <u>low flow (mini monson)</u>  |           |             |  |
| Time                              | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                         | Temp. (deg. C) | SC (uS)     | Turbidity (NTU)  | DO (mg/L) | ORP (mV)    | Appearance & Odor                                |
| 15:07                             | 0 Initial           | <u>4.25</u>           | <u>6.75</u>                        | <u>9.7</u>     | <u>2318</u> | <u>39.3</u>  |           | <u>-158</u> | <u>clear w/sheen / petro like odor</u>           |
| 15:09                             | 1 <u>9.41</u>       | <u>2 gal</u>          | <u>7.29</u>                        | <u>9.3</u>     | <u>1337</u> | <u>21.7</u>  |           | <u>-210</u> | <u>"</u>   |
| 15:11                             | 2 <u>9.42</u>       | <u>4 gal</u>          | <u>7.48</u>                        | <u>10.4</u>    | <u>1567</u> | <u>140</u>   |           | <u>-239</u> | <u>Turbid to black w/sheen / petro like odor</u> |
| 15:13                             | 3 <u>9.45</u>       | <u>6 gal</u>          | <u>7.64</u>                        | <u>10.5</u>    | <u>1573</u> | <u>69.4</u>  |           | <u>-260</u> | <u>clear w/sheen / petro like odor</u>           |
|                                   | 4                   |                       |                                    |                |             |  |           |             |  |
|                                   | 5                   |                       |                                    |                |             |  |           |             |  |
|                                   | 6                   |                       |                                    |                |             |  |           |             |  |
|                                   | 7                   |                       |                                    |                |             |  |           |             |  |
|                                   | 8                   |                       |                                    |                |             |  |           |             |  |
|                                   | 9                   |                       |                                    |                |             |  |           |             |  |
|                                   | 10                  |                       |                                    |                |             |  |           |             |  |
| <b>Sample Information:</b>        |                     |                       |                                    |                |             |  |           |             |  |
| 15:15                             | S1 <u>9.45</u>      | <u>6 g</u>            | <u>7.74</u>                        | <u>10.6</u>    | <u>1619</u> | <u>56.4</u>  |           | <u>-269</u> | <u>"</u>   |
| 15:20                             | S2 <u>9.45</u>      | <u>6.10</u>           | <u>7.75</u>                        | <u>8.7</u>     | <u>1674</u> | <u>83.9</u>  |           | <u>-258</u> | <u>"</u>   |

| <b>Well No.</b>            |                     |                       | Diameter (inches):         |                |         | Sample Date / Time:   |           |          |                   |
|----------------------------|---------------------|-----------------------|----------------------------|----------------|---------|---|-----------|----------|-------------------|
| Product Depth (fbTOR):     |                     |                       | Water Column (ft):         |                |         | DTW when sampled:   |           |          |                   |
| DTW (static) (fbTOR):      |                     |                       | One Well Volume (gal):     |                |         | Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample |           |          |                   |
| Total Depth (fbTOR):       |                     |                       | Total Volume Purged (gal): |                |         | Purge Method:   |           |          |                   |
| Time                       | Water Level (fbTOR) | Acc. Volume (gallons) | pH (units)                 | Temp. (deg. C) | SC (uS) | Turbidity (NTU)   | DO (mg/L) | ORP (mV) | Appearance & Odor |
|                            | 0 Initial           |                       |                            |                |         |   |           |          |                   |
|                            | 1                   |                       |                            |                |         |   |           |          |                   |
|                            | 2                   |                       |                            |                |         |   |           |          |                   |
|                            | 3                   |                       |                            |                |         |   |           |          |                   |
|                            | 4                   |                       |                            |                |         |   |           |          |                   |
|                            | 5                   |                       |                            |                |         |   |           |          |                   |
|                            | 6                   |                       |                            |                |         |   |           |          |                   |
|                            | 7                   |                       |                            |                |         |   |           |          |                   |
|                            | 8                   |                       |                            |                |         |   |           |          |                   |
|                            | 9                   |                       |                            |                |         |   |           |          |                   |
|                            | 10                  |                       |                            |                |         |   |           |          |                   |
| <b>Sample Information:</b> |                     |                       |                            |                |         |   |           |          |                   |
|                            | S1                  |                       |                            |                |         |   |           |          |                   |
|                            | S2                  |                       |                            |                |         |   |           |          |                   |

REMARKS: MWN-30A -> soluble metals to be filtered in Lab

Volume Calculation

| Diam. | Vol. (g/ft) |
|-------|-------------|
| 1"    | 0.041       |
| 2"    | 0.163       |
| 4"    | 0.653       |
| 6"    | 1.469       |

Stabilization Criteria

| Parameter | Criteria   |
|-----------|------------|
| pH        | ± 0.1 unit |
| SC        | ± 3%       |
| Turbidity | ± 10%      |
| DO        | ± 0.3 mg/L |
| ORP       | ± 10 mV    |

Note: All measurements are in feet, distance from top of riser.

PREPARED BY: Paul White

# APPENDIX B

## BORING LOGS & WELL COMPLETION DETAILS

**Project No:** 0071-008-300

**Borehole Number:** ALF-01

**Project:** Phase III Business Park

**A.K.A.:**

**Client:** Arcelor Mittal Tecumseh

**Logged By:** TAB

**Site Location:** Phase III Business Park

**Checked By:** BCH



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |              |   | SAMPLE     |             |               |                                | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample      | Well Completion Details or Remarks |
|--------------------|--------------|---|------------|-------------|---------------|--------------------------------|------------------------------|-----------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol                         |                              |                 |                                    |
| 0.0                | 0.0<br>0.0   | <b>Ground Surface</b><br><br><b>Fill</b><br>Dark brown, moist, non - plastic fines wth some fine sand, with slag and cinders, Dense, loose when disturbed, no odor, refusal at 1.5. | 1          | 34          | 1.5           | [Symbol: Solid black triangle] |                              |                 |                                    |
|                    | -1.5<br>1.5  | <b>Concrete</b><br>Third location for ALF-01, concrete refusal at 1.5 fbgs at each location, augered down to 4.0 fbgs, collected sample for possible ACM                            | 2          | NA          | 0             |                                |                              | Asbestos sample |                                    |
|                    | -4.0<br>4.0  | <b>End of Borehole</b>  |            |             |               |                                |                              |                 |                                    |
| 5.0                |              |   |            |             |               |                                |                              |                 |                                    |

**Drilled By:** Earth Dimensions, Inc.  
**Drill Rig Type:** Dietrich D120  
**Drill Method:** 4.25-inch HSA continous SS sample

**Hole Size:** 9 - inch  
**Stick-up:**  
**Datum:** mean sea level

**Drill Date(s):** 9/19/08

**Sheet:** 1 of 1

**Project No:** 0071-008-300

**Borehole Number:** ALF-02

**Project:** Phase III Business Park

**A.K.A.:**

**Client:** Arcelor Mittal Tecumseh

**Logged By:** TAB

**Site Location:** Phase III Business Park

**Checked By:** BCH



**TurnKey Environmental Restoration, LLC**  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |              |   | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|--------------|---|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| 0.0                | 0.0<br>0.0   | Ground Surface  |            |             |               |        |                              |            |                                    |
|                    |              | <b>Fill</b><br>Dark brown, moist, non - plastic fines wth some fine sand, with slag and cinders, Dense, loose when disturbed, no odor, refusal at 1.0 fbgs augered to 1.5 fbgs where large steel grating was encountered. was able to sample via 3-inch spoon through grating to 4.5 fbgs where refusal was encountered, no ACM sample collected. | 1          | NA          | 0.5           |        |                              |            |                                    |
|                    | -4.5<br>4.5  | End of Borehole   |            |             |               |        |                              |            |                                    |
| 5.0                |              |   |            |             |               |        |                              |            |                                    |

**Drilled By:** Earth Dimensions, Inc.  
**Drill Rig Type:** Dietrich D120  
**Drill Method:** 4.25-inch HSA continous SS sample

**Hole Size:** 9 - inch  
**Stick-up:**  
**Datum:** mean sea level

**Drill Date(s):** 9/19/08

**Sheet:** 1 of 1

Project No: 0071-008-300

Borehole Number: MWN-56A

Project: Phase III Business Park Area

A.K.A.:

Client: ArcelorMittal Tecumseh Redevelopment, Inc.

Logged By: TAB

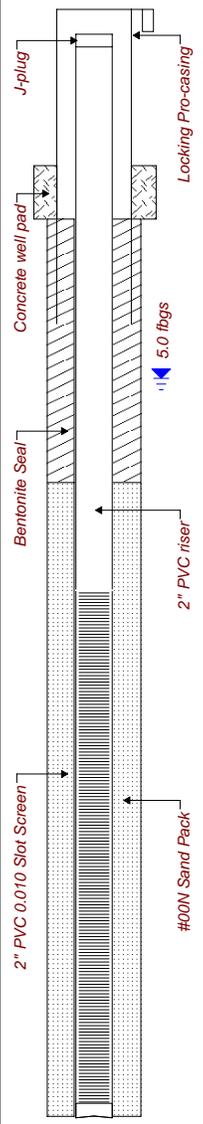
Site Location: Phase III Business Park Area

Checked By: BCH



TurnKey Environmental Restoration, LLC  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |              |  | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|--------------|--|------------|-------------|---------------|--------|----------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth | Description (ASTM D2488: Visual-Manual Procedure)  | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                            |            |                                    |
| -3.0               |              | Ground Surface   |            |             |               |        |                            |            |                                    |
|                    | 0.0          | <b>Asphalt</b><br>Augered through former asphalt parking lot.  |            |             |               |        |                            |            |                                    |
|                    | 0.5          | <b>Fill</b><br>Black, moist, non-plastic fines with some fine sand, with cinders and slag peices, medium dense, loose when disturbed, no odor.<br>As above, with reddish brown burnt peices. | 1          | 57          | 1.0           |        | 4.0                        |            |                                    |
| 2.0                | -2.0         | As above wet.  | 2          | 15          | 1.2           |        | 2.9                        |            |                                    |
|                    | 2.0          |  | 3          | 4           | 0.7           |        | 3.0                        |            |                                    |
|                    | -4.0         | As above, no burnt looking material.   | 4          | 17          | 0.6           |        | 10.5                       |            |                                    |
|                    | 4.0          |  | 5          | 31          | 1.1           |        | 3.5                        |            |                                    |
|                    | -6.0         | As above, grey with orange brick.  | 6          | 2           | 0.0           |        | NA                         |            |                                    |
|                    | 6.0          | <b>Peat</b><br>Dark to reddish brown, wet, silt with fine sand and few clay, with organic material (woody material), no odor.  | 7          | 2           | 1.2           |        | 0.9                        |            |                                    |
|                    | -8.0         |  | 8          | 2           | 1.1           |        | 3.1                        |            |                                    |
|                    | 8.0          | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, soft, high plasticity, laminated, no odor.  | 9          | 2           | 0.0           |        | NA                         |            |                                    |
|                    | -11.0        | <b>Peat</b><br>As 11.0 - 14.50 fbgs.   |            |             |               |        |                            |            |                                    |
|                    | 11.0         |  |            |             |               |        |                            |            |                                    |
|                    | -14.5        |  |            |             |               |        |                            |            |                                    |
|                    | 14.5         |  |            |             |               |        |                            |            |                                    |
|                    | -15.5        |  |            |             |               |        |                            |            |                                    |
|                    | 15.5         |  |            |             |               |        |                            |            |                                    |
|                    | -17.0        |  |            |             |               |        |                            |            |                                    |
|                    | 17.0         |  |            |             |               |        |                            |            |                                    |
|                    | -18.0        |  |            |             |               |        |                            |            |                                    |
|                    | 18.0         | End of Borehole  |            |             |               |        |                            |            |                                    |



Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: CME 550 ATV rig  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9-inches  
 Stick-up: approx. 3-feet  
 Datum: mean sea level

Drill Date(s): 09/11/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWN-57A

Project: Phase III Business Park Area

A.K.A.:

Client: ArcelorMittal Tecumseh Redevelopment, Inc.

Logged By: TAB

Site Location: Phase III Business Park Area

Checked By: BCH



TurnKey Environmental Restoration, LLC  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |   | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|---|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| -3.0               |               |   |            |             |               |        |                              |            |                                    |
|                    | 0.0           | Ground Surface  |            |             |               |        |                              |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Black, moist, non plastic - fines with some fine sand, with cinders and slag peices, dense, loose when disturbed, no odor.     | 1          | 36          | 1.1           |        | 3.1                          |            |                                    |
| 2.0                | -2.0<br>2.0   | As above, with yellow brick.  | 2          | 21          | 1.0           |        | 1.6                          |            |                                    |
|                    | -4.0<br>4.0   | As above, wet, no yellow brick.   | 3          | 9           | 1.1           |        | 1.8                          |            |                                    |
|                    | -6.0<br>6.0   | As above, wet.  | 4          | 6           | 1.0           |        | 2.5                          |            |                                    |
| 7.0                | -8.0<br>8.0   | As above.   | 5          | 5           | 1.1           |        | 2.1                          |            |                                    |
|                    | -10.0<br>10.0 | As above, with some brown fine sand, with slight sheen on groundwater no odor.  | 6          | 7           | 1.0           |        | 2.0                          |            |                                    |
| 12.0               | -12.0<br>12.0 | As above, with no brown fine sand, no sheeing on ground water   | 7          | 7           | 10            |        | 2.6                          |            |                                    |
|                    | -13.0<br>13.0 | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, medium soft, high plasticity, laminated, no odor.                            |            |             |               |        |                              |            |                                    |
|                    | -14.0<br>14.0 | As above.   | 8          | 5           | 0.9           |        | 2.3                          |            |                                    |
|                    | -14.5<br>14.5 | <b>Peat</b><br>Dark brown, wet, peat, silt with little fine sand and few clay, medium pasticity, medium soft, with organic material, no odor. |            |             |               |        |                              |            |                                    |
| 17.0               | -17.0<br>17.0 |   | 9          | 6           | 1.0           |        | 2.2                          |            |                                    |
|                    | -18.0<br>18.0 | End of Borehole   |            |             |               |        |                              |            |                                    |

Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: CME 550 ATV rig  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9-inches  
 Stick-up: approx. 3-feet  
 Datum: mean sea level

Drill Date(s): 09/11/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWN-58A

Project: Phase III Business Park

A.K.A.:

Client: Arcelor Mittal Tecumseh

Logged By: TAB

Site Location: Phase III Business Park

Checked By: BCH



TurnKey Environmental Restoration, LLC  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |  | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|--|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)  | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| -3.0               |               |  |            |             |               |        |                              |            |                                    |
|                    | 0.0           | Ground Surface   |            |             |               |        |                              |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Dark brown and black, moist, non - plastic fines with some fine sand, and with few coarse sands and fine gravel, with blue grey slag, dense, loose when disturbed, no odor. | 1          | 30          | 1.1           |        | 3.8                          |            |                                    |
| 2.0                | -2.0<br>2.0   | As above, with blue slag peices, loose.  | 2          | 9           | 0.6           |        | 8.8                          |            |                                    |
|                    | -4.0<br>4.0   | As above, with yellow refractory brick no blue slag.   | 3          | 5           | 1.4           |        | 1.2                          |            |                                    |
|                    | -6.0<br>6.0   | As above, wet.   | 4          | 6           | 1.5           |        | 1.5                          |            |                                    |
| 7.0                | -8.0<br>8.0   | As above.  | 5          | 5           | 0.6           |        | 2.1                          |            |                                    |
|                    | -10.0<br>10.0 | As above..   | 6          | 4           | 0.3           |        | 1.6                          |            |                                    |
| 12.0               | -12.0<br>12.0 | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, medium soft, high plasticity, laminated, no odor.   | 7          | 7           | 1.4           |        | 1.6                          |            |                                    |
|                    | -14.0<br>14.0 | As above.  | 8          | 4           | 1.3           |        | 1.4                          |            |                                    |
|                    | -16.0<br>16.0 | As above.  | 9          | 7           | 1.7           |        | 1.9                          |            |                                    |
| 17.0               | -18.0<br>18.0 | End of Borehole  |            |             |               |        |                              |            |                                    |

Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: CME 550 ATV rig  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9-inch  
 Stick-up: approx. 3 - foot  
 Datum: mean sea level

Drill Date(s): 9/12/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWN-59A

Project: Phase III Business Park

A.K.A.:

Client: Arcelor Mittal Tecumseh

Logged By: TAB

Site Location: Phase III Business Park

Checked By: BCH



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 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |  | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|--|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)  | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| -3.0               |               |  |            |             |               |        |                              |            |                                    |
|                    | 0.0           | Ground Surface   |            |             |               |        |                              |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Dark brown, moist, non - plastic fines wth some fine sand, with slag and cinders, Dense, loose when disturbed, no odor. | 1          | 53          | 1.0           | ▲      | 2.4                          |            |                                    |
| 2.0                | -2.0<br>2.0   | As above, with green slag, medium dense.   | 2          | 17          | 1.1           | ▲      | 1.3                          |            |                                    |
|                    | -4.0<br>4.0   | As above, no green slag, loose.  | 3          | 4           | 0.5           | ▲      | 1.1                          |            |                                    |
|                    | -6.0<br>6.0   | As above, wet, with few fine gravel.   | 4          | 9           | 0.6           | ▲      | 1.6                          |            |                                    |
| 7.0                | -8.0<br>8.0   | As above, wet.   | 5          | 17          | 0.7           | ▲      | 1.8                          |            |                                    |
|                    | -9.0<br>9.0   | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, very stiff, high plasticity, laminated, no odor.                      | 6          | 12          | 1.3           | ▲      | 1.6                          |            |                                    |
| 12.0               | -14.0<br>14.0 | As above, medium soft.   | 7          | 16          | 0.0           | ▲      | NA                           |            |                                    |
|                    | -16.0<br>16.0 | As above.  | 8          | 8           | 1.3           | ▲      | 1.3                          |            |                                    |
| 17.0               | -17.0<br>17.0 | <b>Peat</b><br>Dark brown wet, silt with clay and little fine sand, organic woody material, medium soft, no odor.                      | 9          | 6           | 1.5           | ▲      | 1.0                          |            |                                    |
|                    | -18.0<br>18.0 | End of Borehole  |            |             |               |        |                              |            |                                    |

Drilled By: Earth Dimensions  
 Drill Rig Type: Dietrich D120  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9 - inch  
 Stick-up: approx. 3 - foot  
 Datum: mean sea level

Drill Date(s): 9/16/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWN-60A

Project: Phase III Business Park

A.K.A.:

Client: Arcelor Mittal Tecumseh

Logged By: TAB

Site Location: Phase III Business Park

Checked By: BCH



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 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |   | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|---|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| -3.0               |               |   |            |             |               |        |                              |            |                                    |
|                    | 0.0           | Ground Surface  |            |             |               |        |                              |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Brown, moist, non - plastic fines wth some fine sand, with blue grey colored slag, Dense, loose when disturbed, no odor. | 1          | 45          | 1.3           | ▲      | 1.3                          |            |                                    |
| 2.0                | -2.0<br>2.0   | As above, Black color with cinders.   | 2          | 30          | 1.2           | ▲      | 10.2                         |            |                                    |
|                    | -4.0<br>4.0   | As above.   | 3          | 55          | 1.5           | ▲      | 9.4                          |            |                                    |
|                    | -6.0<br>6.0   | As above, with orange and yellow brick.   | 4          | 29          | 1.2           | ▲      | 13.2                         |            |                                    |
| 7.0                | -8.0<br>8.0   | As above, wet.  | 5          | 14          | 1.2           | ▲      | 7.6                          |            |                                    |
|                    | -9.0<br>9.0   | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, stiff, high plasticity, orange mottling, laminated, no odor.           | 6          | 22          | 1.3           | ▲      | 2.0                          |            |                                    |
|                    | -12.0<br>12.0 | As above, with little sand, with vertical orange staining.  | 7          | 16          | 1.6           | ▲      | 2.0                          |            |                                    |
|                    | -14.0<br>14.0 | As above.   | 8          | 13          | 1.8           | ▲      | 1.8                          |            |                                    |
|                    | -16.0<br>16.0 | As above.   | 9          | 10          | 1.5           | ▲      | 2.5                          |            |                                    |
| 17.0               | -18.0<br>18.0 | End of Borehole   |            |             |               |        |                              |            |                                    |

Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: Dietrich D120  
 Drill Method: 4.25-inch HSA continuous SS sample

Hole Size: 9 - inch  
 Stick-up: approx. 3 - foot  
 Datum: mean sea level

Drill Date(s): 9/16/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWS-30A

Project: Phase III Business Park

A.K.A.:

Client: Arcelor Mittal Tecumseh

Logged By: TAB

Site Location: Phase III Business Park

Checked By: BCH



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 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |   | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|---|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| -3.0               |               |   |            |             |               |        |                              |            |                                    |
|                    | 0.0           | Ground Surface  |            |             |               |        |                              |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Brown to black, moist, non - plastic, fines with some fine sand, with cinders and slag peices, dense, loose when disturbed, no odor. | 1          | 31          | 1.8           | ▲      | 1.0                          |            |                                    |
| 2.0                | -2.0<br>2.0   | As above, loose.  | 2          | 8           | 1.4           | ▲      | 8.5                          |            |                                    |
|                    | -4.0<br>4.0   | As above.   | 3          | 5           | 1.2           | ▲      | 0.2                          |            |                                    |
|                    | -6.0<br>6.0   | As above, wet, with yellow color and broken up concrete, medium dense.  | 4          | 25          | 0.6           | ▲      | 0.0                          |            |                                    |
| 7.0                | -8.0<br>8.0   | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, very stiff , high plasticity, laminated, no odor.                                  | 5          | 12          | 1.6           | ▲      | 1.0                          |            |                                    |
|                    | -10.0<br>10.0 | As above.   | 6          | 18          | 1.4           | ▲      | 1.0                          |            |                                    |
| 12.0               | -12.0<br>12.0 | As above, stiff.  | 7          | 11          | 1.6           | ▲      | 0.8                          |            |                                    |
|                    | -14.0<br>14.0 | As above, medium soft.  | 8          | 8           | 1.4           | ▲      | 1.7                          |            |                                    |
|                    | -16.0<br>16.0 | As above, with little sand.   | 9          | 5           | 1.0           | ▲      | 2.0                          |            |                                    |
| 17.0               | -18.0<br>18.0 | End of Borehole   |            |             |               |        |                              |            |                                    |

Drilled By: Earth Dimensions  
 Drill Rig Type: Dietrich D-120  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9 - inch  
 Stick-up: approx. 3 - foot  
 Datum: mean sea level

Drill Date(s): 9/18/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWS-33A

Project: Phase III Business Park

A.K.A.:

Client: Arcelor Mittal Tecumseh

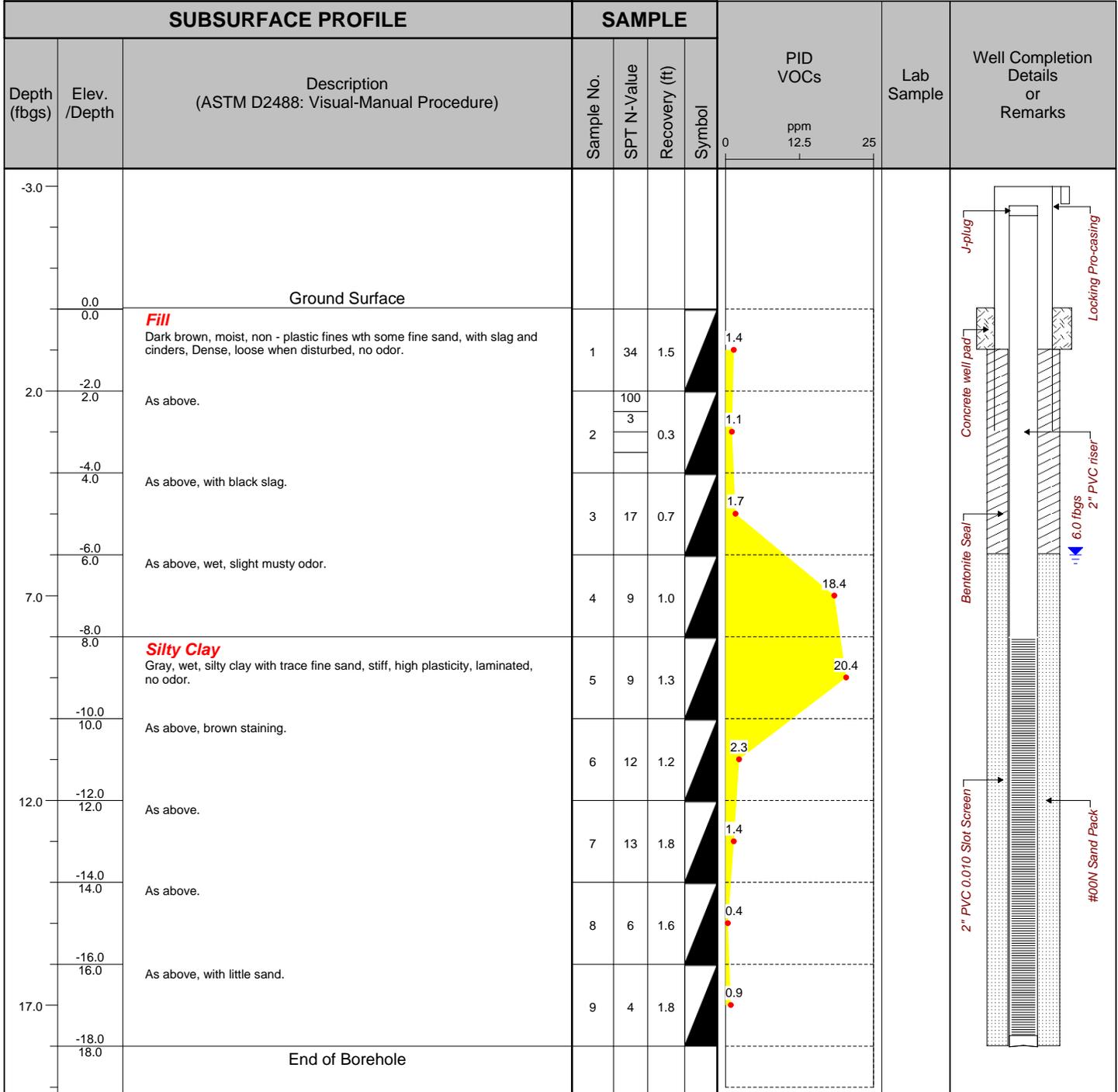
Logged By: TAB

Site Location: Phase III Business Park

Checked By: BCH



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 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635



Drilled By: Earth Dimensions  
 Drill Rig Type: Dietrich D120  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9 - inch  
 Stick-up: approx. 3 - foot  
 Datum: mean sea level

Drill Date(s): 9/18/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWS-34A

Project: Phase III Business Park

A.K.A.:

Client: Arcelor Mittal Tecumseh

Logged By: TAB

Site Location: Phase III Business Park

Checked By: BCH



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 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |  | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 25 50 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|--|------------|-------------|---------------|--------|----------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)  | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                            |            |                                    |
| -3.0               |               |  |            |             |               |        |                            |            |                                    |
|                    | 0.0           | Ground Surface   |            |             |               |        |                            |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Dark brown to reddish brown, moist, non - plastic, fines with some fine sand and slag peices, with rusty material dense, loose when disturbed, no odor.   | 1          | 25          | 1.1           | ▲      | 2.4                        |            |                                    |
| 2.0                | -2.0<br>2.0   | As above. with some coarse sand and fine garvel, mixed with blue grey slag.  | 2          | 16          | 1.2           | ▲      | 2.1                        |            |                                    |
|                    | -4.0<br>4.0   | As above but black with cinders.   | 3          | 22          | 1.3           | ▲      | 1.7                        |            |                                    |
|                    | -6.0<br>6.0   | As above, with orange brick, hydrocarbon type odor.  | 4          | 6           | 0.8           | ▲      | 16.2                       |            |                                    |
| 7.0                | -8.0<br>8.0   | As above brown with hydrocarbon type odor. Auger refusal at 9.0 fbgs moved ~25.0 feet to west. Augered with out sampling encountered auger refusal at 4.0 fbgs, moved rig ~10.0 feet to west augered to 8.0 fbgs and continued sampling. | 5          | 17          | 0.6           | ▲      | 32.3                       |            |                                    |
|                    | -10.0<br>10.0 | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, medium soft, high plasticity, laminated, no odor.   | 6          | 5           | 0.7           | ▲      | 10.4                       |            |                                    |
| 12.0               | -12.0<br>12.0 | As above.  | 7          | 8           | 0.8           | ▲      | 14.4                       |            |                                    |
|                    | -14.0<br>14.0 | As above.  | 8          | 5           | 2.0           | ▲      | 1.5                        |            |                                    |
|                    | -16.0<br>16.0 | As above.  | 9          | 6           | 1.4           | ▲      | 4.7                        |            |                                    |
| 17.0               | -18.0<br>18.0 | End of Borehole  |            |             |               |        |                            |            |                                    |
| 22.0               |               |  |            |             |               |        |                            |            |                                    |

Drilled By: Earth Dimensions, Inc  
 Drill Rig Type: CME 550 ATV rig  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9 - inch  
 Stick-up: approx 3 - foot  
 Datum: mean sea level

Drill Date(s): 9/12/08 & 9/15/08

Sheet: 1 of 1

Project No: 0071-008-300

Borehole Number: MWS-35A

Project: Phase III Business Park

A.K.A.:

Client: Arcelor Mittal Tecumseh

Logged By: TAB

Site Location: Phase III Business Park

Checked By: BCH



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 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |  | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|--|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)  | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| -3.0               |               |  |            |             |               |        |                              |            |                                    |
|                    | 0.0           | Ground Surface   |            |             |               |        |                              |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Dark brown, moist, non - plastic fines with some fine sand few fine gravel, and slag peices, with yellow refractory brick and cinders, medium dense, loose when disturbed, no odor. | 1          | 20          | 1.5           | ▲      | 4.3                          |            |                                    |
| 2.0                | -2.0<br>2.0   | As above, with more cinders and orange brick.  | 2          | 9           | 1.2           | ▲      | 1.0                          |            |                                    |
|                    | -4.0<br>4.0   | As above, with yellow refractory brick.  | 3          | 17          | 1.2           | ▲      | 1.7                          |            |                                    |
|                    | -6.0<br>6.0   | As above, with no yellow and orange brick.   | 4          | 10          | 0.8           | ▲      | 1.6                          |            |                                    |
| 7.0                | -8.0<br>8.0   | As above, wet, very dense, auger refusal at 9.0 fbgs moved ~15.0 feet to west, augered with out sampling to 10.0 fbgs and continued sampling.  | 5          | 100<br>2    | 0.6           | ▲      | 1.4                          |            |                                    |
|                    | -10.0<br>10.0 | As above, but black with few coarse gravel.  | 6          | 44          | 1.3           | ▲      | 0.6                          |            |                                    |
| 12.0               | -12.0<br>12.0 | As above, medium dense.  | 7          | 21          | 0.4           | ▲      | 0.8                          |            |                                    |
|                    | -14.0<br>14.0 | <b>Silty Clay</b><br>Gray, wet, silty clay with trace fine sand, medium soft, high plasticit, laminated. no odor.  | 8          | 7           | 1.0           | ▲      | 0.8                          |            |                                    |
| 17.0               | -16.5<br>16.5 | <b>Peat</b><br>Dark brown, wet, silt with clay and few fine sand, medium soft, with organic material, no odor.   | 9          | 6           | 1.5           | ▲      | 0.3                          |            |                                    |
|                    | -18.0<br>18.0 | End of Borehole  |            |             |               |        |                              |            |                                    |

Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: CME 550 ATV rig  
 Drill Method: 4.25-inch HSA continous SS sample

Hole Size: 9 - inch  
 Stick-up: approx. 3 - foot  
 Datum: mean sea level

Drill Date(s): 9/15/08

Sheet: 1 of 1

Project No: 0071 - 009 - 310

Borehole Number: MWN-61A

Project: Phase IIIA Business Park Area

A.K.A.:

Client: Tecumseh Redevelopment Inc.

Logged By: TAB

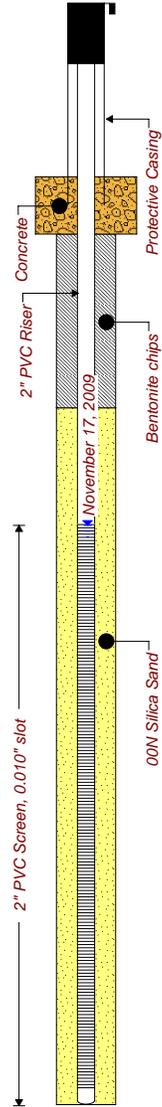
Site Location: Lackawanna, NY

Checked By: BCH



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 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |   | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|---------------|---|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| -3.0               |               |   |            |             |               |        |                              |            |                                    |
|                    | 0.0           | Ground Surface  |            |             |               |        |                              |            |                                    |
|                    | 0.0           | <b>Fill</b><br>Dark Brown, moist, fill, non plastic fines with some fine and coarse sand, few coarse gravel, grey slag, very dense, loose when disturbed. | 1          | NA          | 0.8           | 0.0    |                              |            |                                    |
| 2.0                | -2.0<br>2.0   | As above, black, red/orange slag peices.  | 2          | 94          | 1.6           | 0.3    |                              |            |                                    |
|                    | -4.0<br>4.0   | As above.   | 3          | 91          | 1.8           | 1.1    |                              |            |                                    |
|                    | -6.0<br>6.0   | As above, wet.  | 4          | 24          | 0.8           | 0.0    |                              |            |                                    |
| 7.0                | -8.0<br>8.0   | As above, slight sheen and slight petroleum-like odor.  | 5          | 19          | 0.5           | 0.0    |                              |            |                                    |
|                    | -10.5<br>10.5 | <b>Lean Clay</b><br>Dark grey, wet, medium plasticity fines, little fine sand, trace coarse sand, rootlets.   | 6          | 4           | 0.5           | 4.5    |                              |            |                                    |
| 12.0               | -12.0<br>12.0 | As above  | 7          | 5           | 1.3           | 4.4    |                              |            |                                    |
|                    | -14.0<br>14.0 | As above, trace fine sand.  | 8          | 8           | 1.5           | 0.0    |                              |            |                                    |
|                    | -16.0<br>16.0 | End of Borehole   |            |             |               |        |                              |            |                                    |
| 17.0               |               |   |            |             |               |        |                              |            |                                    |



Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: Deitrich D120  
 Drill Method: 2-foot split spoon fowelled by 41/4-inch hollow stem augers  
 Comments:  
 Drill Date(s): 11/17/09 - 11/20/09

Hole Size: 8.5-inch  
 Stick-up: 2.5 - feet  
 Datum: Mean Sea level

Sheet: 1 of 1

Project No: 0071 - 009 - 310

Borehole Number: MWN-62D

Project: Phase IIIA Business Park Area

A.K.A.:

Client: Tecumseh Redevelopment, Inc.

Logged By: TAB

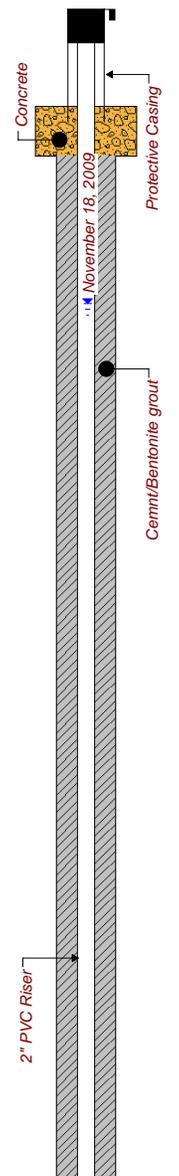
Site Location: Lackawanna, NY

Checked By: BCH



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 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |              |  | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|--------------|--|------------|-------------|---------------|--------|----------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth | Description (ASTM D2488: Visual-Manual Procedure)  | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                            |            |                                    |
| -3.0               |              | Ground Surface   |            |             |               |        |                            |            |                                    |
|                    | 0.0          |  |            |             |               |        |                            |            |                                    |
|                    | 0.0          | <b>Fill</b><br>Black, moist, fill, non plastic fines with some fine and coarse sand, few coarse gravel, grey slag, very dense, loose when disturbed, yellow brick. As above, no yellow brick, with coal peices | 1          | 29          | 1.1           | ▲      | 0.0                        |            |                                    |
| 2.0                | -2.0         |  | 2          | 29          | 1.5           | ▲      | 0.0                        |            |                                    |
|                    | 2.0          |  |            |             |               |        |                            |            |                                    |
|                    | -4.0         |  |            |             |               |        |                            |            |                                    |
|                    | 4.0          | <b>Lean Clay</b><br>Dark brown/black and grey, moist, mostly medium plastic fines with some fine sand, with coal peices, medium plasticity.  | 3          | 5           | 0.8           | ▲      | 0.0                        |            |                                    |
|                    | -6.0         |  |            |             |               |        |                            |            |                                    |
|                    | 6.0          | <b>Poorly Graded Sand with Silt and Gravel</b><br>Brown to grey, wet, fine sand with few coarse sand and trace coarse gravel and non-plasstic fines, rapid dilatancy, medium dense.                            | 4          | 11          | 1.3           | ▲      | 0.0                        |            |                                    |
| 7.0                |              |  | 5          | 16          | 1.0           | ▲      | 0.0                        |            |                                    |
|                    |              |  | 6          | 15          | 1.2           | ▲      | 0.0                        |            |                                    |
|                    | -13.0        |  |            |             |               |        |                            |            |                                    |
|                    | 13.0         | <b>Organic soil with sand</b><br>Brown, wet, mostly low plasticity fines, little fine sand, organic material.  | 7          | 28          | 0.7           | ▲      | 0.0                        |            |                                    |
|                    | -16.0        |  | 8          | 7           | 1.5           | ▲      | 0.0                        |            |                                    |
|                    | 16.0         | As above   |            |             |               |        |                            |            |                                    |
| 17.0               |              |  | 9          | 6           | 1.2           | ▲      | 0.0                        |            |                                    |
|                    | -18.0        |  |            |             |               |        |                            |            |                                    |
|                    | 18.0         | <b>Lean Clay</b><br>Grey, wet, mostly high plasticiy fines with trace fine sand, soft.   | 10         | 3           | 1.6           | ▲      | 0.0                        |            |                                    |
|                    | -19.0        |  |            |             |               |        |                            |            |                                    |
|                    | 19.0         | <b>Organic Soil with Sand</b><br>As 13.0 fbgs to 18.0 fbgs.  | 11         | 5           | 1.2           | ▲      | 0.0                        |            |                                    |
| 22.0               |              |  | 12         | 5           | 1.7           | ▲      | 0.0                        |            |                                    |
|                    | -24.0        |  |            |             |               |        |                            |            |                                    |
|                    | 24.0         | <b>Silty Sand</b><br>Grey, wet, mostly non plastic fines with some fine sand, loose, rapid dilatancy   | 13         | 7           | 1.4           | ▲      | 0.0                        |            |                                    |
|                    | -28.0        |  |            |             |               |        |                            |            |                                    |
|                    | 28.0         | <b>Lean Clay</b><br>Grey, wet, mostly high plasticity fines, trace fine and coarse sand, varved with reddish brown layers where clay is not extremely soft.  | 15         | 13          | 1.0           | ▲      | 0.0                        |            |                                    |
|                    | -28.0        |  |            |             |               |        |                            |            |                                    |
|                    | 28.0         |  | 16         | 3           | 1.7           | ▲      | 0.0                        |            |                                    |
| 32.0               |              |  |            |             |               |        |                            |            |                                    |



Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: Deitrich D120  
 Drill Method: 2-foot split spoon fowelled by 41/4-inch hollow stem augers  
 Comments:  
 Drill Date(s): 11/17/09 - 11/20/09

Hole Size: 8,5-inch  
 Stick-up: 2.5 - feet  
 Datum: Mean Sea level  
 Sheet: 1 of 2

Project No: 0071 - 009 - 310

Borehole Number: MWN-62D

Project: Phase IIIA Business Park Area

A.K.A.:

Client: Tecumseh Redevelopment, Inc.

Logged By: TAB

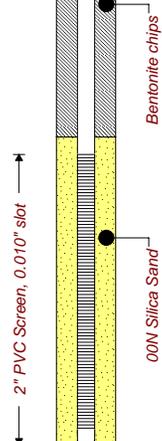
Site Location: Lackawanna, NY

Checked By: BCH



TurnKey Environmental Restoration, LLC  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |              |   | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample | Well Completion Details or Remarks |
|--------------------|--------------|---|------------|-------------|---------------|--------|------------------------------|------------|------------------------------------|
| Depth (fbgs)       | Elev. /Depth | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |            |                                    |
| 37.0               |              |   | 17         | 1           | 1.9           | ▲      | 0.0                          |            |                                    |
|                    |              |   | 18         | 1           | 1.6           | ▲      | 0.0                          |            |                                    |
|                    |              |   | 19         | 1           | 1.3           | ▲      | 0.0                          |            |                                    |
|                    |              |   | 20         | 1           | 1.3           | ▲      | 0.0                          |            |                                    |
| 42.0               | -42.0 / 42.0 | <b>Sandy Lean Clay with Gravel</b><br>Grey, wet to moist, some fine sand with few non plastic to low plasticity fines, few medium to coarse sands with little fine and subrounded gravels with shale fragments, MEium dense to very dense. Auger refusal at 52.0 fbgs top of rock at 52.0 fbgs, augered 0.5 fbgs into rock to facilitate instalation of bedrock well. | 21         | wh          | 1.1           | ▲      | 0.0                          |            |                                    |
|                    |              |   | 22         | 12          | 1.1           | ▲      | 0.0                          |            |                                    |
|                    |              |   | 23         | 11          | .7            | ▲      | 0.0                          |            |                                    |
| 47.0               |              |   | 24         | 114         | 1.4           | ▲      | 0.0                          |            |                                    |
|                    |              |   | 25         | 102         | 1.1           | ▲      | 0.0                          |            |                                    |
|                    |              |   | 26         | 100 / 3     | 0.8           | ▲      | 0.0                          |            |                                    |
| 52.0               | -52.0 / 52.0 | <b>Dolomitic Limestone w/ Shale bedding.</b><br>Run #1 (52 - 57) fbgs<br>Dark Grey, microcrystalline very strong, slight decomposition along fracture zones, Blocky ,moderatly fractured, recovery = 100%, RQD = 96.2% is excellent.<br><br>Run#2 (57-63.2)fbgs<br>As run #1, at 61.0 fbgs a 45 degree sheer fracture, recovery = 97%, RQD = 92.8% is excellent.      |            |             |               |        | 0.0                          |            |                                    |
| 57.0               |              |   |            |             |               |        |                              |            |                                    |
| 62.0               | -63.2 / 63.2 | End of Borehole   |            |             |               |        |                              |            |                                    |
| 67.0               |              |   |            |             |               |        |                              |            |                                    |



Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: Deitrich D120  
 Drill Method: 2-foot split spoon fowelled by 41/4-inch hollow stem augers  
 Comments:  
 Drill Date(s): 11/17/09 - 11/20/09

Hole Size: 8,5-inch  
 Stick-up: 2.5 - feet  
 Datum: Mean Sea level  
 Sheet: 2 of 2

Project No: 0071 - 009 - 310

Borehole Number: MWS-31A

Project: Phase IIIA Business Park Area

A.K.A.:

Client: Tecumseh Redevelopment, Inc.

Logged By: TAB

Site Location: Lackawanna, NY

Checked By:



TurnKey Environmental Restoration, LLC  
 2558 Hamburg Turnpike, Suite 300  
 Buffalo, NY 14218  
 (716) 856-0635

| SUBSURFACE PROFILE |               |   | SAMPLE     |             |               |        | PID VOCs<br>ppm<br>0 12.5 25 | Lab Sample  | Well Completion Details or Remarks |
|--------------------|---------------|---|------------|-------------|---------------|--------|------------------------------|---|------------------------------------|
| Depth (fbgs)       | Elev. /Depth  | Description (ASTM D2488: Visual-Manual Procedure)   | Sample No. | SPT N-Value | Recovery (ft) | Symbol |                              |   |                                    |
| -3.0               |               |   |            |             |               |        |                              | <p>Concrete<br/>                     Protective Casing<br/>                     2" PVC Riser<br/>                     Bentonite chips<br/>                     2" PVC Screen, 0.010" slot<br/>                     November 17, 2009<br/>                     00N Silica Sand</p> |                                    |
|                    | 0.0<br>0.0    | Ground Surface  |            |             |               |        |                              |   |                                    |
|                    |               | <b>Fill</b><br>Black/grey, moist, fill, non plastic fines with some fine and coarse sand, some grey slag, with rootlets at top, very dense, loose when disturbed. | 1          | 100<br>3    | 0.7           | ▲      | 0.0                          |   |                                    |
| 2.0                | -2.0<br>2.0   | As above, black   | 2          | 32          | 1.4           | ▲      | 0.0                          |   |                                    |
|                    | -4.0<br>4.0   | As above with orange brick in shoe  | 3          | 30          | 0.8           | ▲      | 0.0                          |   |                                    |
|                    | -6.0<br>6.0   | As above dark brown, yellow brick in shoe   | 4          | 74          | 1.4           | ▲      | 0.0                          |   |                                    |
| 7.0                | -8.0<br>8.0   | As above, wet with coal peices  | 5          | 12          | 1.3           | ▲      | 0.0                          |   |                                    |
|                    | -10.5<br>10.5 | <b>Lean Clay</b><br>Grey, wet to moist, high plasticity fines, few fine sand, trace coarse sand, stiff.   | 6          | 9           | 1.5           | ▲      | 0.0                          |   |                                    |
| 12.0               | -12.0<br>12.0 | End of Borehole   |            |             |               |        |                              |   |                                    |
| 17.0               |               |   |            |             |               |        |                              |   |                                    |

Drilled By: Earth Dimensions, Inc.  
 Drill Rig Type: Deitrich D120  
 Drill Method: 2-foot split spoon fowelled by 4 1/4-inch hollow stem augers  
 Comments:  
 Drill Date(s): 11/17/09 - 11/20/09

Hole Size: 8-inch  
 Stick-up: 2.5 - feet  
 Datum: Mean Sea level  
 Sheet: 1 of 1

# APPENDIX C

## DATA USABILITY SUMMARY REPORTS (DUSRs)

# Data Usability Summary Report

Vali-Data of WNY, LLC  
1514 Davis Rd.  
West Falls, NY 14170

Tecumseh Redevelopment Site  
Phase III Business Park  
TestAmerica Laboratories Inc. #A08-A306  
December 2, 2008

Prepared by

Jodi Zimmerman, B.S.  
Owner  
Vali-Data of WNY, LLC  
1514 Davis Rd.  
West Falls, NY 14170

## **DELIVERABLES**

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for Turnkey/Benchmark, Tecumseh Redevelopment Site, Phase III Business Park, TestAmerica Laboratories, Inc. ID A08-A306, submitted to Vali-Data of WNY, LLC on October 30, 2008. The laboratory performed the analyses using USEPA methods 8260 (TCLP Volatile Organics), 8270 (Semi-Volatile Organics), 8082 (PCBs), 6010 (Inorganics), 7470 (Mercury), 1010 (Flashpoint) and 1311 (Toxicity Characteristic Leaching Procedure).

## **VOLATILE ORGANIC COMPOUNDS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

## **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

The data are acceptable for use except where qualified below in the MS/MSD and Surrogate Recoveries.

### **DATA COMPLETENESS**

All criteria were met.

### **NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

**CHAIN-OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met except.

**HOLDING TIMES**

All holding times for the samples were met.

**INTERNAL STANDARD (IS)**

The IS did meet criteria for all samples.

**SURROGATE SPIKE RECOVERIES**

Surrogate recoveries were met.

**METHOD BLANK**

All the criteria were met.

**FIELD DUPLICATE SAMPLE PRECISION**

No field duplicate was performed.

**LABORATORY CONTROL SAMPLES**

All criteria were met except the %Rec for 2-Butanone fell outside of QC limits; however, this analyte was not found in the sample.

**MS/MSD**

No MS/MSD samples were performed.

**COMPOUND QUANTITATION**

All criteria were met.

**INITIAL CALIBRATION**

All criteria were met.

**CONTINUING CALIBRATION**

All criteria were met.

**GC/MS PERFORMANCE CHECK**

All criteria were met.

**SEMIVOLATILE ORGANIC COMPOUNDS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

#### **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

Overall the data are usable except where qualified below in the Method Blank.

#### **DATA COMPLETENESS**

All criteria were met.

#### **NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

#### **CHAIN-OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met.

#### **HOLDING TIMES**

All holding times were met.

#### **INTERNAL STANDARD (IS)**

The IS did meet criteria.

#### **SURROGATE SPIKE RECOVERIES**

Surrogate recoveries were met.

**METHOD BLANK**

All criteria were met except the blank contained Chrysene. All blanks and the associated samples were qualified as estimated.

**FIELD DUPLICATE SAMPLE PRECISION**

No field duplicate was performed.

**LABORATORY CONTROL SAMPLES**

No laboratory control samples were performed.

**MS/MSD**

All criteria were met.

**COMPOUND QUANTITATION**

All criteria were met.

**INITIAL CALIBRATION**

All criteria were met.

**CONTINUING CALIBRATION**

All criteria were met.

**GC/MS PERFORMANCE CHECK**

All criteria were met.

**POLYCHLORINATED BIPHENYLS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Holding Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration

- Continuing Calibration
- GC/MS Tuning

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

**OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

The data are acceptable for use.

**DATA COMPLETENESS**

All criteria were met except the columns were mislabeled for several 'PCB Single Point Calibration of Multi-component Analytes'. The appropriate corrections have been made by the laboratory and are attached.

**NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

**CHAIN-OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met.

**HOLDING TIMES**

All holding times for the samples were met.

**INTERNAL STANDARD (IS)**

The IS did meet criteria for all samples.

**SURROGATE SPIKE RECOVERIES**

Surrogate recoveries were met.

**METHOD BLANK**

All the criteria were met for the method blank.

**HOLDING BLANK**

No holding blank was acquired.

**FIELD DUPLICATE SAMPLE PRECISION**

No field duplicate was performed.

**LABORATORY CONTROL SAMPLES**

No laboratory control samples were performed.

**MS/MSD**

All criteria were met.

**COMPOUND QUANTITATION**

All criteria were met.

**INITIAL CALIBRATION**

All criteria were met

**CONTINUING CALIBRATION**

All criteria were met except %D was out of range for Arochlor1260 and Decachlorobiphenyl for continuing calibration run dated 8/27/08, 13:09, off column #2.

**GC/MS TUNING**

All criteria were met.

**TAL METALS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Duplicate
- Serial Dilution
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

**OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

The data are acceptable for use.

**DATA COMPLETENESS**

All criteria were met.

**NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

**CHAIN OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met.

**HOLDING TIMES**

All criteria were met.

**METHOD BLANK**

All criteria were met.

**LABORATORY CONTROL SAMPLE**

All criteria were met.

**MS/MSD**

All criteria were met.

**DUPLICATE**

All criteria were met.

**SERIAL DILUTIONS**

All criteria were met except the %D for a few analytes were out of range. Those analytes were not found in the samples.

**COMPOUND QUANTITATION**

All criteria were met.

**CALIBRATION**

All criteria were met except Barium was out of QC limits for AD848601.

**MERCURY**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Method Blank
- Laboratory Control Samples
- MS
- Compound Quantitation

- Calibration

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

#### **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

The data are acceptable for use.

#### **DATA COMPLETENESS**

All criteria were met.

#### **NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

#### **CHAIN-OF-CUSTODY**

All criteria were met.

#### **HOLDING TIMES**

All criteria were met.

#### **METHOD BLANK**

All criteria were met.

#### **LABORATORY CONTROL SAMPLES**

All criteria were met.

#### **MS/MSD**

All criteria were met except where indicated above.

#### **COMPOUND QUANTITATION**

All criteria were met.

#### **CALIBRATION**

All criteria were met.

# Data Usability Summary Report

Vali-Data of WNY, LLC  
1514 Davis Rd.  
West Falls, NY 14170

Tecumseh Redevelopment Site  
Phase III Business Park  
TestAmerica Laboratories Inc. #A08-A153, A226  
December 4, 2008

Prepared by

Jodi Zimmerman, B.S.  
Owner  
Vali-Data of WNY, LLC  
1514 Davis Rd.  
West Falls, NY 14170

## **DELIVERABLES**

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for Turnkey/Benchmark, Tecumseh Redevelopment Site, Phase III Business Park, TestAmerica Laboratories, Inc. ID A08-A153, -A226, submitted to Vali-Data of WNY, LLC on October 30, 2008. The laboratory performed the analyses using USEPA methods, 8260 (Volatile Organics & STARS), 8021 (Volatile Organics), 8270 (Semi-Volatile Organics), 8270 (TCL Base Neutral Compounds), 8082 (PCBs), 6010 (Inorganics), 7471 (Mercury), 9012A (Cyanide).

## **VOLATILE ORGANIC COMPOUNDS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

## **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

The data are acceptable for use except where qualified below in the Method Blank.

### **DATA COMPLETENESS**

All criteria were met.

### **NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

#### **CHAIN-OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met except the Sample ID #'s were unreadable on the Chain of Custody. A more legible copy was submitted by the lab and is attached.

#### **HOLDING TIMES**

All holding times for the samples were met.

#### **INTERNAL STANDARD (IS)**

The IS did meet criteria for all samples.

#### **SURROGATE SPIKE RECOVERIES**

Surrogate recoveries were met except a,a,a-Trifluorotoluene fell outside the QC limits, low, in the BlindMS for Method 8021. Surrogate recoveries fell within limits for the samples.

#### **METHOD BLANK**

All the criteria were met except the method blank, for Method 8260, contained Toluene, which was J qualified.

#### **FIELD DUPLICATE SAMPLE PRECISION**

No field duplicate was performed.

#### **LABORATORY CONTROL SAMPLES**

No laboratory control samples were performed.

#### **MS/MSD**

All criteria were met except the %Rec for 1, 1-Dichloroethene was out of range, high, in the MS in Method 8260.

#### **COMPOUND QUANTITATION**

All criteria were.

#### **INITIAL CALIBRATION**

All criteria were met.

#### **CONTINUING CALIBRATION**

All criteria were met except the %D for a,a,a-Trifluorotoluene fell outside the QC limits.

#### **GC/MS PERFORMANCE CHECK**

All criteria were met.

## **SEMIVOLATILE ORGANIC COMPOUNDS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

### **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

Overall the data are usable.

#### **DATA COMPLETENESS**

All criteria were met.

#### **NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

#### **CHAIN-OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met.

#### **HOLDING TIMES**

All holding times for the samples were met.

#### **INTERNAL STANDARD (IS)**

The IS did meet criteria for all samples except Perylene-D12 was above the QC limits for sample TP-31 (0-2)DL. All other IS for TP-31(0-2)DL were within limits.

#### **SURROGATE SPIKE RECOVERIES**

Surrogate recoveries were met except 2,4,6-Tribromophenol was out of range, low, for samples TP-32(0-2) and Blind. All other surrogates for these samples fell within QC limits.

#### **METHOD BLANK**

All the criteria were met for the method blank except Chrysene was detected and qualified accordingly in the blank and the samples

#### **FIELD DUPLICATE SAMPLE PRECISION**

No field duplicate was performed.

#### **LABORATORY CONTROL SAMPLES**

No laboratory control samples were performed.

#### **MS/MSD**

All criteria were met except, % RPD was out of range, high, for Pyrene. Three analytes were found in the MS, Hexachloropentadiene, 4,6-Dinitro-2-methylphenol and 2,4-Dinitrophenol, and were qualified as estimated. The latter two were also found in the MSD, also qualified as estimated. None of these analytes were detected in the sample.

#### **COMPOUND QUANTITATION**

All criteria were.

#### **INITIAL CALIBRATION**

All criteria were met.

#### **CONTINUING CALIBRATION**

All criteria were met.

#### **GC/MS PERFORMANCE CHECK**

All criteria were met.

#### **POLYCHLORINATED BIPHENYLS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance

- Surrogate Spike Recoveries
- Method Blank
- Holding Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Tuning

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

#### **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

Overall the data are acceptable for use.

#### **DATA COMPLETENESS**

All criteria were met except the columns were mislabeled for several 'PCB Single Point Calibration of Multi-component Analytes'. The appropriate corrections have been made by the laboratory and are attached.

#### **NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

#### **CHAIN-OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met.

#### **HOLDING TIMES**

All holding times for the samples were met.

#### **INTERNAL STANDARD (IS)**

The IS did meet criteria for all samples.

#### **SURROGATE SPIKE RECOVERIES**

Surrogate recoveries were met for the Method Blank and Matrix Spike Blank. The %Rec for Decachlorobiphenyl off column #2 was out of range high for all samples. The %Rec for Decachlorobiphenyl off column #1 was out of range high for TP-20(0-2)MS.

#### **METHOD BLANK**

All the criteria were met for the method blank.

**HOLDING BLANK**

No holding blank was acquired.

**FIELD DUPLICATE SAMPLE PRECISION**

No field duplicate was performed.

**LABORATORY CONTROL SAMPLES**

No laboratory control samples were performed.

**MS/MSD**

All criteria were met except %Rec was out of range of the QC limits, high, for Arochlor 1260 in the MS. Due to this, the %RPD for Arochlor 1260 was out of range.

**COMPOUND QUANTITATION**

All criteria were met.

**INITIAL CALIBRATION**

All criteria were met

**CONTINUING CALIBRATION**

All criteria were met except the %D was out of range for Arochlor 1260 and DCBP on 8/27/2008 at 13:09 and DCBP on 8/27/08 at 15:13 and 17:21 off the second column (ZB-35).

**GC/MS TUNING**

All criteria were met.

**TAL METALS**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Duplicate
- Serial Dilution
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

#### **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

Overall the data are acceptable for use except those qualified in Serial Dilutions, MS/MSD and Duplicate below.

#### **DATA COMPLETENESS**

All criteria were met.

#### **NARATIVE AND DATA REPORTING FORMS**

All criteria were met.

#### **CHAIN OF CUSTODY AND TRAFFIC REPORTS**

All criteria were met.

#### **HOLDING TIMES**

All criteria were met.

#### **METHOD BLANK**

All criteria were met.

#### **LABORATORY CONTROL SAMPLE**

All criteria were met.

#### **MS/MSD**

All criteria were met except Antimony, Barium, Mercury and Vanadium fell out of range, low, for %Rec in TP-20MS. The %Rec was out of range, high, for Chromium and Vanadium in TP-20SD. The %Rec was out of range, low, for Antimony, Nickel and Mercury in TP-20SD. All metals where no control limits were provided showed sample results in which the concentration was >5x the concentration of spike added.

A post-digest spike sample recovery was performed and yielded %Rec out of range of the QC limits for Calcium, Iron, Lead, Manganese and Zinc. These results, in conjunction with the MS/SD results, could be an indication of matrix interference. These metals should be qualified as estimated in TP-20(0-2)MS/SD/A(post digest) and TP-20(0-2).

#### **DUPLICATE**

All metals except Arsenic, Copper, Iron, Lead, Nickel, Mercury and Zinc exceeded the RPD between the sample TP-20(0-2) and the duplicate TP-20(0-2)SD. This indicates nonhomogeneity of the samples.

Vanadium is the only metal with sample result and duplicate result >5x CRQL, thus should be qualified as estimated in TP-20(0-2)MS/SD and TP-20(0-2). TestAmerica has qualified these metals in the samples.

#### **SERIAL DILUTIONS**

All criteria were met except, Arsenic, Calcium, Nickel and Zinc were out of range, E qualified. All associated samples are qualified.

#### **COMPOUND QUANTITATION**

All criteria were met.

#### **CALIBRATION**

All criteria were met.

#### **MERCURY**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Method Blank
- Laboratory Control Samples
- MS
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

#### **OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

The data are acceptable for use except were indicated in the Inorganics section above.

#### **DATA COMPLETENESS**

All criteria were met.

#### **NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

#### **CHAIN-OF-CUSTODY**

All criteria were met.

**HOLDING TIMES**

All criteria were met.

**METHOD BLANK**

All criteria were met.

**LABORATORY CONTROL SAMPLES**

All criteria were met.

**MS/MSD**

All criteria were met except where indicated above.

**COMPOUND QUANTITATION**

All criteria were met.

**CALIBRATION**

All criteria were met.

**CYANIDE**

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain-of-Custody and Traffic Reports
- Holding Times
- Method Blank
- Laboratory Control Samples
- MS
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

**OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES**

The data are usable except those indicated as qualified in the MS/MSD below.

**DATA COMPLETENESS**

All criteria were met.

**NARRATIVE AND DATA REPORTING FORMS**

All criteria were met.

**CHAIN-OF-CUSTODY**

All criteria were met.

**HOLDING TIMES**

All criteria were met.

**METHOD BLANK**

All criteria were met.

**LABORATORY CONTROL SAMPLES**

All criteria were met.

**MS/MSD**

All criteria were met except several samples within the Batch QC, %Rec fell out of range, half of which was out of range high the other half low. The MS/SD was not performed on any of the samples in this sample delivery group. No post-distillation spike was performed.

**COMPOUND QUANTITATION**

All criteria were met.

**CALIBRATION**

All criteria were met.

# APPENDIX D

**ANALYTICAL DATA PACKAGES  
(PROVIDED ELECTRONICALLY)**

# APPENDIX E

## SAMPLE RESULTS FOR ALF-02



EMSL Analytical, Inc.

490 Rowley Road, Depew, NY 14043

Phone: (716) 651-0030 Fax: (716) 651-0394 Email: [buffalolab@emsl.com](mailto:buffalolab@emsl.com)

Attn: **Thomas A. Behrendt**  
**Turnkey Environmental Restoration, LLC**  
**726 Exchange Street**  
**Suite 624**  
**Buffalo, NY 14210**

Customer ID: TURN30  
Customer PO:  
Received: 09/19/08 5:18 PM  
EMSL Order: 140805305

Fax: (716) 856-0583 Phone: (716) 856-0599  
Project: None

EMSL Proj:  
Analysis Date: 9/22/2008

**Test Report: Asbestos Analysis of Bulk Materials by PLM via the NY State ELAP 198.1 Method**

| Sample                            | Description                      | Appearance                         | Non-Asbestos |                             | Asbestos      |
|-----------------------------------|----------------------------------|------------------------------------|--------------|-----------------------------|---------------|
|                                   |                                  |                                    | % Fibrous    | % Non-Fibrous               | % Type        |
| ALF02 (1.5-4.0)<br>140805305-0001 | asbestos landfill<br>location #2 | Gray<br>Non-Fibrous<br>Homogeneous |              | 100.00% Non-fibrous (other) | None Detected |

Initial report from 09/22/2008 12:29:43

Analyst(s)

Andrew Maciejewski (1)

Rhonda McGee, Laboratory Manager  
or other approved signatory

PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Negative PLM results cannot be guaranteed. Samples reported as <1% or none detected should be tested with TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Unless otherwise noted, the results in this report have not been blank corrected. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. 490 Rowley Road, Depew NY NYS ELAP 11606

140805305  
140805236



# Chain of Custody

## Asbestos Lab Services

EMSL Analytical, Inc.  
490 Rowley Road  
Depew, NY 14043

Phone: (716) 651-0030  
Fax: (716) 651-0394  
<http://www.emsl.com>

Please print all information legibly.

|                             |                                   |                       |                                   |
|-----------------------------|-----------------------------------|-----------------------|-----------------------------------|
| <b>Company:</b>             | Turnkey Environmental Restoration | <b>Bill To:</b>       | Turnkey Environmental Restoration |
| <b>Address1:</b>            | 726 Exchange St, Suite 624        | <b>Address1:</b>      | 726 Exchange St, Suite 624        |
| <b>Address2:</b>            |                                   | <b>Address2:</b>      |                                   |
| <b>City, State:</b>         | Buffalo, NY                       | <b>City, State:</b>   | Buffalo, NY                       |
| <b>Zip/Post Code:</b>       | 14210                             | <b>Zip/Post Code:</b> | 14210                             |
| <b>Country:</b>             | US                                | <b>Country:</b>       | US                                |
| <b>Contact Name:</b>        | Thomas Behrendt                   | <b>Attn:</b>          | Thomas Behrendt                   |
| <b>Phone:</b>               | 716-856-0635                      | <b>Phone:</b>         | 716-856-0635                      |
| <b>Fax:</b>                 | 716-856-0583                      | <b>Fax:</b>           | 716-856-0583                      |
| <b>Email:</b>               | Tbehrendt@turnkeyllc.com          | <b>Email:</b>         | Tbehrendt@turnkeyllc.com          |
| <b>EMSL Rep:</b>            |                                   | <b>P.O. Number:</b>   |                                   |
| <b>Project Name/Number:</b> |                                   |                       |                                   |

| MATRIX                                   |   |                                    | TURNAROUND  |  |  |   |
|--|---|------------------------------------|---|--|--|---|
| <input type="checkbox"/> Air             | <input type="checkbox"/> Soil           | <input type="checkbox"/> Micro-Vac | <input type="checkbox"/> 3 Hours                      | <input type="checkbox"/> 6 Hours           | <input type="checkbox"/> Same Day or 12 Hours* | <input type="checkbox"/> 24 Hours (1 day)   |
| <input checked="" type="checkbox"/> Bulk | <input type="checkbox"/> Drinking Water |                                    | <input checked="" type="checkbox"/> 48 Hours (2 days) | <input type="checkbox"/> 72 Hours (3 days) | <input type="checkbox"/> 96 Hours (4 days)     | <input type="checkbox"/> 120 Hours (5 days) |
| <input type="checkbox"/> Wipe            | <input type="checkbox"/> Wastewater     |                                    | <input type="checkbox"/> 144+ hours (6-10 days)       |  |  |   |

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.

\*12 hours (must arrive by 11:00a.m. Mon -Fri), Please Refer to Price Quote

|   |  |   |
|---|--|---|
| <b>PCM - Air</b><br><input type="checkbox"/> NIOSH 7400(A) Issue 2: August 1994<br><input type="checkbox"/> OSHA w/TWA<br><input type="checkbox"/> Other:   | <b>TEM Air</b><br><input type="checkbox"/> AHERA 40 CFR, Part 763 Subpart E<br><input type="checkbox"/> NIOSH 7402<br><input type="checkbox"/> EPA Level II  | <b>TEM WATER</b><br><input type="checkbox"/> EPA 100.1<br><input type="checkbox"/> EPA 100.2<br><input type="checkbox"/> NYS 198.2            |
| <b>PLM - Bulk</b><br><input type="checkbox"/> EPA 600/R-93/116<br><input type="checkbox"/> EPA Point Count<br><input checked="" type="checkbox"/> NY Stratified Point Count<br><input type="checkbox"/> PLM NOB (Gravimetric) NYS 198.1<br><input type="checkbox"/> NIOSH 9002:<br><input type="checkbox"/> EMSL Standard Addition: | <b>TEM BULK</b><br><input type="checkbox"/> Drop Mount (Qualitative)<br><input type="checkbox"/> Chatfield SOP - 1988-02<br><input type="checkbox"/> TEM NOB (Gravimetric) NYS 198.4<br><input type="checkbox"/> EMSL Standard Addition: | <b>TEM Microvac/Wipe</b><br><input type="checkbox"/> ASTM D 5755-95 (quantative method)<br><input type="checkbox"/> Wipe Qualitative          |
| <b>SEM Air or Bulk</b><br><input type="checkbox"/> Qualitative<br><input type="checkbox"/> Quantitative   | <b>PLM Soil</b><br><input type="checkbox"/> EPA Protocol Qualitative<br><input type="checkbox"/> EPA Protocol Quantitative<br><input type="checkbox"/> EMSL MSD 9000 Method fibers/gram  | <b>XRD</b><br><input type="checkbox"/> Asbestos<br><input type="checkbox"/> Silica NIOSH 7500<br><br><b>OTHER</b><br><input type="checkbox"/> |



# APPENDIX F

## FISH AND WILDLIFE RESOURCE IMPACT ANALYSIS CHECKLIST

| <b>Appendix 3C<br/>Fish and Wildlife Resources Impact Analysis Decision Key</b> |  | If YES<br>Go to:  | If NO<br>Go to: |
|---|--|-------------------|-----------------|
| 1.  | Is the site or area of concern a discharge or spill event?   | 13                | 2               |
| 2.  | Is the site or area of concern a point source of contamination to the groundwater which will be prevented from discharging to surface water? Soil contamination is not widespread, or if widespread, is confined under buildings and paved areas.  | 13                | 3               |
| 3.  | Is the site and all adjacent property a developed area with buildings, paved surfaces and little or no vegetation?   | 4                 | 9               |
| 4.  | Does the site contain habitat of an endangered, threatened or special concern species?   | Section<br>3.10.1 | 5               |
| 5.  | Has the contamination gone off-site?   | 6                 | 14              |
| 6.  | Is there any discharge or erosion of contamination to surface water or the potential for discharge or erosion of contamination?  | 7                 | 14              |
| 7.  | Are the site contaminants PCBs, pesticides or other persistent, bioaccumulable substances?   | Section<br>3.10.1 | 8               |
| 8.  | Does contamination exist at concentrations that could exceed ecological impact SCGs or be toxic to aquatic life if discharged to surface water?  | Section<br>3.10.1 | 14              |
| 9.  | Does the site or any adjacent or downgradient property contain any of the following resources?<br>i. Any endangered, threatened or special concern species or rare plants or their habitat<br>ii. Any DEC designated significant habitats or rare NYS Ecological Communities<br>iii. Tidal or freshwater wetlands<br>iv. Stream, creek or river<br>v. Pond, lake, lagoon<br>vi. Drainage ditch or channel<br>vii. Other surface water feature<br>viii. Other marine or freshwater habitat<br>ix. Forest<br>x. Grassland or grassy field<br>xi. Parkland or woodland<br>xii. Shrubby area<br>xiii. Urban wildlife habitat<br>xiv. Other terrestrial habitat | 11                | 10              |
| 10.   | Is the lack of resources due to the contamination?   | 3.10.1            | 14              |
| 11.   | Is the contamination a localized source which has not migrated and will not migrate from the source to impact any on-site or off-site resources?   | 14                | 12              |
| 12.   | Does the site have widespread surface soil contamination that is not confined under and around buildings or paved areas?   | Section<br>3.10.1 | 12              |
| 13.   | Does the contamination at the site or area of concern have the potential to migrate to, erode into or otherwise impact any on-site or off-site habitat of endangered, threatened or special concern species or other fish and wildlife resource? (See #9 for list of potential resources. Contact DEC for information regarding endangered species.)   | Section<br>3.10.1 | 14              |
| 14.   | No Fish and Wildlife Resources Impact Analysis needed.   |                   |                 |

# APPENDIX G

## 95% UPPER CONFIDENCE LIMIT CALCULATIONS



## APPENDIX G

### STATISTICAL DATA SUMMARY

**Remedial Investigation / Alternatives Analysis Report  
Phase III Business Park Area  
Tecumseh Redevelopment Inc.  
Lackawanna, New York**

| Parameter | Range (mg/kg) |     | No. of Samples | Mean | t    | Std. Dev. | 95% UCL on the Mean | 5X the 95% UCL |
|-----------|---------------|-----|----------------|------|------|-----------|---------------------|----------------|
|           | Min           | Max |                |      |      |           |                     |                |
| Arsenic   | 2.3           | 132 | 104            | 27.7 | 1.66 | 26.6      | 32.1                | <b>160</b>     |

**Notes:**

UCL = Upper confidence limit

# APPENDIX H

## LAND USE EVALUATION

## APPENDIX H LAND USE EVALUATION

NYSDEC's Part 375 regulations require that the reasonableness of the anticipated future land be factored into the evaluation of remedial alternatives. The regulations identify 16 criteria that must be considered. These criteria and the resultant outcome for the Phase III Business Park are presented below.

1. *Current use and historical and/or recent development patterns:* The Phase III Business Park Site is located in an industrial area in the City of Lackawanna. The Site was formerly used to house a portion of Bethlehem Steel Company's integrated steel making operations. Most facility operations ceased in 1983, with a majority of the structures at the facility demolished in subsequent years. The approximately 144-acre Site is comprised mostly of vacant land, but includes some active railroad spurs and other structures. **Accordingly, industrial/commercial-use redevelopment would be consistent with historic site use.**
2. *Applicable zoning laws and maps:* The Site is currently zoned industrial and is located in an area of the City zoned primarily as industrial and commercial. **Use in an industrial/commercial capacity is therefore consistent with current zoning.**
3. *Brownfield opportunity areas as designated set forth in GML 970-r:* The Brownfield Opportunity Areas Program provides municipalities and community based organizations with assistance, to complete revitalization plans and implementation strategies for areas or communities affected by the presence of brownfield sites, and site assessments for strategic sites. The Phase III Business Park Site lies within a BOA designated by the City of Lackawanna. As such, the site is in a location where environmental impacts are ubiquitous. **Reuse in a restricted capacity is expected in areas where background conditions preclude achieving unrestricted use soil cleanup objectives.**
4. *Applicable comprehensive community master plans, local waterfront revitalization plans as provided for in EL article 42, or any other applicable land use plan formally adopted by a municipality:* The Phase III Business Park falls within a Master Redevelopment Plan for the entire 1100-acre Tecumseh property, which is the subject of a Memorandum of Understanding signed by Erie County, the City of Lackawanna, and Tecumseh Redevelopment. **Redevelopment of the Phase III Business Park Area in a commercial/industrial capacity is consistent with the Master Redevelopment Plan.**
5. *Proximity to real property currently used for residential use, and to urban, commercial, industrial, agricultural, and recreational areas:* The Site is surrounded by vacant land and industrial properties. Land use east of the Site across Route 5 includes vacant land, commercial, industrial, and residential properties. **Nearby and adjacent property is primarily used in a non-residential capacity, both for industrial and commercial**

## APPENDIX H LAND USE EVALUATION

**purposes. Maintaining use of the Site in an industrial/commercial capacity is consistent with surrounding property.**

6. *Any written and oral comments submitted by members of the public on the proposed use as part of the activities performed pursuant to the citizen participation plan:* **No comments have been received from the public relevant to Site use concerns.**
7. *Environmental justice concerns, which include the extent to which the proposed use may reasonably be expected to cause or increase a disproportionate burden on the community in which the site is located, including low-income minority communities, or to result in a disproportionate concentration of commercial or industrial uses in what has historically been a mixed use or residential community:* **Nearby and adjacent property is actively used in a non-residential capacity, both for industrial and commercial purposes. Maintaining use of the Site in a commercial/industrial capacity does not pose environmental justice issues.**
8. *Federal or State land use designations:* The property is designated Urban Land (U2) by the Soil Conservation Service. Urban land typically contains ubiquitous contaminants. **Reuse in a restricted capacity is typical in areas where background conditions preclude achieving unrestricted use soil cleanup objectives.**
9. *Population growth patterns and projections:* The population of the City of Lackawanna in 2000 was 19,064 (2000 Census). The 2008 population estimate for the City of Lackawanna is 17,588 (City Data.com), representing a decline of 7.7%. A declining population indicates a surplus housing market. **Reuse of the Site in a non-residential capacity does not materially affect opportunities for residential growth.**
10. *Accessibility to existing infrastructure:* The main local roadways that provide access to the Site are NYS Route 5/Hamburg Turnpike and Fuhrmann Boulevard. Utilities (sewer, water, electric, natural gas, and communication) present along Route 5 previously serviced the Site when it was an active industrial facility. **Existing infrastructure supports reuse in an industrial capacity.**
11. *Proximity of the site to important cultural resources, including federal or State historic or heritage sites or Native American religious sites:* **No such resources or sites are known to be present on or near the property.**
12. *Natural resources, including proximity of the site to important federal, State or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species:* State or Federal wetlands do not exist on the subject property. The nearest Federal wetland is approximately 0.3 miles west of the Site; protected bird species have been identified on that nearby wetland. There are no threatened or endangered species, nor important plant habitats on the Site. **The absence of**

## APPENDIX H LAND USE EVALUATION

significant ecological resources on or adjacent to the Site indicates that cleanup to restricted use conditions will not pose an ecological threat.

13. *Potential vulnerability of groundwater to contamination that might emanate from the site, including proximity to wellhead protection and groundwater recharge areas and other areas identified by the Department and the State's comprehensive groundwater remediation and protection program established set forth in ECL article 15 title 31:* Groundwater at the Site is assigned Class "GA" by 6NYCRR Part 701.15. Seventeen environmental monitoring wells exist on the Site. Groundwater data obtained during the RI indicate no significant impact. Detected constituents were generally below Class GA groundwater quality standards and guidance values and/or present at de-minimis levels except for areas where associated soil/fill impacts were identified and will be subject to cleanup. No potable wells were identified on the Site. **The absence of potable wells, wellhead protection, and groundwater recharge areas indicates that cleanup to restricted use conditions will not pose a drinking water threat.**
14. *Proximity to flood plains:* The Erie County Internet Mapping System indicates that the 100-year floodplain is limited to the immediate bank of Smokes Creek, and is likely within the creek bank buffer zone excluded from the Phase III Business Park Area; however the flood plain map does not appear to be updated based on dredging of the mouth of Smokes Creek in late 2008 – early 2009. As flood plains are not present on the BCP property, there is no risk of significant soil erosion due to flooding. **As such, cleanup to commercial or industrial standards does not pose a threat to surface water.**
15. *Geography and geology:* The flat-lying Site is located within the Erie-Ontario lake plain physiographic province, which is typified by little topographic relief and gentle slope toward Lake Erie, except in the immediate vicinity of major drainage ways. Drilling logs from monitoring wells constructed on or near the Site indicate that the upper two feet (east side) to eight feet (west side) is typically composed of steel and iron-making slag and/or other fill material. The fill is underlain by lacustrine clays and silts that are, in turn, underlain by shale or limestone bedrock. Bedrock is about 60 feet below grade near the eastern perimeter of the Site. **Geography and geology are consistent with a commercial or industrial re-use.**
16. *Current institutional controls applicable to the site:* There is an existing deed restriction that prohibits the use of groundwater on the property and limits redevelopment to industrial, office and other uses not involving prolonged occupancy by persons under the age of 18. **The planned commercial/industrial redevelopment is consistent with the existing institutional controls.**

## APPENDIX H LAND USE EVALUATION

Based on the above analysis, reuse of the Site in a commercial/industrial capacity is consistent with past and current development and zoning on and around the Site, and does not pose additional environmental or human health risk.