Interim Remedial Measures (IRM) Work Plan

Railroad Realignment
Phase I-III Business Park Areas
Lackawanna, New York
BCP Site No.s C915197– C915199

October 2010 0071-010-124

Prepared For:

Tecumseh Redevelopment Inc.
Richfield, Ohio

Prepared By:

TurnKey Environmental Restoration, LLC

Benchmark Environmental Engineering & Science, PLLC

2558 Hamburg Turnpike, Suite 300, Buffalo, NY | phone: (716) 856-0635 | fax: (716) 856-0583

INTERIM REMEDIAL MEASURES (IRM) WORK PLAN FOR RAILROAD REALIGNMENT

TECUMSEH REDEVELOPMENT INC.
LACKAWANNA, NEW YORK

October 2010 0071-009-124

Prepared for:

TECUMSEH REDEVELOPMENT INC.

Prepared by:

TurnKey Environmental Restoration, LLC

In association with:

Benchmark Environmental Engineering & Science, PLLC

CERTIFICATION

I, Thomas H. Forbes, P.E., certify that I am currently a NYS registered professional engineer and that this Interim Remedial Measures (IRM) Work Plan 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).

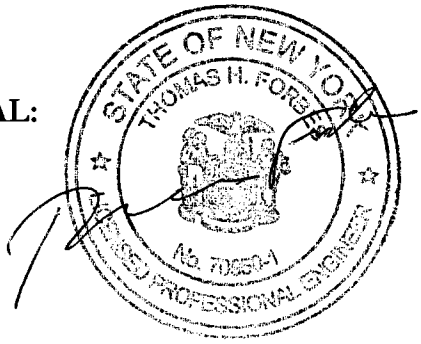
10-22-10

Thomas H. Forbes, P.E. **Date**

License No.: 070950-1

Registration State: New York

SEAL:



IRM WORK PLAN FOR RAILROAD REALIGNMENT
TECUMSEH REDEVELOPMENT SITE
LACKAWANNA, NEW YORK

Table of Contents

1.0 INTRODUCTION 1
1.1 Background 1
1.2 Purpose and Scope 2
1.3 Project Organization and Responsibilities 3

2.0 Pre-IRM Investigation 4
2.1 Pre-IRM Sample Collection and Analysis 5
2.2 Pre-IRM Investigation Results 5
2.2.1 Field Observations 5
2.2.2 Analytical Results 6
2.3 Supplemental Sampling 6

3.0 TECHNICAL APPROACH 9
3.1 Pre-Mobilization Tasks 9
3.1.1 Document Repository 9
3.1.2 Pre-Construction Meeting 9
3.1.3 Progress Meetings 10
3.1.4 Health and Safety Plan Development 10
3.2 Temporary Facilities and Controls 10
3.2.1 Temporary Construction Facilities 10
3.2.2 Dust Suppression 11
3.2.3 Storm Water Management 11
3.3 Excavation, Disposal and Backfill of Hotspot Areas 12
3.4 Rail Bed Construction 13
3.4.1 Subgrade Preparation and Regrading 13
3.4.2 Potentially Impacted Soil/Fill 13
3.4.3 Cover System Construction 14

4.0 COMMUNITY AIR MONITORING 15

5.0 DOCUMENTATION AND REPORTING 16
5.1 Construction Monitoring 16
5.2 Progress Reports 16
5.3 IRM Construction Closeout Report 17

6.0 PROJECT SCHEDULE 18

IRM WORK PLAN FOR RAILROAD REALIGNMENT
TECUMSEH REDEVELOPMENT SITE
LACKAWANNA, NEW YORK

Table of Contents

7.0 Site Management and Institutional Controls 19

8.0 REFERENCES 22

LIST OF TABLES

Table 1	Summary of Railroad Realignment Soil Analytical Results
Table 2	Summary of Soil Analytical Results for Hotspot Areas

LIST OF FIGURES

Figure 1	Site Location and Vicinity Map
Figure 2	Railroad Realignment Corridor Sample Locations
Figures 3a-3d	Planned Hotspot Excavation Limits

APPENDICES

Appendix A	Test Pit Logs
Appendix B	2009 Investigation – Analytical Data Package
Appendix C	2010 Supplemental RI – Analytical Data Packages
Appendix D	Project Documentation Forms
Appendix E	Site Health and Safety Plan and Community Air Monitoring Plan
Appendix F	Railroad Ballast Specifications

1.0 INTRODUCTION

This document presents the proposed scope of work for completion of an Interim Remedial Measure (IRM) at the Tecumseh Redevelopment Site in Lackawanna, New York (see Figure 1). The IRM is being performed on behalf of Tecumseh Redevelopment Inc. (Tecumseh) through the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). Tecumseh and the NYSDEC have entered into separate Brownfields Cleanup Agreements (BCAs) for the Phase I, II, and III Business Park Areas of the Site, which will house the majority of the relocated rail line.

The proposed rail corridor realignment, which is planned for implementation by the Erie County Industrial Development Agency (IDA) with State and Federal funding, will relocate tracks currently running along the eastern boundary of the Phase I and II Business Park Areas of the Site (parallel to Route 5) to an alternate alignment along the western portion of the Phase I and II Business Park Areas and along the eastern perimeter of the Phase III Business Park Area (see Figure 2). The proposed corridor measures approximately 12,500 feet, with approximately 10,000 feet located on the Tecumseh property through Business Park Areas I, II, and III.

In May 2009, TurnKey Environmental Restoration, LLC (TurnKey) performed a Remedial Investigation (RI) at the Phase II Business Park Area (Ref. 1). As an extension of this work, a pre-IRM investigation was undertaken along the planned location for the railroad realignment. This IRM Work Plan includes a summary of pre-IRM investigation findings, and the planned approach for implementation of the IRM coincidental with construction of the relocated rail line.

1.1 Background

South Buffalo Railroad (SBRR), now owned by Genesee and Wyoming, Inc. (G&W), operates short haul railroad services supplying local manufacturing plants and connecting them with CSX and Norfolk Southern lines. SBRR operates switching yards and provides rail service for the entire Tecumseh Site, as well as the adjacent Port of Buffalo (Gateway Metroport Canal). In order to maximize the redevelopment potential in the Business Park Areas along NYS Route 5 and improve the currently limited access to and from the Tecumseh property, active rail lines along NYS Route 5 will be relocated to

the western edge of the BCP Business Park Phases I and II as well as into a portion of BCP Business Park Phase III as shown in Figure 2. The relocated rail line will also better serve the medium and heavy industrial transportation needs further toward the western and interior portions of the Tecumseh property as well as the intermodal (e.g., ship to truck, rail to ship, etc.) transportation needs in the vicinity of the Gateway Metroport operation to the north.

Following construction of the relocated line, the improvement (track and ballast) will be owned by the IDA for a period of ten years, after which the asset will revert to Genesee and Wyoming, Inc. The underlying land will remain with Tecumseh Redevelopment, with use of the line governed by an access license between Tecumseh and G&W.

1.2 Purpose and Scope

The proposed railroad relocation is slated to begin in late Fall 2010 prior to completion of remedial activities in the Business Park Areas. Accordingly, Tecumseh is proposing to remediate the portion of the railroad realignment that falls within the Business Parks as an IRM. The proposed scope of IRM activities includes:

- Excavating and disposing off-site impacted hotspot soil/fill material prior to rail corridor construction activities.
- Backfilling and compacting the excavations with NYSDEC Beneficial Use Determination (BUD)-approved iron slag.
- Regrading (minor cut) and leveling the corridor to facilitate placement of ballast as the railroad bed. Proper soil/fill management techniques will be employed to identify and manage any additional impacted soil/fill, if encountered.
- Importing and placing a minimum one foot thick layer of ballast and rail ties over the subgrade fill to serve as a cover system beneath the newly constructed tracks[1].

[1] The subject IRM will pertain only to the tracked area covered by ballast and ties. Ultimately, additional cover may be required across the remainder of the rail corridor and other occupied areas of the Business Parks.

This IRM Work Plan has been prepared in accordance with Section 5.3.b of NYSDEC's May 2010 DER-10 Technical Guidance for Site Investigation and Remediation. As such, it addresses the following items:

- A description of the remedial actions to be undertaken as part of the IRM and the basis for the actions (Sections 2.0 and 3.0).
- The location and description of any temporary construction facilities (Section 3.2).
- Dust, storm water, and erosion control measures required for minimizing potential releases of soil/fill outside the work zone during construction (Section 3.2).
- Health, safety, and community air monitoring procedures (Sections 3.1.4 and 4.0.
- A description of documentation sampling, which was performed in September and October 2010 to pre-establish hotspot excavation limits (Section 2.3).
- Equipment decontamination and site restoration requirements, including requirements for subgrade backfill and cover materials (Sections 3.3 and 3.4).
- Project documentation requirements and anticipated construction schedule (Sections 5.0 and 6.0).
- A description of institutional controls and Site Management requirements that will be implemented as part of the overall remedy for the Business Park Sites (Section 7.0).
- A summary of drawings and information to be provided as part of the Construction Completion Report (Section 5.3).

1.3 Project Organization and Responsibilities

TurnKey will implement the hotspot removal and backfill work, on behalf of Tecumseh Redevelopment, on a design-build basis. Remaining construction activities outlined in this IRM Work Plan will be conducted by the Erie County IDA's contractor, with TurnKey providing observation and documentation of the IRM activities. The NYSDEC Division of Environmental Remediation will monitor the remedial actions to verify that the work is performed in accordance with the approved IRM Work Plan.

2.0 Pre-IRM Investigation

NYSDEC's remedial program regulations (6NYCRR Part 375) require removal of source area materials to the extent feasible. The primary objective of the pre-IRM investigation was to check for the presence of grossly-impacted slag/fill (as identified through visual and olfactory observations and PID readings) as well as inorganic "hotspots" within the realignment area so that they can be appropriately addressed prior to placement of the ballast and railroad tie cover system.

The investigation approach, which involved excavation of a series of test pits along the proposed rail alignment, was documented in the RI Work Plan for the Phase II Business Park Area (Ref. 1). In May of 2009, 48 test pits were excavated along the proposed railroad realignment area within Tecumseh's property (see Figure 2) to allow for visual/olfactory and photoionization detector (PID) assessment of subsurface conditions and to obtain representative samples for chemical characterization. Although 52 test pits were originally planned, four of these test pits were not completed as the locations fell at the center of the South Return Water Trench (RR-TP-24 and RR-TP-48) or the existing railroad track (RR-TP-14 and RR-TP-15). The test pit locations were focused on the portion of the planned rail realignment that fell within Business Parks II and III, since the Remedial Investigation in Business Park I as well as required hotspot soil removal activities in that portion of the Site were already complete at the time of the subject pre-IRM investigation. The test pits, which were spaced at approximate 100-foot intervals, were excavated to native soils or the top of the water table with the majority of the samples collected from the shallow (0-2 feet below grade) slag/fill to characterize the interval of greatest potential exposure. Upon completion of each test pit the associated slag/fill material was returned to the excavation in the opposite order in which it was removed and compacted to match existing grade. Test pit logs are presented in Appendix A.

Following the investigation, the planned rail corridor realignment was slightly altered to accommodate South Buffalo Railroad's final design requirements. As a result, Test Pits RR-TP-17 through RR-TP-23 and RR-TP-47 through RR-TP-52 fell south of the final rail corridor. However, certain test pits excavated in support of the Phase III BPA remedial investigation (i.e., Test Pits BPA 3-TP-52, 53, 54, and 81) are now

proximate to the realignment area and are therefore included in the discussion of the Pre-IRM investigation results presented herein. Similarly, certain test pits advanced during the RI for the Phase II Business Park Area (Test Pits BPA 2-TP-24, 30, 34, 74, and 92) are also described herein as they also fall within the railroad corridor.

2.1 Pre-IRM Sample Collection and Analysis

As indicated above, the pre-IRM investigation was geared toward identifying grossly-impacted slag/fill and inorganic "hotspot" areas within the realignment area. Because inorganics are not readily discernible in the field, representative soil/slag-fill samples were collected from alternating test pits for analysis of select inorganic constituents of potential concern (COPCs), including arsenic, barium, cadmium, chromium, lead and mercury. The Work Plan also specified that if any test pit exhibited elevated PID readings (greater than 20 ppm) in the test pit atmosphere or in the excavated spoils a second representative aliquot from the associated soil/slag-fill location would be analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs). In addition, two test pits were subjected to additional analysis based upon field observations: at RR-TP-30, slag/fill was analyzed for PCBs based upon the presence of an apparent transformer pad in that area; and an apparent floating layer on the water table at RR-TP-49 prompted analysis of deeper slag/soil at the water table interface for TCL VOCs and semi-volatile organic compounds (SVOCs).

2.2 Pre-IRM Investigation Results

2.2.1 Field Observations

During the pre-IRM test pit investigation no visual or olfactory evidence of potential impact was documented with the exception of the above-described observation on the water table at TP-49 (which does not fall within the final realigned corridor limits). The highest PID reading (5.3 ppm) was measured at 3 feet below grade in test pit RR-TP-26; the remaining test pits exhibited PID readings ranging from 0-3 ppm (see test pit logs in Appendix A). Similarly, the above-referenced Phase II and III Business Park Area Test Pits proximate to the realignment exhibited low PID readings and no visual or olfactory evidence of impact with the exception of Test Pit BPA-3-TP-54, which exhibited

moderate odor and a maximum PID reading of 102 ppm in the saturated zone beginning at 7.5 feet below grade. However, test pits proximate to the planned rail realignment (BPA-3-TP-52 and 53) indicated no odors and a maximum PID reading of only 7ppm. In addition, analytical results from unsaturated soils at BPA-3-TP-54 indicated only trace levels of VOCs. Thus it appears that the field observation at BPA-3-TP-54 is isolated in the saturated zone at that location.

2.2.2 Analytical Results

Table 1 presents a summary of the test pit analytical data for the pre-IRM investigation. The laboratory analytical data package is included in Appendix A. Table 1 also includes a summary of the Phase II and III Business Park Area RI test pits proximate to the rail realignment (where sampled). For purposes of comparison, Table 1 presents Part 375 commercial soil cleanup objectives (SCOs) as well as industrial SCOs per 6NYCRR Part 375. Comparison of the soil/fill results to Commercial and Industrial SCOs is appropriate based on the industrial nature of the rail operation and the planned commercial and industrial redevelopment of the Business Park Areas per the BCP applications filed for these areas. As indicated on Table 1, arsenic concentrations in 22 of the 30 slag/fill samples (approx 73%) exceeded the Part 375 Commercial and Industrial SCO of 16 ppm, with exceedances ranging from 16.8 to 149 parts per million (ppm). No VOCs were detected with the exception of trace (estimated) concentrations well below the SCOs at BPA-3-TP-54, BPA-2-TP-30 and RR-TP-49. In addition, certain semi-volatile organic compounds (SVOCS), specifically benzo(b)fluoranthene, benzo(a)pyrene, and dibenzo(a,h)anthracene were detected in the proximate Business Park Area RI test pits slightly above restricted-commercial and/or industrial SCOs. Finally, test pit RR-TP-30 exhibited Aroclor 1260 at 52 ppm, which is approximately two times the industrial SCO.

2.3 Supplemental Sampling

Although no evidence of product or grossly impacted soil/fill was encountered, Test pit RR-TP-30 exhibited elevated PCB detections and three others (RR-TP-4, RR-TP-12, and RR-TP-42) exhibited arsenic in the 0-2' depth interval at concentrations above 100 ppm (i.e., approaching an order of magnitude greater than the SCO). Although

elevated arsenic concentrations are prevalent across the Site, these test pit areas are considered by the NYSDEC to be indicative of hot spots that need to be addressed prior to placement of the ballast & track.

To define the lateral extent of these hotspot areas, TurnKey conducted a supplemental investigation in the vicinity of these four test pits. On August 19, 2010, a TurnKey project scientist excavated shallow test pits (approximately 25 feet in each compass direction) from the original test pit. Sidewall samples (0-2 foot) were collected and analyzed for the parameter of concern (arsenic or PCBs) at each of these supplemental sampling locations. In addition, a composite sample was collected from the floor of the supplemental test pits to verify that a 2-foot excavation depth was sufficient. Representative samples for TCLP metals analysis were also collected from the hotspot areas to assess off-site disposal options.

Table 2 summarizes the results from the supplemental sampling; Appendix C contains the laboratory analytical data package. As shown on Table 2, none of the locations exhibited hazardous waste characteristics based upon TCLP metals results. In addition, PCB concentrations are substantially lower at the supplemental locations surrounding RR-TP-30 and at the 2-foot depth interval (and are in fact below the commercial SCOs). Similarly, arsenic levels drop off to levels well below 100 ppm at all of the supplemental test pits surrounding RR-TP-04 with the exception of RR-TP-04 west, which yielded arsenic concentrations of approximately 125 ppm. However, because this western location is proximate to existing rail line with ballast (which will remain as part of the new corridor) the excavation will be limited to approximately 25 feet in the western direction.

At the remaining two locations an additional round of supplemental sampling was required to determine the extent of the arsenic impacts. The supplemental sampling work was undertaken on September 30, 2010. At RR-TP-12, additional sampling was performed from the 0-2' BGS depth at distances of 35 and 50 feet north of the original test pit due to the presence of arsenic at 126 ppm a distance of 25 feet north of RR-TP-12. (Although the sample collected 25 feet west of RR-TP-12 also yielded an elevated arsenic level, additional samples were not completed further west due to the presence of active rail line with ballast, therefore the excavation will be limited to 25-feet in the western direction). At RR-TP-42 additional sampling was performed from the 0-2' BGS interval at distances of 35-feet north and 35-feet and 50-feet south of the original location

because of the presence of elevated arsenic at the 25-foot intervals in these same compass directions. No samples were collected further east of RR-TP-42 due to the presence of an active substation in that area of the Site.

Results of the September 30th sampling are presented on Table 2. Because arsenic remained present at substantially elevated levels at 50 feet north of RR-TP-12 and 50 feet south of RR-TP-42, a third and final round of samples was collected from the 0-2 foot depth interval an additional 25 feet away from these locations (i.e., RR-TP-12 North-75 and RR-TP-42 South-75). The samples were collected on October 13, 2010. As shown on Table 2, the arsenic results at these locations dropped to below 100 ppm in both instances.

3.0 TECHNICAL APPROACH

3.1 Pre-Mobilization Tasks

3.1.1 Document Repository

Citizen Participation (CP) Plans have been prepared for each of the Tecumseh Business Park Sites. Upon approval of this IRM Work Plan, a final hard copy will be made available for public review at the NYSDEC Region 9 office and the Lackawanna Public Library.

3.1.2 Pre-Construction Meeting

A project coordination meeting will be held with key representatives of the Project Team both before the hotspot excavation work and prior to clearing/placement of cover materials. Attendees at the initial (pre-hotspot removal) meeting will include TurnKey's Project Manager and the remediation contractor. The designated NYSDEC Project Manager and New York State Department of Health (NYSDOH) representative will also be notified and invited to attend. At the subsequent (pre-rail construction) meeting, attendees will include these same individuals as well as the Project Manager/Engineer for the rail relocation project and Erie County representatives. Agenda items will include:

- Construction schedule.
- Work sequencing.
- Designation of responsibilities, contact personnel and pager/phone numbers.
- Project documentation requirements.
- Staging of equipment.
- Transportation routes/site egress.
- Health and safety requirements.
- Temporary controls (dust suppression, storm water management).
- Work hours.
- Site security.

TurnKey will prepare meeting minutes for distribution to attendees following the project coordination meeting.

3.1.3 Progress Meetings

Progress meetings will be conducted on a regular basis throughout the construction period. Progress meetings will be attended by TurnKey and the rail relocation Project Manager, contractor personnel, and, if appropriate, key subcontractors. NYSDEC and NYSDOH will have access to all progress meetings.

3.1.4 Health and Safety Plan Development

The April 2010 Site Health and Safety Plan (HASP) for Brownfield Cleanup Program (Appendix E), prepared in accordance with the requirements of 40 CFR 300.150 of the NCP and 29 CFR 1910.120 and previously approved by the NYSDEC for Business Park investigation work, will be used for the IRM activities described herein. TurnKey will be responsible for site control and for the health and safety of its authorized site workers. All contractors and other parties involved in onsite construction will be required to develop a HASP as or more stringent than TurnKey's HASP. The HASP will be subject to revision, as necessary, based on new information that is discovered during the IRM.

TurnKey will also be responsible for the performance of community air monitoring during intrusive activities involving subgrade disturbance as discussed in Section 4.0 of this Work Plan.

3.2 Temporary Facilities and Controls

3.2.1 Temporary Construction Facilities

The former Water Quality Control Station 3A garage located on the Phase III Business Park Site will serve as field office for the personnel involved in hotpot removal and IRM cover system observation work. Additional temporary construction facilities (field trailer) may be installed by the County's contractor prior to initiation of cover system construction. The location of the facilities will be discussed with the NYSDEC during the pre-construction meeting.

3.2.2 Dust Suppression

Dust suppression will be an integral component of the hotspot excavation and regrading activities. During hot spot excavation and regrading work, water will be sprayed across the surface of the work area as necessary to mitigate airborne dust formation and migration and assure conformance with community air monitoring thresholds. Water will also be sprayed as needed to control visible dust migration from the handling, placement, and compaction of cover material. Other dust suppression techniques that may be used to supplement the water spray include:

- Applying water on haul roads.
- Hauling materials in properly tarped containers or vehicles.
- Restricting vehicle speeds on-site.

All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum and adhere to particulate emissions limits identified in the Community Air Monitoring Plan (Section 4.0).

3.2.3 Storm Water Management

Due to the highly permeable nature of the slag/fill material, its coarse gradation, and the relatively flat topography in the proposed work area, storm water ponding/runoff is not expected to pose a significant soil particulate or contaminant transport pathway due to IRM activities. Nevertheless, the project will encompass over 1-acre of property. Accordingly, the County's contractor has prepared a Storm Water Management Plan for the rail relocation work and has filed an NOI application for SPDES coverage under General Permit for Storm Water Discharges from Construction Activity (i.e., GP-0-10-001).

During the preceding hotspot removal work, TurnKey will undertake specific measures to assure proper management of storm water and preclude migration of contaminants to surface waters or other areas of the Site. These will include:

- Direct loading of trucks where feasible to avoid staging of impacted materials.

- Use of poly sheeting for lay-down and daily cover if staging of impacted materials is necessary.

- Prompt backfilling of excavations upon completion.

3.3 Excavation, Disposal and Backfill of Hotspot Areas

Planned IRM activities involve excavation of hotspot soil/fill areas with off-site disposal at an approved commercial landfill facility(s). Hotspot soil/fill areas will be removed to pre-established excavation limits based on the pre-removal characterization testing and subsequent documentation sampling discussed in Section 2.0. Excavation limits are shown on Figures 3a through 3d and described below:

- **RR-TP-30**: Excavation will proceed to a depth of 2 feet below grade at an approximate 50' x 50' area centered on RR-TP-30. PCB-impacted soil/fill will be disposed at a permitted RCRA Subtitle C landfill.

- **RR-TP-4:** Excavation will proceed to a depth of 2 feet below grade at an approximate 50' x 50' area centered on RR-TP-4. Arsenic-impacted soil/fill will be disposed at a permitted RCRA Subtitle D sanitary landfill facility.

- **RR-TP-12:** Excavation will proceed to a depth of 2 feet below grade with lateral dimensions of approximately 75' N x 25' S x 25' E x 25' W of RR-TP-12. Arsenic-impacted soil/fill will be disposed at a permitted RCRA Subtitle D sanitary landfill facility.

- **RR-TP-42:** Excavation will proceed to a depth of 2 feet below grade with lateral dimensions of approximately 35' N x 75' S x 25' E x 25' W of RR-TP-42. Arsenic-impacted soil/fill will be disposed at a permitted RCRA Subtitle D sanitary landfill facility.

The excavation areas will be backfilled with Beneficial Use Determination (BUD)-approved steel slag (BUD#555-9-15) and compacted to 95% of modified proctor density prior to placement of ballast. Additional documentation samples will not be collected as the hotspot areas have been defined by sampling conducted during the supplemental investigation described in Section 2.3.

3.4 Rail Bed Construction

3.4.1 Subgrade Preparation and Regrading

Following the hotspot removal work, TurnKey will be on-site periodically during corridor preparation activities to observe Erie County's designated rail construction contractor operations, verify that appropriate Site Management Plan requirements are fulfilled during site clearing work, and verify that no slag/fill materials are removed from the Site unless they are properly characterized and disposed at a permitted offsite disposal facility.

Site preparation activities will begin with removing any loose debris and trash located on the surface of the property. Wooded vegetation will be chipped for mulch and spread onsite. Any exposed steel scrap will be removed from the Site for scrap recovery purposes. Minor regrading to fill in low spots and achieve subgrade elevations will be performed. If cut is necessary to achieve grade, spoils will be reused as fill in low areas or spread onsite near the cut area provided it does not exhibit field evidence of impact. Additional import fill, if necessary, will be comprised of (BUD)-approved steel slag (BUD#555-9-15). Pre- and post-grading elevation measurements will be made to document final subgrade elevations. Erie County's engineering firm, C & S Engineers, Inc., is currently finalizing the Construction Documents showing grading elevations, which will be available on-site for review during construction.

3.4.2 Potentially Impacted Soil/Fill

If field evidence of potentially impacted soil/fill is encountered during regrading activities, TurnKey will arrange for the subject material to be stockpiled on polyethylene sheeting in an accessible location near the impacted area. The location of staged materials will be coordinated with the NYSDEC Project Manager, but will remain within the same Business Park Area as the source to avoid administrative issues associated with import/export of these materials among differing BCP sites. Field evidence of impact is defined as having readily identifiable visual or olfactory signs of contamination, including product, tars, or elevated PID readings (i.e., sustained readings >20 ppm). The stockpiled material will be covered with polyethylene sheeting to prevent infiltration of precipitation and wind erosion.

All impacted soil/fill removal work will be directed by an experienced TurnKey scientist. Removal will continue until visually impacted soil/fill is removed or NYSDEC agrees that no further removal of deleterious soil/fill is required.

The stockpiled material will be characterized per the requirements of a suitable permitted offsite disposal facility, and an appropriate disposal plan will be developed and submitted to the NYSDEC for approval and implementation.

3.4.3 Cover System Construction

Construction of the railroad bed cover system will follow regrading activities. The railroad bed cover system will involve placement of a minimum 1-foot layer comprised of ballast material meeting the requirements of the specification in Appendix F and embedded wood rail ties. Since the ballast layer and ties will be visually discernible from the underlying slag and will be covered by active rail (minimizing potential for inadvertent removal during other site work), no demarcation material or layer will be installed.

Ballast material shall be compacted in accordance with rail construction contract requirements to mitigate potential for settlement. Verification of ballast material cover depth will be independently verified by TurnKey through survey level measurements relative to adjacent grade spaced no greater than 100 feet on center. Depth verification measurements will be included in the IRM Construction Closeout Report discussed later in this Work Plan.

4.0 COMMUNITY AIR MONITORING

Real-time community air monitoring will be performed by TurnKey during all intrusive IRM activities at the Site, including hotspot removal and grading activities involving soil/fill cut. A Community Air Monitoring Plan (CAMP) is included with TurnKey's HASP. Particulate and vapor monitoring will be performed at a distance of approximately 100 feet downwind of the work area during excavation and grading activities involving subgrade disturbance. In addition, no visible dust will be allowed beyond the site perimeter during these activities or during import/cover material placement/compaction activities. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the NYSDOH and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDOH's Generic Community Air Monitoring Plan (dated June 20, 2000) and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

5.0 DOCUMENTATION AND REPORTING

TurnKey will be periodically on-site during regrading and cover material placement to document IRM activities. Such documentation will include, at minimum, reports of construction activities, community air monitoring results, and photographs and sketches, as necessary.

5.1 Construction Monitoring

Standard reporting procedures for site activities will include preparation of a daily report and, when appropriate, problem identification and corrective measures reports. Appendix D contains sample project documentation forms. Information that may be included on the daily report form includes:

- Processes and locations of construction under way.
- Equipment and personnel working in the area, including subcontractors.
- A description of off-site materials received, including any quality verification (certification) documentation.

The completed reports will be available on-site and will be submitted to the NYSDEC as part of the IRM Construction Closeout Report.

Problem identification and corrective measures reports will be completed whenever major field problems are encountered and corrective measures are necessary. These reports will be attached to the monthly progress reports. The NYSDEC will be promptly notified of problems requiring modifications to this Work Plan prior to proceeding or completion of the construction item. Changes or additions will be noted in the Construction Closeout Report.

Photo documentation of IRM activities will be prepared by TurnKey throughout the duration of the project as necessary to convey typical work activities and whenever changed conditions or special circumstances arise. Photos will be provided in digital format.

5.2 Progress Reports

TurnKey will prepare and submit to NYSDEC monthly progress reports that include:

- Activities performed during reporting period.
- Results of tests or other pertinent data.
- Work scheduled for the upcoming reporting period.
- Other actions/information pertinent to the project.
- Percentage of completion, delays encountered or anticipated that may affect the schedule, and a description of efforts made to mitigate those delays or anticipated delays.

5.3 IRM Construction Closeout Report

An IRM Construction Closeout Report (CCR) will be prepared and submitted to the NYSDEC after the cover system is constructed. The report will be submitted within 60 days of completion of the work. The CCR will be prepared consistent with the requirements of Section 5.8 of DER-10 and will include:

- Text describing the hotspot removal, regrading and cover system construction activities performed
- A description of any problems encountered, 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.
- A Site or area planimetric map showing the extent of hotspot areas excavated.
- The mass of hotspot material excavated and offsite disposal facilities per scale receipts from off-site disposal facility.
- Survey record drawings, as provided by the County's Engineer, showing the grade prior to and following cover system placement and Benchmarks.
- Tabular summary of volume/type/source of cover system material.
- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.
- A certification by a licensed NYS Professional Engineer in accordance with Section 1.5 of DER-10

The IRM Construction Report will be included as an appendix to each of the Final Engineering Reports for BPA I, II, and III.

6.0 PROJECT SCHEDULE

Hotspot removal and backfill activities will be initiated within 3 weeks of approval of this Work Plan, and are tentatively scheduled for initiation in early November 2010. Construction activities related to the rail corridor relocation are slated to begin in late December 2010. It is anticipated that the IRM field activities will be completed within approximately four weeks of initiation barring significant weather delays or issues related to acceptability by the offsite disposal facility(s). The NYSDEC Project Manager will be notified 7 days in advance of all field activities.

7.0 Site Management and Institutional Controls

The IRM activities described herein are expected to become an integral component of the final remedy for the associated Phase I-III Business Park Areas. Because the IRM employs a cover system to achieve the remedial objectives (representing a Track IV cleanup under the BCP), it will be necessary to prepare and implement a Site Management Plan to assure that the IRM remains effective throughout the post-remedial period as described below.

7.1 Site Management Plan

Site Management Plan (SMPs) will be prepared and submitted concurrent with the Final Engineering Reports (FERs) for the Phase I-III Business Park Sites. 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

7.1.1 Engineering and Institutional Control Plan

An institutional control in the form of a new Environmental Easement will be necessary to limit future use of each of the Business Park Sites 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 allow 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).

Concurrent with completion of remedial measures Tecumseh will prepare an Engineering and Institutional Control (EC/IC) Plan for each of the Business Park Areas that will include a complete description of all institutional and/or engineering controls

employed on the Business Park Sites, 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.
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

7.1.2 Site Monitoring Plan

The Site Monitoring Plan will describe the measures for evaluating the performance and effectiveness of the final 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.

7.1.3 Operation and Maintenance Plan

An Operation & Maintenance (O&M) plan governing maintenance of the IRM cover system and other Site cover system, to the extent employed, will be prepared. The O&M plan will include:

- Operation and maintenance activities necessary to allow individuals unfamiliar with the Site to maintain the cover systems.

- An O&M contingency plan in the event of cover system failure.
- Periodic evaluations 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.

8.0 REFERENCES

1. TurnKey Environmental Restoration, LLC. 2009. *Remedial Investigation/Alternatives Analysis Report Work Plan for Phase II Business Park Site.* March.

2. *DER-10/Technical Guidance for Site Investigation and Remediation*, prepared by New York State Department of Environmental Conservation, May 3, 2010.

TABLES

TABLE 1

SUMMARY OF RAILROAD REALIGNMENT SOIL ANALYTICAL RESULTS

IRM Work Plan for Railroad Realignment
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter [1]	Test Pit Location and Sample Depth																														Restricted SCOs Commercial (ppm)	Restricted SCOs Industrial (ppm)
	RR-TP-2	RR-TP-4	RR-TP-6	RR-TP-8	RR-TP-10	RR-TP-12	RR-TP-16	RR-TP-18	BPA 3-TP-54	RR-TP-20	RR-TP-22	BPA 2-TP-24	BPA 3-TP-81	RR-TP-26	BPA 2-TP-30	RR-TP-28	RR-TP-30	BPA 2-TP-34	RR-TP-32	RR-TP-34	RR-TP-36	RR-TP-38	RR-TP-40	RR-TP-42	BPA 2-TP-92	RR-TP-44	BPA 2-TP-74	RR-TP-46	RR-TP-49	RR-TP-50	RR-TP-52		
	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	7.0 - 7.5	0.0 - 2.0	0.0 - 2.0		
8260B Full List Volatile Organic Compounds (VOCs) - mg/kg [3]																																
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	0.002 J	ND	--	500	1,000
Acetone	--	--	--	--	--	--	--	--	0.008 J	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	ND	--	500	1,000
Carbon disulfide	--	--	--	--	--	--	--	--	0.002 J	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	ND	--	NA	NA
Methylene chloride	--	--	--	--	--	--	--	--	0.015 J	--	--	--	--	--	0.003 J	--	--	--	--	--	--	--	--	--	ND	--	ND	--	0.003 J	ND	--	500	1,000
n-Butylbenzene	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	ND	--	500	1000
Trichloroethene	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	0.003 J	ND	--	200	400
Vinyl chloride	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	ND	--	13	27
Total VOCs	0	0	0	0	0	0	0	0	0.025 J	0	0	0	0	0	0.0028	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0077	0	0		
TCL Semi-Volatile Organic Compounds (SVOCs) - mg/kg [3]																																
Acenaphthene	--	--	--	--	--	--	--	--	ND	--	--	ND	0.092 J	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	--	--	500	1,000
Acenaphthylene	--	--	--	--	--	--	--	--	ND	--	--	0.24 DJ	0.98	--	0.08 DJ	--	--	--	--	--	--	--	--	--	0.15 DJ	--	1.2 DJ	--	ND	--	--	500	1,000
Anthracene	--	--	--	--	--	--	--	--	ND	--	--	0.18 DJ	0.61	--	0.1 DJ	--	--	--	--	--	--	--	--	--	ND	--	0.81 DJ	--	ND	--	--	500	1,000
Benzo(a)anthracene	--	--	--	--	--	--	--	--	0.34 J	--	--	1.1 D	3.9	--	0.83 D	--	--	--	--	--	--	--	--	--	0.7 DJB	--	5 DB	--	0.45 DJ	--	--	5.6	11
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	0.24 J	--	--	1.5 D	5.6	--	1.4 D	--	--	--	--	--	--	--	--	--	0.9 DJB	--	6 DB	--	ND	--	--	5.6	11
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	0.19 J	--	--	0.59 DJ	1.6	--	0.53 DJ	--	--	--	--	--	--	--	--	--	0.88 DJ	--	2.8 DJ	--	ND	--	--	56	110
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	0.28 J	--	--	0.88 D	2.2	--	0.98 D	--	--	--	--	--	--	--	--	--	0.69 DJ	--	3.4 DJ	--	ND	--	--	500	1,000
Benzo(a)pyrene	--	--	--	--	--	--	--	--	0.22 J	--	--	1.2 D	4.1	--	1.1 D	--	--	--	--	--	--	--	--	--	0.8 DLJ	--	4.6 DL	--	ND	--	--	1	1.1
Carbazole	--	--	--	--	--	--	--	--	ND	--	--	ND	ND	--	0.04 DJ	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	--	--	NA	NA
Chrysene	--	--	--	--	--	--	--	--	0.56 BJ	--	--	1.3 D	3.8 B	--	0.96 D	--	--	--	--	--	--	--	--	--	1 DJB	--	4.6 DB	--	0.35 DJ	--	--	56	110
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--	ND	--	--	0.26 DJ	0.68 J	--	0.25 DJ	--	--	--	--	--	--	--	--	--	0.27 DJ	--	0.86 DJ	--	ND	--	--	0.56	1.1
Dibenzofuran	--	--	--	--	--	--	--	--	ND	--	--	0.05 DJ	0.1 J	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	--	--	NA	NA
Fluoranthene	--	--	--	--	--	--	--	--	0.35 J	--	--	2.2 D	7.2	--	1.1 D	--	--	--	--	--	--	--	--	--	0.9 DJB	--	8.6 DB	--	ND	--	--	500	1,000
Fluorene	--	--	--	--	--	--	--	--	ND	--	--	0.04 DJ	0.19 J	--	ND	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	--	--	500	1,000
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	0.21 J	--	--	0.81 D	2.3	--	0.81 D	--	--	--	--	--	--	--	--	--	0.48 DJ	--	2.8 DJ	--	ND	--	--	5.6	11
2-Methylnaphthalene	--	--	--	--	--	--	--	--	ND	--	--	0.05 DJ	0.076 J	--	43 DJ	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	--	--	NA	NA
Naphthalene	--	--	--	--	--	--	--	--	ND	--	--	0.06 DJ	0.092 J	--	0.04 DJ	--	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	--	--	500	1,000
Phenanthrene	--	--	--	--	--	--	--	--	0.41 BJ	--	--	ND	2.6	--	0.38 DJ	--	--	--	--	--	--	--	--	--	0.4 DJB	--	2.8 DJB	--	ND	--	--	500	1,000
Pyrene	--	--	--	--	--	--	--	--	0.43 J	--	--	ND	5.4	--	0.99 D	--	--	--	--	--	--	--	--	--	0.93 DJ	--	7.4 D	--	ND	--	--	500	1,000
Total PAHs	0	0	0	0	0	0	0	0	3.23 J	0	0	10.5	41.5	0	52.59	0	0	0	0	0	0	0	0	0	8.11	0	50.9		0.80				
TAL Metals - mg/kg																																
Arsenic	75	143	66.9	60.2	25.2	147	13.5	ND	4.7	66.6	13.8	86.9	48.5	104	15.9	ND	15.9	13.2	30.5	83.5	62.1	19	57.1	149	26.7	65.3	47.4	16.8	--	40.6	44.3	16	16
Barium	158	86.6	91.2	93.5	92.6	110	49.7	125	--	84.5	93.2	96	--	81.6	68.1	66	109	103	90.2	51.4	46	90.8	151	142	10.4	91.3	88.8	116	--	80.1	44.3	400	10,000
Cadmium	3.05	0.649	1.02	1.6	ND	2.61	ND	ND	4.3 E	0.531	0.646	1.14	0.5	1.79	ND	1.23	5.69	2.49	17	ND	ND	0.919	ND	1.31	0.914	7.01	1.87	1.66	--	ND	ND	9.3	60
Chromium	140	106	126	368	250	158	45.4	27.2	314	76.2	96.4	46	52.1	77.5	245	464	41.9	55.3	115	29.2	31	146	26	74.6	26.3	227	91.4	325	--	175	26.1	1500	6,800
Lead	321	154	211	212	63.9	986	119	31.6	549 N	99.2	189	103	119	179	68.7	272	207	265	206	121	237	325	172	207	543	1030	290	280	--	100	49.1	1000	3,900
Mercury	0.399	0.11	0.322	0.895 D	0.0899	0.271	0.0679	0.0662	0.165	0.153	0.155	0.135	0.123	0.0864	0.0749	0.0891	0.0882	0.375	0.233	0.302	0.297	1.04 D	0.404	2.38	0.035	0.475 D	0.116	0.209	--	1.99 D	0.0485	2.8	5.7
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--		--	7570	--	--	--	--	--	--	--	--	--	--	--	7760	--	--	--	--	NA	NA
Beryllium	--	--	--	--	--	--	--	--	--	--	--	--		--	ND	--	--	--	--	--	--	--	--	--	--	--	0.97	--	--	--	--	590	2,700
Calcium	--	--	--	--	--	--	--	--	--	--	--	--		--	97700 D	--	--	--	--	--	--	--	--	--	--	--	1.87	--	--	--	--	NA	NA
Cobalt	--	--	--	--	--	--	--	--	--	--	--	--		--	ND	--	--	--	--	--	--	--	--	--	--	--	4.51	--	--	--	--	NA	NA
Copper	--	--	--	--	--	--	--	--	--	--	--	--		--	70.6	--	--	--	--	--	--	--	--	--	--	--	120	--	--	--	--	270	10,000
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--		--	ND	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	27	10,000
Iron	--	--	--	--	--	--	--	--	--	--	--	--		--	83600 D	--	--	--	--	--	--	--	--	--	--	--	45100	--	--	--	--	NA	NA
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--		--	19800	--	--	--	--	--	--	--	--	--	--	--	9020	--	--	--	--	NA	NA
Manganese	--	--	--	--	--	--	--	--	--	--	--	--		--	15100 D	--	--	--	--	--	--	--	--	--	--	--	3770 D	--	--	--	--	10,000	10,000
Nickel	--	--	--	--	--	--	--	--	--	--	--	--		--	17.9	--	--	--	--	--	--	--	--	--	--	--	20	--	--	--	--	310	10,000
Potassium	--	--	--	--	--	--	--	--	--	--	--	--		--	1190	--	--	--	--	--	--	--	--	--	--	--	900	--	--	--	--	NA	NA
Silver	--	--	--	--	--	--	--	--	--	--	--	--		--	ND	--	--	--	--	--	--	--	--	--	--	--	0.508	--	--	--	--	1500	6,800
Sodium	--	--	--	--	--	--	--	--	--	--	--	--		--	386	--	--	--	--	--	--	--	--	--	--	--	234	--	--	--	--	NA	NA
Vanadium	--	--	--	--	--	--	--	--	--	--	--	--		--	269	--	--	--	--	--	--	--	--	--	--	--	39.7	--	--	--	--	NA	NA
Zinc	--	--	--	--	--	--	--	--	--	--	--	--		--	159	--	--	--	--	--	--	--	--	--	--	--	380	--	--	--	--	10000	10,000
PCBs - mg/kg [3]																																
Aroclor 1254	--	--	--	--	--	--	--	--		--	--	--		--	0.12	--	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	--	--	1	25
Aroclor 1260	--	--	--	--	--	--	--	--		--	--	--		--	0.36	--	52 D	--	--	--	--	--	--	--	ND	--	ND	--	--	--	--	1	25

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. SCO values per 6 NYCRR Part 375-6
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparison to SCOs.

Definitions:
RR-TP-2 = test pit advanced and sampled as part of the Railroad Corridor Investigation.
BPA 2-TP-24 = test pit was advanced and sampled as part of Business Park investigation.
ND = Parameter not detected above laboratory detection limit.
NA = SCO has not been established for this compound.
= Exceedance of Commercial SCO
= Exceedance of Commercial and Industrial SCO
"--" = Sample not analyzed for parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
B = Analyte was detected in the associated method blank .
D = All compounds were identified in an analyisis at the secondary dilution factor.

TABLE 2

SUMMARY OF SUPPLEMENTAL TEST PIT SOIL ANALYTICAL RESULTS

IRM Work Plan for Railroad Realignment
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter [1]	Test Pit Location and Sample Depth																								
	RR-TP-04 North-25	RR-TP-04 South-25	RR-TP-04 East-25	RR-TP-04 West-25	RR-TP-04 Bottom	RR-TP-12 North	RR-TP-12 North-35	RR-TP-12 North-50	RR-TP-12 North-75	RR-TP-12 South	RR-TP-12 East	RR-TP-12 West	RR-TP-12 Bottom	RR-TP-42 North	RR-TP-42 North-35	RR-TP-42 South	RR-TP-42 South-35	RR-TP-42 South-50	RR-TP-42 South-75	RR-TP-42 East	RR-TP-42 West	RR-TP-42 Bottom	RR-TP-30 North	RR-TP-30 South	RR-TP-30 East	RR-TP-30 West	RR-TP-30 Bottom
	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	0-2' BGS	2' BGS
TAL Metals (mg/kg)																											
Total Arsenic	47	43.9	48.3	112	40.2	126	246	162	87.9	83	49.1	157	39.4	114	84.6	136	372	127	71.8	147	35.6	37.1	-	-	-	-	-
PCBs (mg/kg)																											
Aroclor 1254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.046	ND	ND	0.51	ND
Aroclor 1260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.11	0.12	0.047	ND	0.26

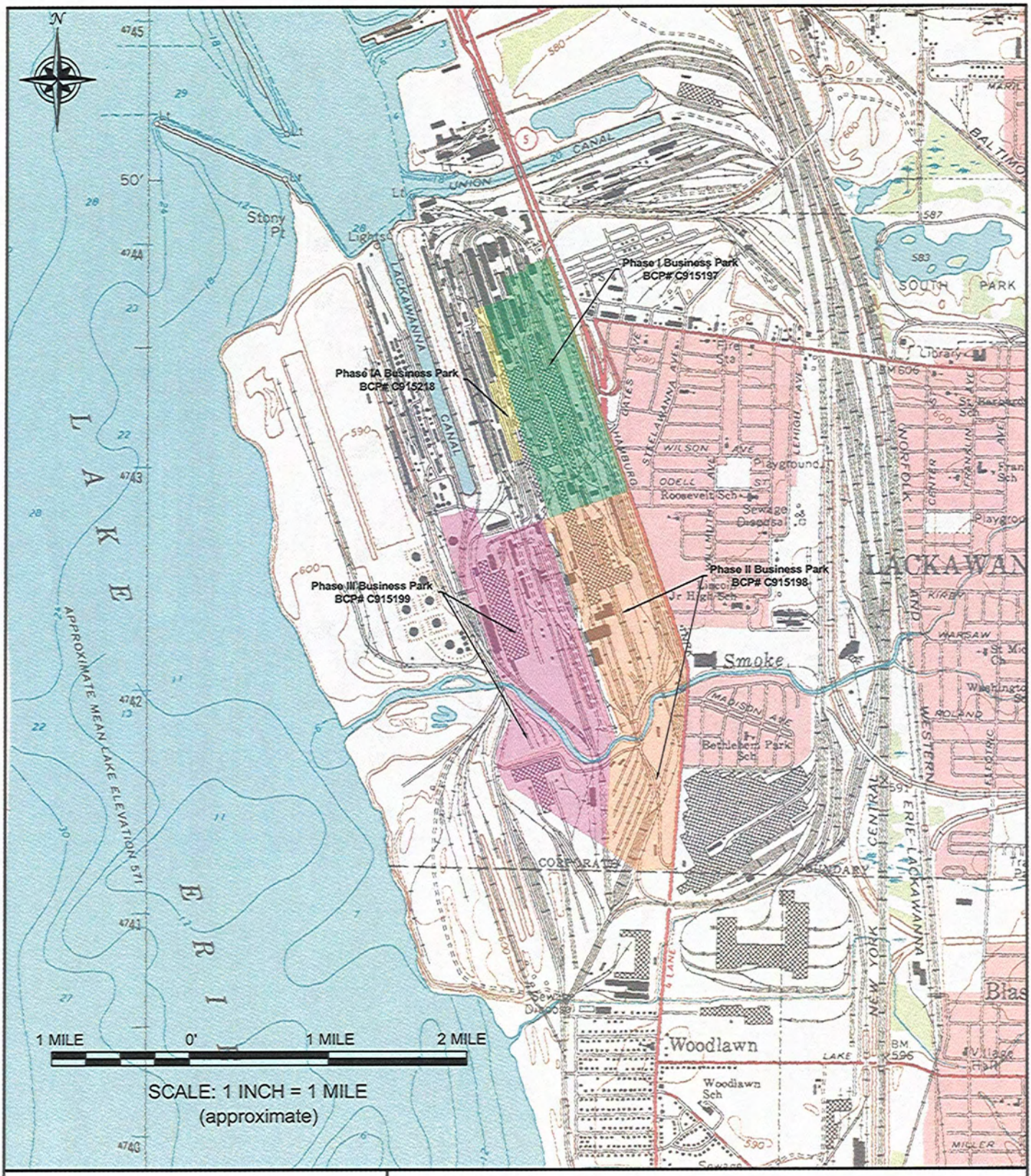
Notes:
1. Only those parameters detected in at least one sample are included.
2. 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. BGS = Below Ground Surface; ND = Not Detected

Parameter	RR-TP-04 TCLP	RR-TP-12 TCLP	RR-TP-30 TCLP	RR-TP-42 TCLP	Regulatory Limit (mg/L) [1]
TCLP Metals (mg/L)					
Arsenic	0.0131	0.0104	ND	0.0168	5
Barium	0.397	0.306	0.537	0.487	100
Cadmium	0.0039	0.0158	0.0023	0.0069	1
Chromium	0.0086	ND	ND	ND	5
Lead	0.0431	0.02	0.0229	0.0749	5
Mercury	ND	ND	ND	ND	0.2
Selenium	ND	ND	ND	ND	1
Silver	ND	ND	ND	ND	5

Notes:
1. Per 40 CFR Part 261

FIGURES

FIGURE 1



TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-010-124

DATE: OCTOBER 2010

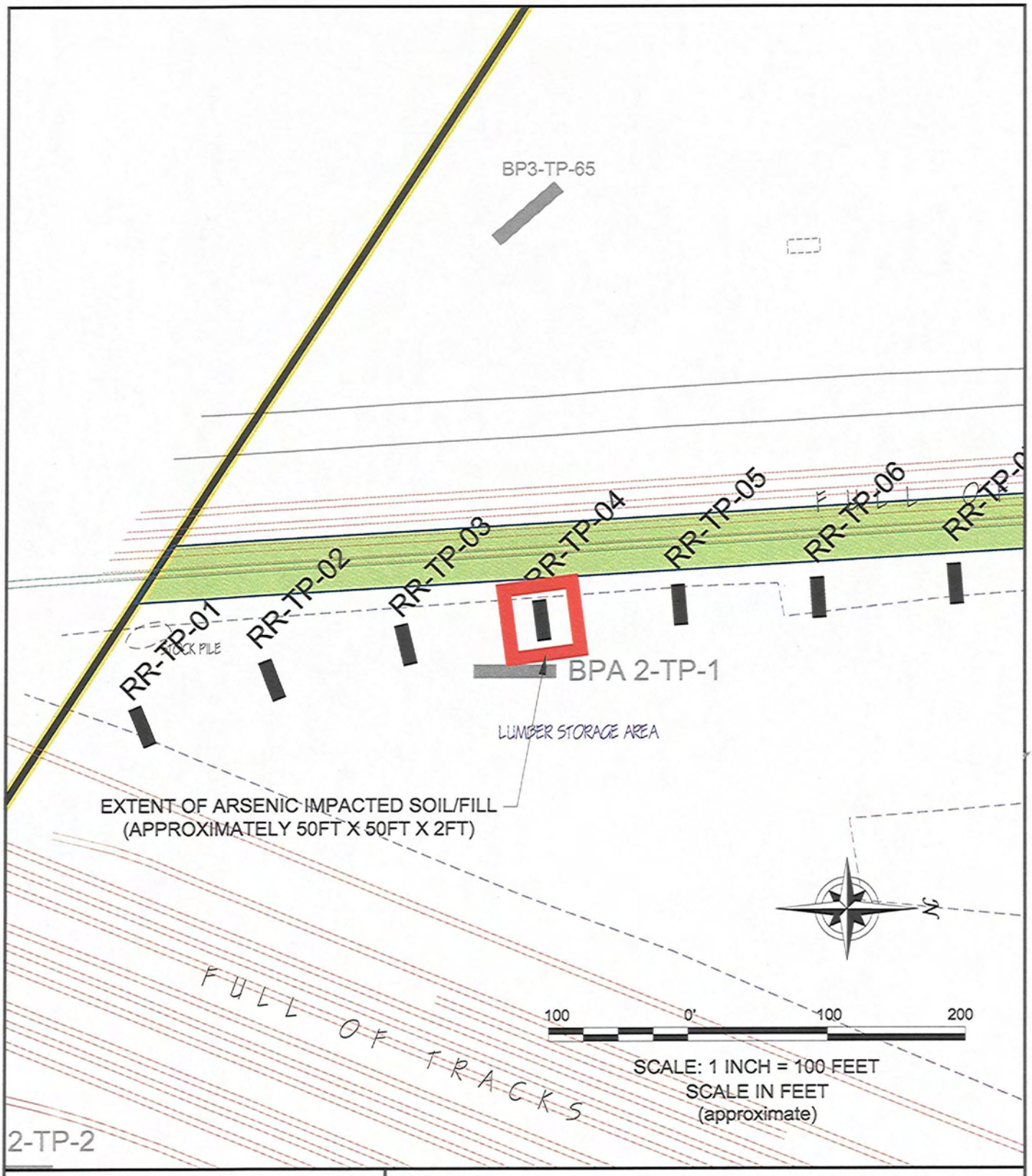
DRAFTED BY: JCT

SITE LOCATION & VICINITY MAP

IRM WORK PLAN FOR RAILROAD REALIGNMENT

TECUMSEH LACKAWANNA SITE
LACKAWANNA, NEW YORK
PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

FIGURE 3A



TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-009-610

DATE: OCTOBER 2010

DRAFTED BY: JCT

RR-TP-04 HOT SPOT EXCAVATION LIMITS

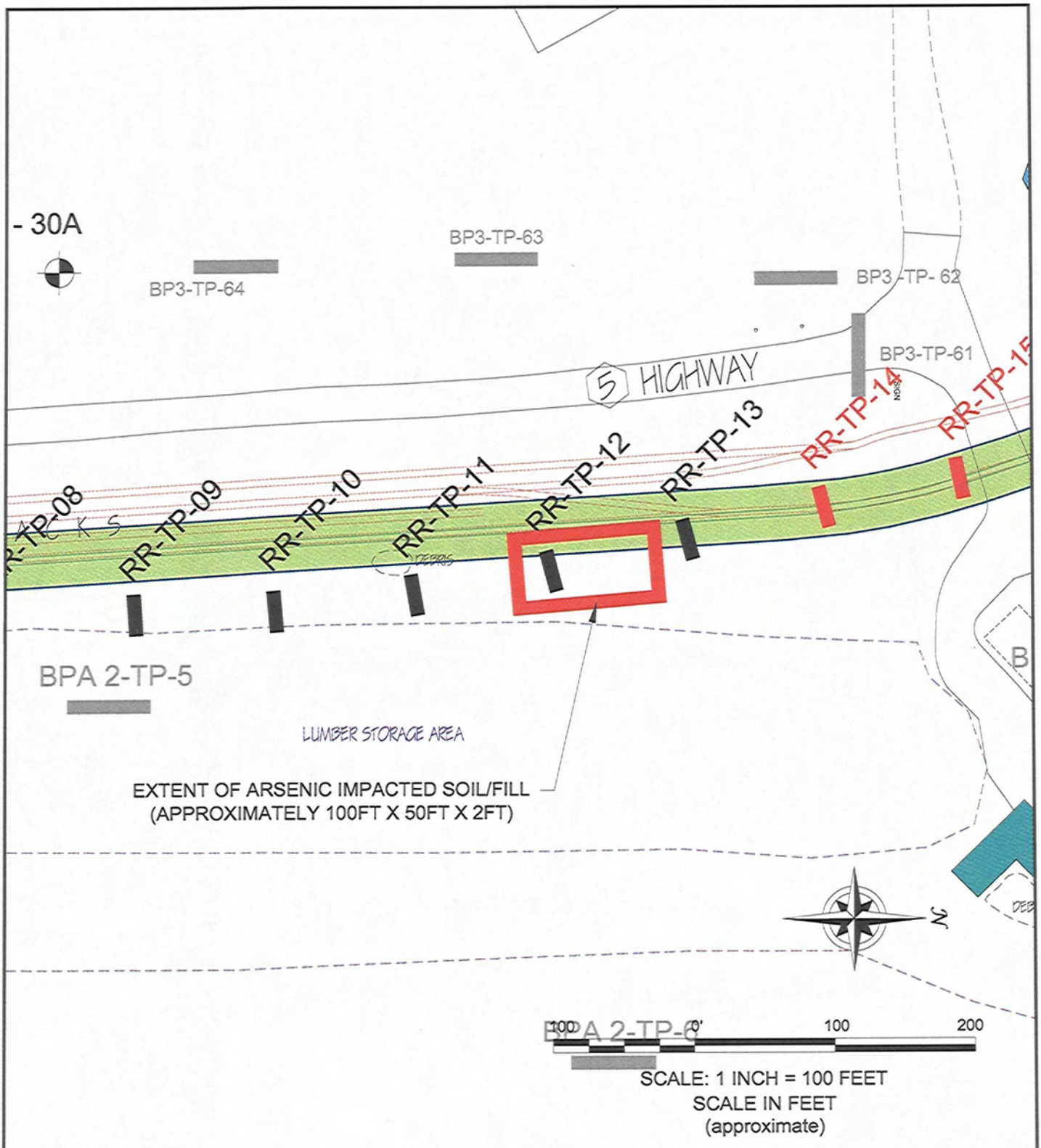
IRM WORK PLAN FOR RAILROAD REALIGNMENT

TECUMSEH LACKAWANNA SITE
LACKAWANNA, NEW YORK

PREPARED FOR

TECUMSEH REDEVELOPMENT INC.

FIGURE 3B



TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

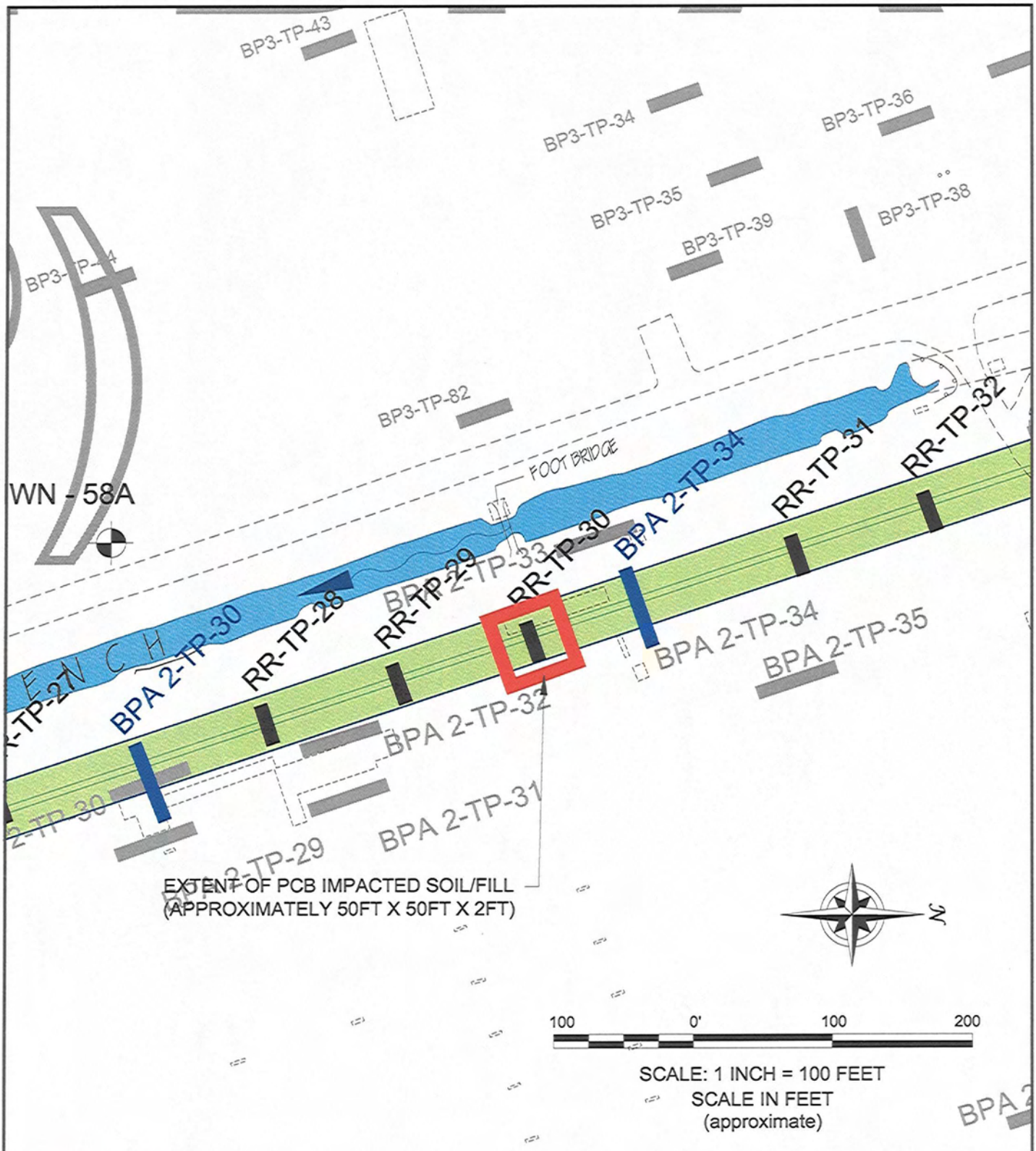
PROJECT NO.: 0071-009-610
DATE: OCTOBER 2010
DRAFTED BY: JCT

RR-TP-12 HOT SPOT EXCAVATION LIMITS

IRM WORK PLAN FOR RAILROAD REALIGNMENT

TECUMSEH LACKAWANNA SITE
LACKAWANNA, NEW YORK
PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

FIGURE 3C



TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-009-610

DATE: OCTOBER 2010

DRAFTED BY: JCT

RR-TP-30 HOT SPOT EXCAVATION LIMITS

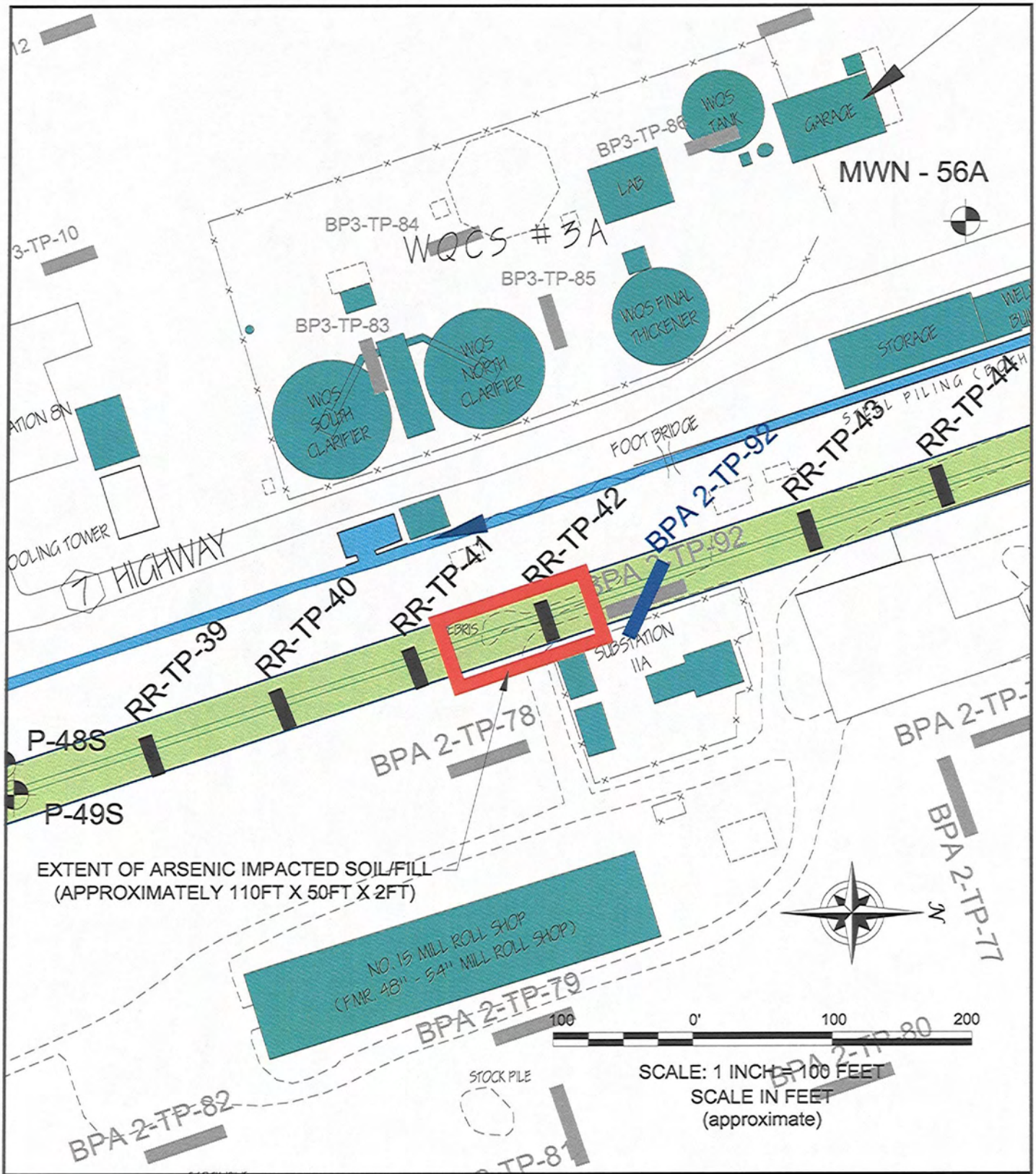
IRM WORK PLAN FOR RAILROAD REALIGNMENT

TECUMSEH LACKAWANNA SITE
LACKAWANNA, NEW YORK

PREPARED FOR

TECUMSEH REDEVELOPMENT INC.

FIGURE 3D



TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-009-610

DATE: OCTOBER 2010

DRAFTED BY: JCT

RR-TP-42 HOT SPOT EXCAVATION LIMITS

IRM WORK PLAN FOR RAILROAD REALIGNMENT

TECUMSEH LACKAWANNA SITE
LACKAWANNA, NEW YORK

PREPARED FOR

TECUMSEH REDEVELOPMENT INC.

APPENDIX A

TEST PIT LOGS

APPENDIX B

2009 RAIL CORRIDOR INVESTIGATION ANALYTICAL DATA PACKAGE

APPENDIX C

2010 SUPPLEMENTAL INVESTIGATION ANALYTICAL DATA PACKAGES

APPENDIX D

PROJECT DOCUMENTATION FORMS

APPENDIX E

SITE HEALTH AND SAFETY PLAN
AND
COMMUNITY AIR MONITORING PLAN

APPENDIX F

RAILROAD BALLAST SPECIFICATIONS

Where the adjacent pavement is asphalt concrete and the new overlay surface course is 1 1/2 inch thick, then the thickness of the surface course of the shoulder may be increased to 1 1/2 inch and the course of Bituminous Stabilized Course (option 1), Type 1 Base Course (option 2), or Type 3 Binder Course (option 3) may be decreased by 1/2 inch.

Material requirements and quality control methods pertaining to this work shall be as required under Sections 302, 304, and 403 in conformance with the procedures contained in appropriate Department publications in effect on the date of advertisement for bids.

303-3 CONSTRUCTION DETAILS. The construction details shall be the same as those in Subsections 302-3, 304-3 and 403-3. Under Options 3, 4 & 5, the Subbase Course material shall be placed at the same time as the underlying Subbase Course. For Option 5, vibratory compaction equipment appearing on the current "Approved List - Bituminous Concrete Vibratory Compaction Equipment" shall be required if the entire 3 inch lift of asphalt concrete Type 3 is to be placed as a single lift. For Option 4, the asphalt concrete shall be placed in two lifts.

303-4 METHOD OF MEASUREMENT. The quantity of Optional Flexible Shoulder shall be the number of square yards of satisfactorily completed shoulder computed from the payment lines on the plan or from revised payment lines established in writing by the Engineer.

303-5 BASIS OF PAYMENT. The unit price bid for this work shall include the cost of furnishing all labor, material and equipment necessary to complete the work.

When an asphalt concrete material is placed in one operation in both the shoulder and pavement area, a deduction from the weight delivered shall be made for the asphalt concrete placed in the shoulder. The quantity to be deducted will be determined by multiplying the computed volume of such material placed in the shoulder within the payment lines times a factor of 1.9 tons/cubic yard.

Payment will not be made for losses of material resulting from compaction, foundation settlement, erosion, or any other causes. The cost of such losses shall be included in the price bid for this item.

If the Contractor elects to use Options 3, 4 or 5, the cost of the additional 1 inch of subbase course material necessary to bring the section to grade shall be included in the price bid for this item.

If there is an asphalt price adjustment provision in the contract, the adjustment to be made shall be computed assuming a conversion factor of one hundredth (0.01) of a ton of asphalt per square yard of Optional Flexible Shoulder.

Payment will be made under:

Item No.	Item	Pay Unit
303.01	Optional Flexible Shoulder	Square Yard

SECTION 304 - SUBBASE COURSE

304-1 DESCRIPTION

304-1.01 General. The work consists of furnishing, placing and compacting a subbase course in conformity with the lines, grades, thicknesses and typical sections shown on the plans, or as determined by field conditions and ordered in writing by the Engineer.

304-1.02 Optional Type. Unless otherwise stated in the plans or in the proposal, select any of the four options as follows:

Option A. Subbase construction consisting of two separate layers of Type 4 and Type 3 Subbase Course.

Option B. Subbase construction consisting of a single layer of Type 1 Subbase Course.

Option C. Subbase construction consisting of a single layer of Type 2 Subbase Course.

Option D. Subbase construction consisting of a single layer of Type 4 Subbase Course.

304-1.03 Definitions. Deleterious: Any material that does not consist of concrete, asphalt, glass, brick, stone, sand, gravel or blast furnace slag, when these materials are used in subbase in conformance with the specification requirements, OR any material which, in the opinion of the Director, Geotechnical Engineering Bureau, may adversely affect the performance of the product either during handling, during construction, or in its final application.

304-2 MATERIALS

304-2.01 Test and Control Methods. The Department will perform materials tests and quality control methods pertaining to the work of this section in conformance with the procedures contained in the appropriate Departmental publications which are current on the date of advertisement for bids. These publications are available upon request to the Regional Director or the Director, Geotechnical Engineering Bureau.

304-2.02 Material Requirements. Provide suitable material conforming to the requirements of Section 203 and to the requirements contained herein.

Provide a subbase material which meets the specification material requirements and is within the Contractor's capabilities to place and fine grade to the required tolerances. Should the subbase course become unstable at any time prior to the placement of the overlying course, correct the unstable condition to the satisfaction of the Engineer at no additional cost to the State. Perform any required modification prior to placing the material on the grade.

If used, glass shall conform to the applicable paragraph of Section 203.

If Recycled Portland Cement Concrete Aggregate (RCA) is used and it comes from other than a Department of Transportation project, provide documentation showing that the material obtained is from a NYSDEC registered or permitted construction and demolition (C&D) debris processing facility as specified in Section 360-16.1 of 6NYCRR Part 360, "Solid Waste Management Facilities".

If Blast Furnace Slag is to be used, provide documentation showing that it has undergone a NYSDEC beneficial use determination (BUD) prior to its use as specified in 6NYCRR Part 360-1.15, "Solid Waste Management Facilities".

For Types 1, 3 and 4 furnish materials consisting of approved Blast Furnace Slag, Stone, Sand, and Gravel, or blends of these materials with not more than 30 percent by weight of glass. Alternately, the following materials are also acceptable under these types as a replacement for the materials mentioned above:

Alternate A. At least 95 percent, by weight, of Recycled Portland Cement Concrete Aggregate (RCA), and free from organic and other deleterious material. This material may contain up to 5% by weight asphalt and/or brick.

Alternate B. A mixture of Recycled Portland Cement Concrete Aggregate (RCA) conforming to Alternate A above mixed with stone, sand, gravel or blast furnace slag. This material may contain up to 5% by weight asphalt and/or brick.

Alternate C. Bituminous material that is reclaimed from bituminous pavement and/or shoulders (Reclaimed Asphalt Pavement, or RAP) on a project constructed by the Department of Transportation and is well-graded from coarse to fine and free from organic or other deleterious material, including tar. This material is at least 95 percent, by weight, reclaimed bituminous material and has a maximum top size, at time of placement, of 2 inches. The gradation requirements for the different Types listed below do not apply when the material consists of RAP. No soundness or Plasticity Index testing will be required for this Alternate.

If, in the opinion of the Regional Geotechnical Engineer, this material becomes unstable during construction, it may be necessary to add a mixture of natural suitable material to the RAP. Acceptance of the final product shall be based on an evaluation by the Regional Geotechnical Engineer.
Provide written documentation that the reclaimed bituminous material originated on a Department of Transportation project. Include an identifier, such as State Highway, Construction Contract or Departmental Project Identification Number (PIN).

For Type 2, furnish materials consisting of approved Blast Furnace Slag or of Stone which is the product of crushing or blasting ledge rock, or a blend of Blast Furnace Slag and of Stone.

A. Gradation. Gradation shall conform to Table 304-1.

TABLE 304-1 PERCENT PASSING BY WEIGHT

Sieve Size Designation	Type			
	1	2	3	4
4 inch	-	-	100	-
3 inch	100	-	-	-
2 inch	90 - 100	100	-	100
1/4 inch	30 - 65	25 - 60	30 - 75	30 - 65
No. 40	5 - 40	5 - 40	5 - 40	5 - 40
No. 200	0 - 10	0 - 10	0 - 10	0 - 10

B. Soundness. Material for Types 1, 2 and 4 will be accepted on the basis of Magnesium Sulfate Soundness Loss after four cycles of 20 percent or less, unless material meeting the requirements of Alternate C (304-2.02) is used. Material for Type 3 will be accepted on the basis of a Magnesium Sulfate Soundness Loss after four cycles of 30 percent or less.

C. Plasticity Index. The required Plasticity Index of the material passing the No. 40 sieve is 5.0 or less.

D. Elongated Particles. A flat or elongated particle is defined herein as one which has its greatest dimension more than three times its least dimension. Provide material consisting of particles where not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve are flat or elongated. When the State elects to test for this requirement, material with a percentage greater than 30 will be rejected. Acceptance for this requirement will normally be based on a visual inspection by the Engineer.

304-2.03 Stockpiling. Stockpile all material except as noted herein.

A. Material furnished under Type 3 will not be required to be stockpiled unless it contains RCA or glass.
B. Stockpiling of the reclaimed bituminous material for Alternate C is not required.

Stockpile construction requirements, sampling, testing and acceptance/rejection procedures are stipulated in the appropriate Departmental publication.

304-2.04 Material for Temporary Work. Material used as a subbase for the construction of temporary work may be approved by a Departmental Geotechnical Engineer by visual inspection in accordance with the procedure in the current Departmental publication. Do not incorporate material so approved into the final project without following the appropriate acceptance procedure for the item of intended use.

304-3 CONSTRUCTION DETAILS

304-3.01 General. Notify the Engineer in writing of which placement option, material option (if applicable) and/or material type is proposed for use, at least 14 calendar days prior to performing the work. If it is proposed that more than one option or type is to be used, submit a plan to the Engineer describing where each option or type is proposed for use. This plan must be approved by the Engineer prior to incorporating it into the project. The State reserves the right to disapprove the use of more than one option on a project. Use uniform subbase types and materials between the roadbed limits.

304-3.02 Placement

- Place the upper course material on the grade in a manner to minimize segregation, using equipment and procedures approved by the Engineer. Do not perform uncontrolled spreading from piles dumped on the grade.
- The maximum compacted layer thickness is 15 inches, or as shown on the plans. In confined areas as defined by the Engineer the maximum compacted layer thickness is 6 inches. The minimum loose lift thickness is 1.5 times the maximum particle size.
- Place Type 1 with a minimum compacted layer thickness of 6 inches.
- Do not place Type 3 material within 4 inches of the bottom of a pavement course.
- Do not place materials blended with glass in contact with synthetic liners, geogrids, geotextiles or other geosynthetics. Ensure that glass incorporated into subbase is thoroughly mixed so that glass constitutes no more than 30 percent by weight anywhere in the subbase.
- When placing material under Option A, place and compact each material in a separate lift.

304-3.03 Compaction. When the moisture content is within the limits for proper compaction, compact the material in accordance with the requirements of §203-3.12 , Compaction. Density tests are not required for the acceptance of these courses.

If a subbase course is disturbed by frost action prior to paving, re-compact the subbase where directed by the Engineer.

304-3.04 Traffic and Contamination. The movement of highway traffic over the final surface of the subbase may be permitted at locations designated by, and under such restrictions as ordered by the Engineer, provided such movements take place prior to the final finishing of this course to the specified tolerance. Do not allow highway traffic to move over subbase containing glass. The movement of construction equipment on this course may be permitted at locations designated by and under such restrictions as ordered by the Engineer. At locations where permission is granted for such movement, place and maintain the temporary surface of the course, upon which the construction traffic is running, at least 2 inches above the final surface of the course. Just prior to paving and after all construction traffic not required for the removal has ceased, remove the 2 inches protective layer, and prepare and compact the exposed surface of the course to the specified tolerance.

No payment will be made for furnishing, placing, maintaining, removing and disposing of the 2 inches thick protective layer. Include the cost thereof in the price bid for Subbase Course.

If, in the opinion of the Engineer, the subbase is damaged or mixed with the subgrade or any other material due to the Contractor's operation, remove such material and replace it with the appropriate subbase material at no additional cost to the State.

304-3.05 Tolerance. Place Types 1, 2 or 4 so that after compaction the top surface of the course does not extend more than 1/4 inch above nor more than 1/4 inch below true grade for the course at any location. Place Type 3 course so that the finished surface does not extend above the true grade and surface for this course at any location.

304-4 METHOD OF MEASUREMENT

304-4.01 Subbase Course. The quantity is the number of cubic yards of material, computed from payment lines shown on the plans or, where changes have been ordered, from payment lines established by the Engineer.

304-5 BASIS OF PAYMENT

304-5.01 Subbase Course. The unit price bid for this work includes the cost of furnishing all labor, material and equipment necessary to complete the work. Include the cost of adding water in the price bid unless the items for furnishing and applying water are included in the contract. No direct payment will be made for losses of material resulting from compaction, foundation settlement, erosion, or any other cause. Include the cost of such losses in the price bid for this item. No deductions will be made for the volumes occupied by manholes, catch basins and other such objects.

No additional payment will be made for the protective layer, as stated in 304-3.04.

Progress payments will be made after the subbase course has been properly placed and compacted. Payment will be made at the unit price bid for 75 percent of the quantity. The balance of the quantity will be paid for after the final finishing to the required tolerance and just prior to the placing of the next course.

Payment will be made under:

Item No.	Item	Pay Unit
304.11	Subbase Course, Type 1	Cubic Yard
304.12	Subbase Course, Type 2	Cubic Yard
304.13	Subbase Course, Type 3	Cubic Yard
304.14	Subbase Course, Type 4	Cubic Yard
304.15	Subbase Course, Optional Type	Cubic Yard

SECTIONS 305 AND 306 (VACANT)

SECTION 307 - HYDRATED LIME STABILIZED SUBGRADE

307-1 DESCRIPTION. Hydrated lime stabilized subgrade shall consist of the in-place subgrade soil mixed uniformly with hydrated lime and moistened, compacted and cured in accordance with these specifications, the plans and as specified by the Engineer.

307-2 MATERIALS

307-2.01 Lime Stabilization. Materials for lime stabilization shall meet the requirements of the following:

Water	712-01
Hydrated Lime	712-04

Hydrated lime which has slaked prior to mixing, for any reason, shall not be incorporated in the work.

307-2.02 Surface Treatment. When a surface treatment is required to protect the completed lime stabilized course as specified in §307-3.11, the materials for surface treatment shall meet the following requirements:

Asphalt Emulsion - (RS-2)	702-3101
Coarse Aggregate - 1A size	703-02

307-3 CONSTRUCTION DETAILS

307-3.01 Equipment. No work will be permitted until all necessary equipment is on hand, inspected and approved by the Engineer.

A. Scarifiers. A grader-scarifier, heavy disc harrow, heavy plow or rotary pulverizing mixer shall be used for the initial scarification of the soil. The equipment shall be capable of scarifying the soil to the full depth of stabilized treatment.

B. Mixers. A rotary pulverizing mixer or heavy plow shall be used for all mixing of the hydrated lime with the subgrade soil. The use of a heavy plow will be permitted only if the rotary pulverizing mixer is not capable of adequately mixing the lime-soil mixture to the full depth of treatment. Rotary mixers shall be equivalent to the Seaman Duo-Stabilizer Model DS730 or the Brothers Master Mixer Model LSPRM84A.

Sub-Ballast

This item shall be paid for under NYSDOT Specification 304.14. For this project, based on Geotechnical Evaluations, a 6 inch layer of sub-ballast will consist of the foundation course for the railroad roadbed. The material shall be composed of either caliche, argillaceous limestone, conglomerate, gravel, crushed slag, or other granular materials.

The materials shall meet the requirement herein after as specified by special note. Aggregate retained on a No 10 sieve shall consist of hard, durable particles or fragments of stone, gravel, sand or slag. Materials that break up when alternatively frozen and thawed or soaked and dried shall not be used. Allowable wear, based on the Los Angeles abrasion test, shall not be greater than 50%. A higher or lower percentage of wear may be specified by the Engineer.

It is the intent of this special note is that the sub-ballast shall consist of gradations as set forth in the following table.

Sieve Size	2"	1'	¾"	No 10	No 40	No 200
% Pass (optimum)	100%	95%	67%	38%	21%	7%
% Pass (Permissible)	100%	90-100	50-84	26-50	12-30	0-10

The sub-ballast shall be constructed on the properly prepared subgrade in conformance with the plans, specifications and sections provided for this project. The maximum compacted thickness of the subballast shall not exceed 7 inches or another compacted lift shall be provided. Each lift must be compacted to not less than 95% of the maximum density and to within 2% of the optimal moisture content, as determined by ASTM D 1557.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

Description
The work shall consist of furnishing, placing and compacting stone ballast for the construction of tracks, and/or turnouts, and/or the reconstruction of rail-highway grade crossings as indicated in the contract documents or where directed by the Engineer.

Materials
Materials Specification 703-02, Coarse Aggregate shall apply except as modified herein.

All stone ballast shall be composed of angular fragments of rock, reasonably uniform in quality, and having specified durability and wear resistance qualities. Screened gravel, crushed gravel, marble, sandstone, argillaceous limestones, argillaceous dolomites or crushed slag are not acceptable for use as stone ballast.

All physical requirements and limitations on deleterious materials for crushed stone ballast are listed in Table 703-90 (below).

Stone ballast shall be handled in such a manner that it is kept clean and free from segregation. Any stone which requires washing or scrubbing to insure cleanliness shall be washed at the quarry or crusher site. The gradation requirements of stone sizes shall conform to Table 703-91 (below), "Size Gradation-Stone Ballast."

All sampling and testing shall be done in accordance with Engineer written instructions. Each portion of a quarry exhibiting a variation in quality of stone shall be tested separately. The test results shall not be averaged. The Engineer reserves the right to sample and test the stone ballast up to and including the point of use.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

TABLE 703-90			
BALLAST CLASS TESTS [1]			
	Ballast Class		
	NY1	NY2	NY3
Magnesium Sulfate Test (NYSDOT 703-7P) [2]			
Max. percent loss by weight at 10 cycles	18	18	18
Freezing and Thawing Test (NYSDOT 703-8P) [3]			
Max. percent loss by weight at 25 cycles	10	10	10
Los Angeles Abrasion Test (AASHTO T96)			
Max. percent loss by weight (Grading A or B)	15[4]	20[4]	35[4]
		45[5]	45[5]
Flat and Elongated Pieces (ASTM C125)			
Max. percent by weight of:			
Flat or Elongated to the Degree of 3:1	30	30	30
Flat or Elongated to the Degree of 5:1	10	10	10
Impedance Test (NYSDOT 703-12G)			
Impedance, K ohms	2.6+	2.6+	2.6+
Petrographic Test			
Shale or other deleterious materials [6]	1.0	1.0	1.0
Clay balls or lumps	0.2	0.2	0.2
Materials passing the 75 m sieve (NYSDOT 703-2P)	0.7	0.7	0.7

[1] To determine its conformance to specification limits, processed crushed stone may be tested at any point after completion of processing. The manufactured material shall be separated into the primary sizes indicated in Table 703-5, "Primary Sizes". Each size fraction shall conform to the requirements 703-90, Stone Ballast.

[2] Magnesium Sulfate loss applies to No. 2 primary size fraction.

[3] The freeze-thaw loss applies to the No. 3 primary size fraction, but the Engineer reserves the option to test the No. 2 primary size fraction.

[4] Loss applies to limestone, dolomite, quartzite, and trap rock.

[5] Loss applies to granite, anorthosite, and gabbro.

[6] Argillaceous limestone's and dolomites are considered to be deleterious materials.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

TABLE 703-91
SIZE GRADATION - STONE BALLAST
AMOUNTS FINER THAN EACH SIEVE*

SIZE NO.	NOMINAL SIZE	PERCENT BY WEIGHT								
		2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	No. 4 Sieve	No. 10 Sieve
CR3-4	2" – ½"	100	98 - 100	60 - 85	20 - 40	5-15	0-5	0-1	-	-
4	1½" – ¾"	-	100	90 - 100	20 - 55	0-15	-	0-5	-	-
5	1" – 3/8"	-	-	100	90 - 100	40-75	15 - 35	0-15	0-5	-
57	1" – No. 4 Sieve	-	-	100	95 - 100	-	25 - 60	-	0-10	0-5

* Sieves shall meet the requirements of ASTM designation E-11

Construction Details
Self-spreading vehicles of a type approved by the Engineer may be used. When stone is initially spread by self-spreading vehicles, a power grader of a type approved by the Engineer may be used to assist the spreading operation. If results of spreading with the power grader are found to be unsatisfactory, permission for use of a grader may be withdrawn. Alternate methods of spreading may be approved by the Engineer for limited areas such as grade crossings. The stone ballast shall be shaped to a true section conforming to the ballast section shown on the plans and thoroughly compacted until the surface is true and unyielding.

Compaction may be done with rollers or with vibratory compactors subject to the following requirements:

- The contractor shall place ballast on the graded and compacted sub-base with the maximum lift thickness being determined by the compaction equipment selected and the requirements for proper compaction as given in Section 203-3.12 of the Standard Specifications.

- The top grade of the ballast base course shall be a minimum of 2 in. below the bottom of tie elevation as determined from the top of rail profile shown in the contract documents, the rail section, tie plate thickness, and nominal tie thickness being used at a particular location.

- The requirements for Standard Proctor Maximum Density and Moisture Control shall not apply for ballast, however, compaction shall be continued until the stones are firmly interlocked and the surface is true and unyielding.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

- The ballast from 2 inches below the tie grade line to the finished surface shall be placed, tamped and dressed after the proposed track is in place, and will be paid for under its respective item.

Method of Measurement
The work will be measured as the number of tons of stone ballast is placed and compacted.

Basis of Payment
The unit price bid per ton shall include the cost of all labor, material and equipment necessary to complete the work.

DESIGN FILE: UNLPIT

TABLE No. 1 Recommended Limiting Values of Testing for Ballast Material

PROPERTY	Granita	Traprock	Quartzite	Limestane	Domestic Limestone	Blast Furnace Slag	Steel Furnace Slag	ASTM Test
Percent Material Passing No. 200 Sieve	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	C 117
Bulk Specific Gravity (See Note #2)	2.60	2.60	2.60	2.60	2.60	2.30	2.90	C 127
Absorption Percent	1.0	1.0	1.0	2.0	2.0	5.0	2.0	C 127
Clay Lumps & Friable 5 Cycles	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	C 142
Degradation	35%	25%	30%	35%	35%	40%	30%	See Note #1
Soundness (Sodium Sulfate)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	C 88
Flat and/or Elongated Particles	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	USACE CRD-C 119

Note #1 - Materials having gradations containing particles retained on the 1" sieve shall be tested by ASTM C 535. Materials having graduations with 100% sieve shall be tested by ASTM C 131.

Note #2 - The limit for specific gravity is a minimum value. Limits for the tests are maximum values.

TABLE NO. 2 Recommended Ballast Graduations

Size No.	Nominal Size Sqaure Opening	3"	2-1/2"	2"	1½"	1"	¾"	½"	⅜"	No. 4	No. 8
24	2-1/2" - ¾"	100	90 - 100		25 - 60		0 - 10	0 - 5			
25	2-1/2" - ⅜"	100	80 - 100	60 - 85	50 - 70	25 - 50		5 - 20	0 - 10	0 - 3	
3	2" - 1"		100	95 - 100	35 - 70	0 - 15		0 - 5			
4A	2" - ¾"		100	90 - 100	60 - 90	10 - 35	0 - 10		0 - 3		
4	1-1/2" - ¾"			100	90 - 100	20 - 55	0 - 15		0 - 5		
5	1" - ⅜"				100	90 - 100	40 - 75	15 - 35	0 - 15	0 - 5	
57	1" - No. 4				100	95 - 100		25 - 60		0 - 10	0 - 5

Note #1 - Graduation Numbers 24, 25, 3, a-A and 4 are main line ballast materials.
Graduation Numbers 5 and 57 are yard ballast materials.

EXHIBIT "G"

EXHIBIT "G"

ITEM C675.15 – FURNISH AND PLACE STONE BALLAST SURFACING COURSE ON TRACKS

Description:
The work shall consist of furnishing and placing stone ballast for the raising and surfacing of tracks, turnouts, track crossings and road crossings where indicated in the contract documents or where directed by the Engineer.

Materials:
Materials Specification 703-02, Coarse Aggregate shall apply except as modified herein.

All stone ballast shall be composed of angular fragments of rock, reasonably uniform in quality, and having specified durability and wear resistance qualities. Screened gravel, crushed gravel, marble, sandstone, argillaceous limestones, argillaceous dolomites or crushed slag are not acceptable for use as stone ballast.

All physical requirements and limitations on deleterious materials for crushed stone ballast are listed in Table 703-90 (below).

Stone ballast shall be handled in such a manner that it is kept clean and free from segregation. Any stone which requires washing or scrubbing to insure cleanliness shall be washed at the quarry or crusher site. The gradation requirements of stone sizes shall conform to Table 703-91 (below), "Size Gradation-Stone Ballast."

All sampling and testing shall be done in accordance with Engineer written instructions. Each portion of a quarry exhibiting a variation in quality of stone shall be tested separately. The test results shall not be averaged. The Engineer reserves the right to sample and test the stone ballast up to and including the point of use.

ITEM C675.15 – FURNISH AND PLACE STONE BALLAST SURFACING COURSE ON TRACKS

TABLE 703-90 BALLAST CLASS TESTS [1]	Ballast Class		
	NY1	NY2	NY3
Magnesium Sulfate Test (NYSDOT 703-7P) [2]			
Max. percent loss by weight at 10 cycles	18	18	18
Freezing and Thawing Test (NYSDOT 703-8P) [3]			
Max. percent loss by weight at 25 cycles	10	10	10
Los Angeles Abrasion Test (AASHTO T96)			
Max. percent loss by weight (Grading A or B)	15[4]	20[4]	35[4]
		45[5]	45[5]
Flat and Elongated Pieces (ASTM C125)			
Max. percent by weight of:			
Flat or Elongated to the Degree of 3:1	30	30	30
Flat or Elongated to the Degree of 5:1	10	10	10
Impedance Test (NYSDOT 703-12G)			
Impedance, K ohms	2.6+	2.6+	2.6+
Petrographic Test			
Shale or other deleterious materials [6]	1.0	1.0	1.0
Clay balls or lumps	0.2	0.2	0.2
Materials passing the 75 m sieve (NYSDOT 703-2P)	0.7	0.7	0.7

[1] To determine its conformance to specification limits, processed crushed stone may be tested at any point after completion of processing. The manufactured material shall be separated into the primary sizes indicated in Table 703-5, "Primary Sizes". Each size fraction shall conform to the requirements 703-90, Stone Ballast.

[2] Magnesium Sulfate loss applies to No. 2 primary size fraction.

[3] The freeze-thaw loss applies to the No. 3 primary size fraction, but the Engineer reserves the option to test the No. 2 primary size fraction.

[4] Loss applies to limestone, dolomite, quartzite, and trap rock.

[5] Loss applies to granite, anorthosite, and gabbro.

[6] Argillaceous limestone's and dolomites are considered to be deleterious materials.

ITEM C675.15 – FURNISH AND PLACE STONE BALLAST SURFACING COURSE ON TRACKS

TABLE 703-91
SIZE GRADATION - STONE BALLAST
AMOUNTS FINER THAN EACH SIEVE*

SIZE NO.	NOMINAL SIZE	PERCENT BY WEIGHT								
		2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	No. 4 Sieve	No. 10 Sieve
CR3-4	2" – ½"	100	98 - 100	60 - 85	20 - 40	5-15	0-5	0-1	-	-
4	1½" – ¾"	-	100	90 - 100	20 - 55	0-15	-	0-5	-	-
5	1" – 3/8"	-	-	100	90 - 100	40-75	15 - 35	0-15	0-5	-
57	1" – No. 4 Sieve	-	-	100	95 - 100	-	25 - 60	-	0-10	0-5

* Sieves shall meet the requirements of ASTM designation E-11

Construction Details:
Stone Ballast shall not be distributed, until track and turnouts have been lined to within 2 in. of final alignment.

The ballast required for raising and surfacing track shall be distributed from hopper bottom or special ballast railroad cars, or alternate method of distribution approved by the Engineer, in the quantities as shown in the contract documents or ordered by the Engineer as necessary for the raise. Immediately after distributing the ballast, the track shall be dressed as necessary to permit continued operation of normal train service including proper operation of switches, frogs, guard rails, and flange areas.

The rail cars used to transport the ballast shall be in good condition, so that leakage of ballast does not occur, and so that the spreading operation can be controlled. The rail cars or other equipment shall be free of any debris or foreign material that might contaminate the ballast.

The requirements for Standard Proctor Maximum Density and Moisture Control shall not apply for ballast, however, compaction shall be continued until the stones are firmly interlocked and the surface is true and unyielding.

Method of Measurement:
This work will be measured as the number of tons of stone ballast furnished, and placed.

Basis of Payment:
The unit price bid per ton shall include the cost of all labor, material and equipment necessary to complete the work.

APPENDIX A

TEST PIT LOGS

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

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

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm: 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-6.5 / 6.5	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-11-09*

Length: *30'*

Width: *3'*

Depth: *6.5'*

Depth to Water: *6'*

Visual Impacts: *none*

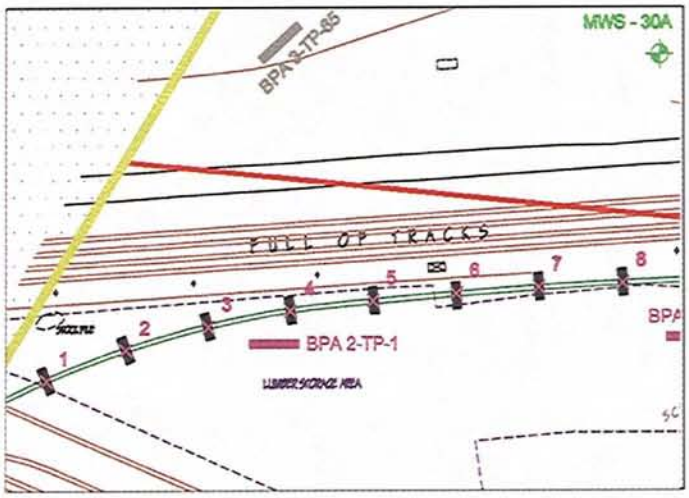
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment, Inc.
Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-2
Logged By: BMG
Checked By: BCH

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

SUBSURFACE PROFILE

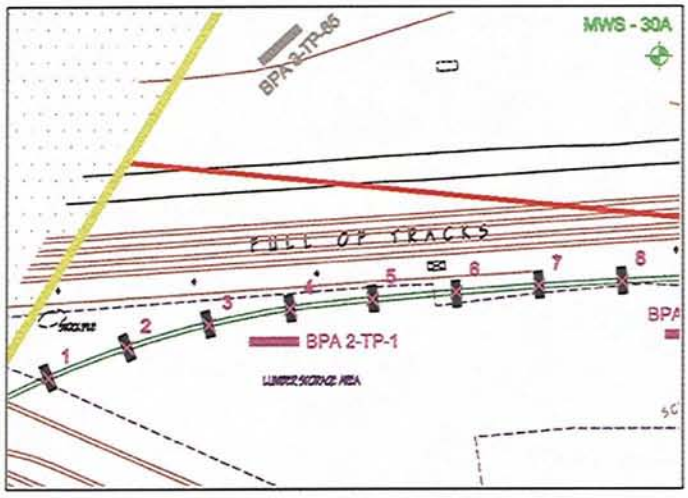
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	*Fill* Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	RR-TP-2 (0-2')	
5.0						
	-7.5 7.5	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*
Excavator Type: *John Deere 892 ELC*
Excavation Date(s): *5-11-09*
Length: *30'*
Width: *3'*
Depth: *7.5'*
Depth to Water: *7'*
Visual Impacts: *none*
Olfactory Observations: *none*
Comments: *Collected MS & MSD samples*

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-3

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm: 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.0 / 7.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-11-09

Length: 30'

Width: 3'

Depth: 7.0'

Depth to Water: 6.5'

Visual Impacts: none

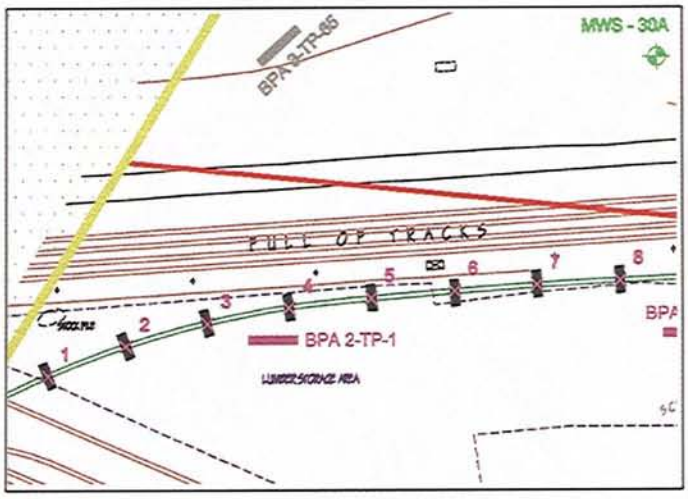
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-4

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed	Fill		RR-TP-4 (0-2')	
				0.3		
5.0						
	-7.5 / 7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff	Silty Clay	0.0		
	-8.0 / 8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-11-09

Length: 30'

Width: 3'

Depth: 8'

Depth to Water: 7.5'

Visual Impacts: none

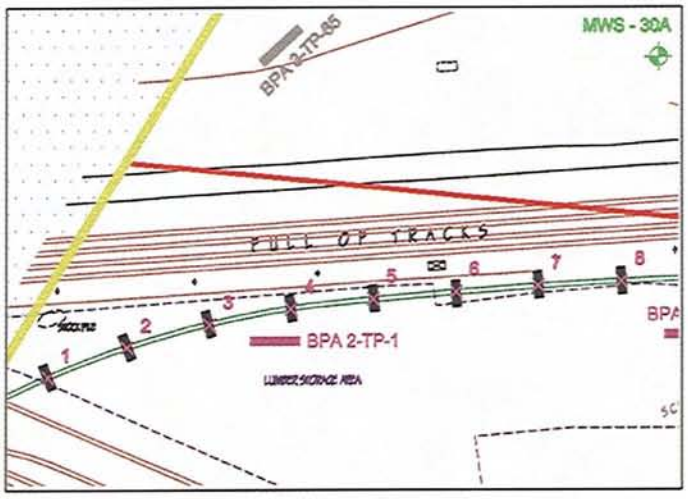
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

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

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-8.5 / 8.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-9.0 / 9.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-8-09

Length: 25'

Width: 3'

Depth: 9'

Depth to Water: 8'

Visual Impacts: none

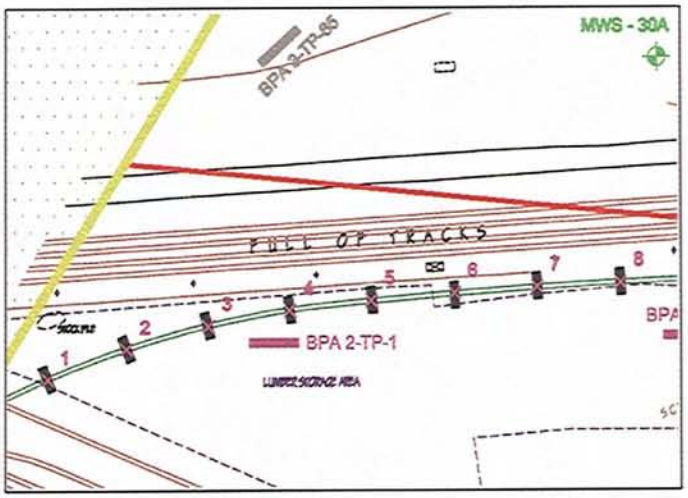
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-6

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, brick and slag, loose when disturbed			RR-TP-6 (0-2')	
				0.0		
5.0						
	-7.5 / 7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-8.0 / 8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-8-09

Length: 25'

Width: 3'

Depth: 8'

Depth to Water: NA

Visual Impacts: none

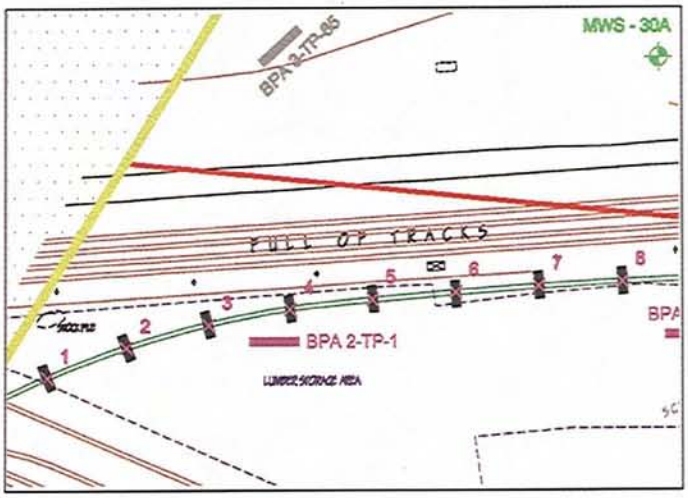
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-7

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, bricks and slag, loose when disturbed		0.3		
5.0						
	-7.5					
	7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-8.0					
	8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-8-09

Length: 25'

Width: 3'

Depth: 8'

Depth to Water: 8'

Visual Impacts: none

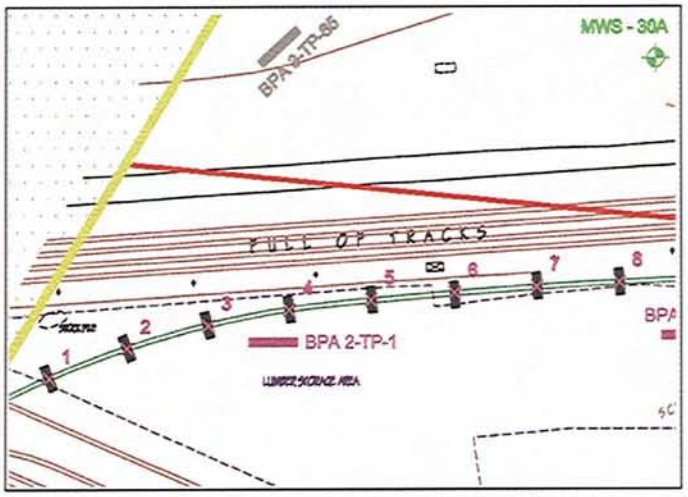
Olfactory Observations: none

Comments: Relocated TP 15' to the south

- on same center line

–

Test Pit Location: Not to Scale



TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment, Inc.
Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-8
Logged By: BMG
Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, brick and slag, loose when disturbed			RR-TP-8 (0-2')	
				0.0		
5.0						
	-7.5					
	7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-8.0 8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-8-09

Length: 30'

Width: 3'

Depth: 8'

Depth to Water: 8'

Visual Impacts: none

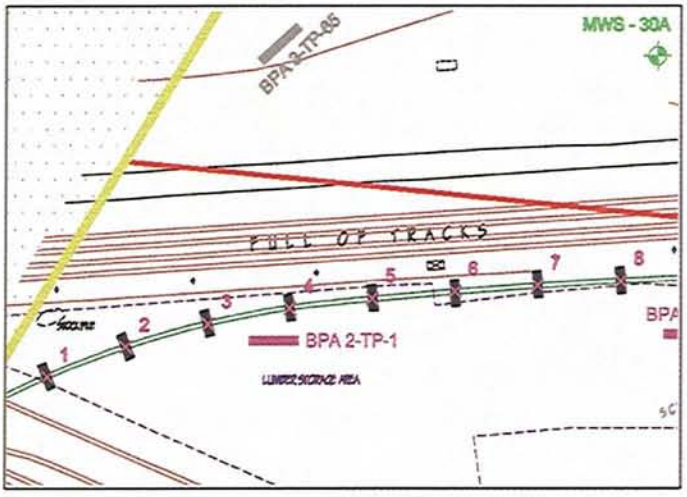
Olfactory Observations: none

Comments: Relocated TP 15' to the north

- on same center line

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

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

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, bricks and slag, loose when disturbed		1.2		
5.0						
	-7.5 / 7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-8.0 / 8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-8-09

Length: 30'

Width: 3'

Depth: 8'

Depth to Water: NA

Visual Impacts: none

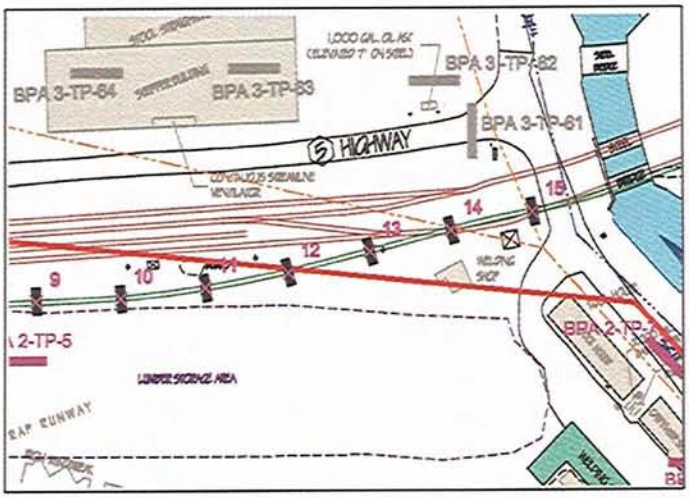
Olfactory Observations: none

Comments: Relocated TP 15' to the north

- on same center line

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment, Inc.
Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-10
Logged By: BMG
Checked By: BCH

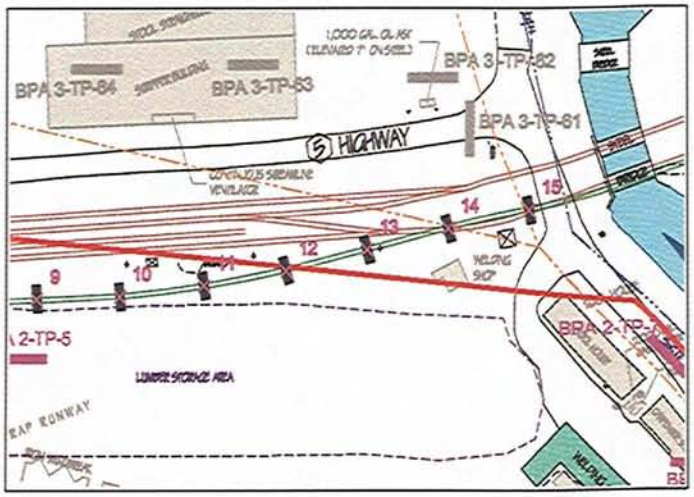
TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed			RR-TP-10 (0-2')	
				0.0		
5.0						
	-7.5 / 7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-8.0 / 8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction
Excavator Type: John Deere 892 ELC
Excavation Date(s): 5-8-09
Length: 30'
Width: 3'
Depth: 8'
Depth to Water: 8'
Visual Impacts: none
Olfactory Observations: none
Comments:
-
--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment, Inc.
Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-11
Logged By: BMG
Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-8.5 / 8.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-9.0 / 9.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-8-09

Length: 30'

Width: 3'

Depth: 9'

Depth to Water: NA

Visual Impacts: none

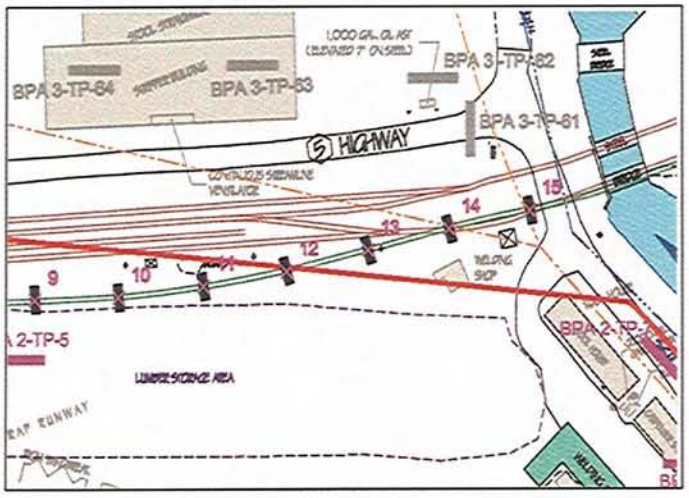
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-12

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed			RR-TP-12 (0-2')	
				0.0		
5.0						
	-7.5 / 7.5	***Silty Clay***				
	-8.0 / 8.0	Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
		End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-8-09

Length: 30'

Width: 3'

Depth: 8'

Depth to Water: 8'

Visual Impacts: none

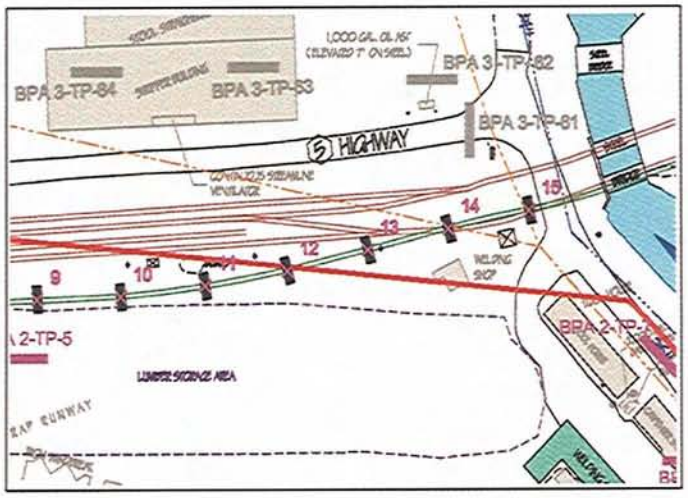
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment

Site Location: 1951 Hamburg Turnpike

Test Pit I.D.: RR-TP-13

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.5 / 7.5	***Silty Clay***		0.0		
	-8.0 / 8.0	Gray, moist, medium plastic fines with trace fine sand, stiff				
		End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-11-09

Length: 30'

Width: 3'

Depth: 8'

Depth to Water: NA

Visual Impacts: none

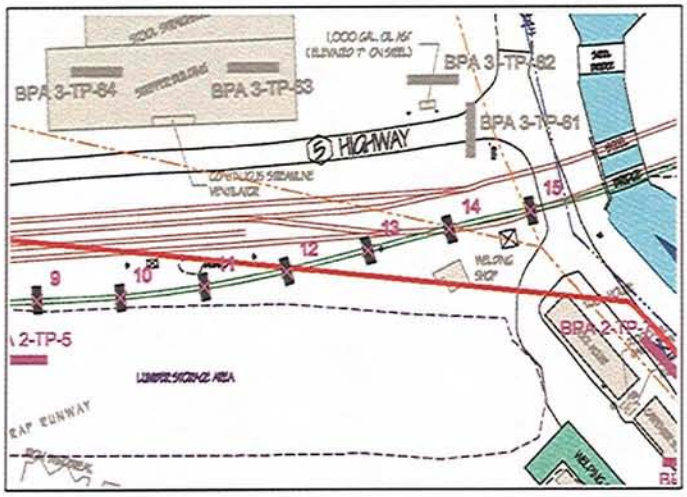
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-16

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed			RR-TP-16 (0-2')	
				0.0		
5.0						
	-9.0 / 9.0	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-9.5 / 9.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-11-09

Length: 30'

Width: 3'

Depth: 9.5'

Depth to Water: 9.5'

Visual Impacts: none

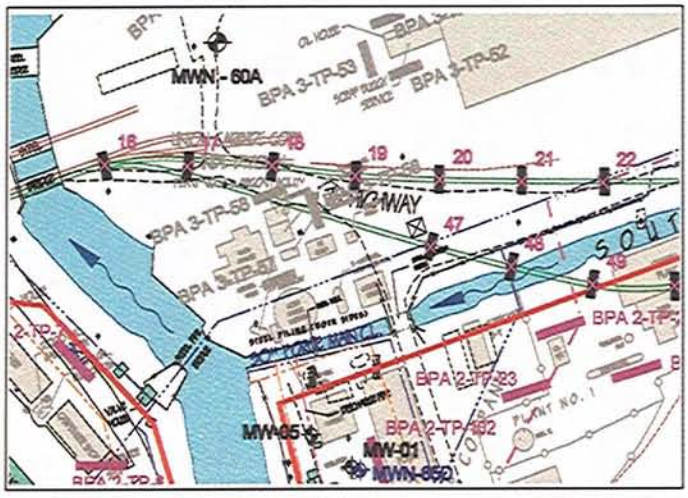
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-17

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	*Fill* Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-8.0 8.0	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-11-09*

Length: *30'*

Width: *3'*

Depth: *8'*

Depth to Water: *7.5'*

Visual Impacts: *none*

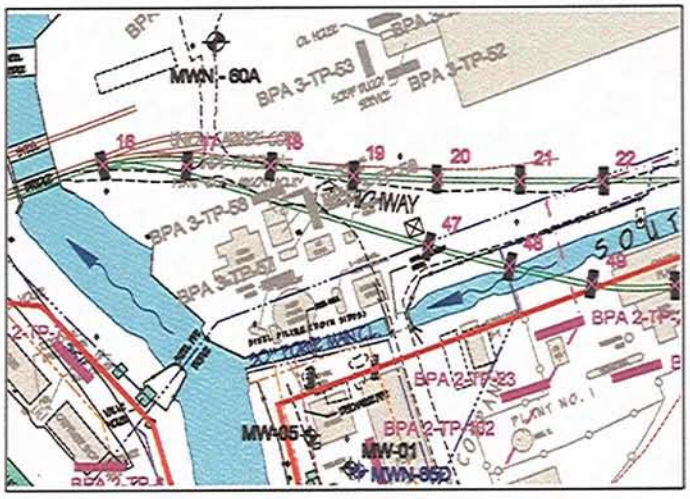
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-18

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	RR-TP-18 (0-2')	
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-12-09

Length: 30'

Width: 3'

Depth: 7.5'

Depth to Water: 7'

Visual Impacts: none

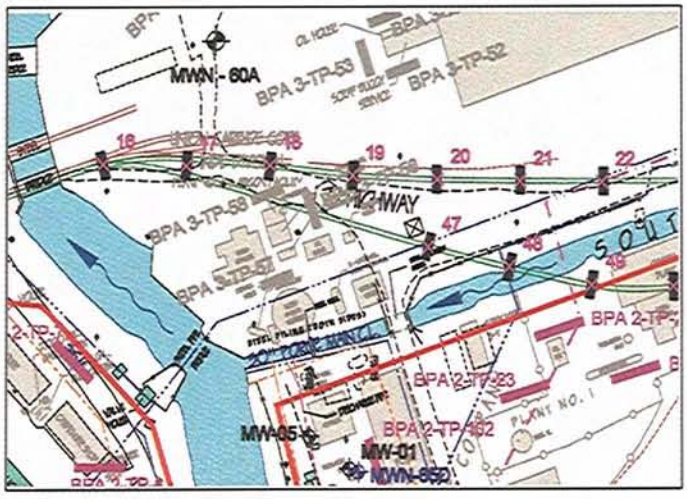
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-19

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.0 / 7.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-12-09

Length: 30'

Width: 3'

Depth: 7'

Depth to Water: 6.5'

Visual Impacts: none

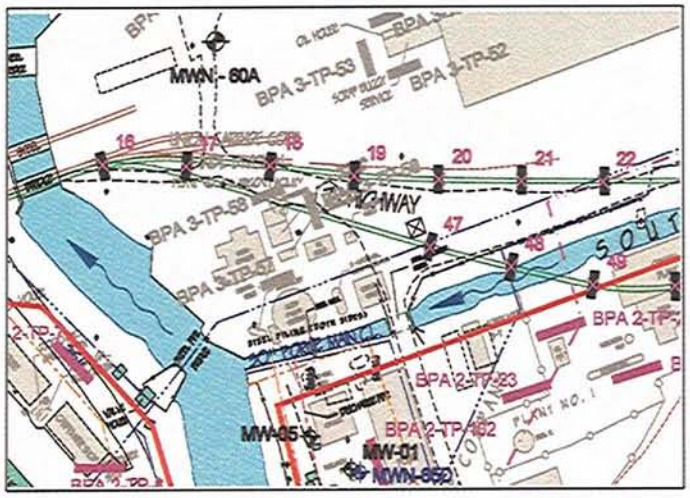
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment, Inc.
Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-20
Logged By: BMG
Checked By: BCH

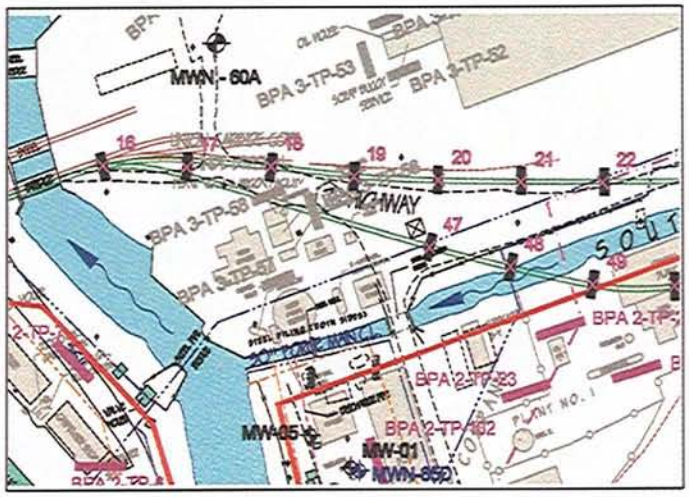
TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	*Fill* Dark brown, moist, cindery ash, brick and slag, loose when disturbed		2.6	RR-TP-20 (0-2')	
5.0						
	-7.5 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction
Excavator Type: John Deere 892 ELC
Excavation Date(s): 5-12-09
Length: 30'
Width: 3'
Depth: 7.5'
Depth to Water: 7'
Visual Impacts: none
Olfactory Observations: none
Comments:
-
--

Test Pit Location: Not to Scale



TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-21

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-8.0 8.0	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-12-09*

Length: *30'*

Width: *3'*

Depth: *8'*

Depth to Water: *7.5'*

Visual Impacts: *none*

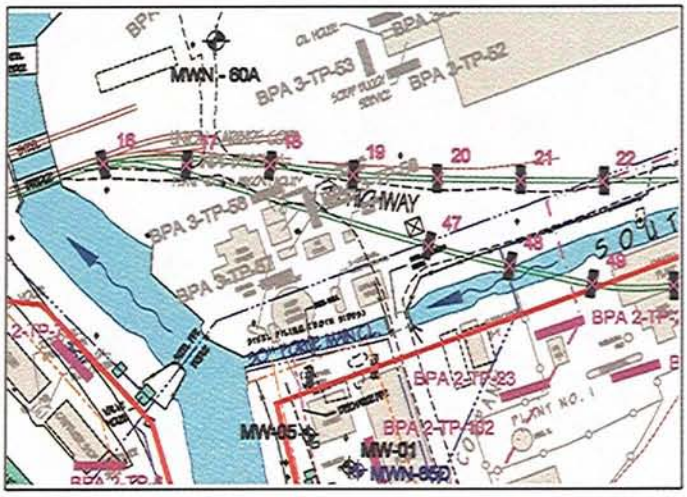
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-22

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
0.0	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	RR-TP-22 (0-2')	
5.0						
	-9.5					
10.0	9.5	End of Test Pit				

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-12-09

Length: 30'

Width: 3'

Depth: 9.5'

Depth to Water: 9'

Visual Impacts: none

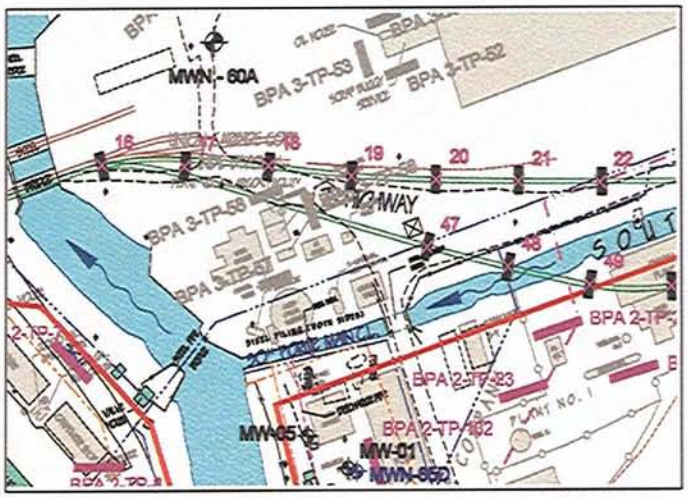
Olfactory Observations: none

Comments:

-

-

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project:	Phase III BPA Remedial Investigation	TEST PIT I.D.:	**BPA 3-TP-52**
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

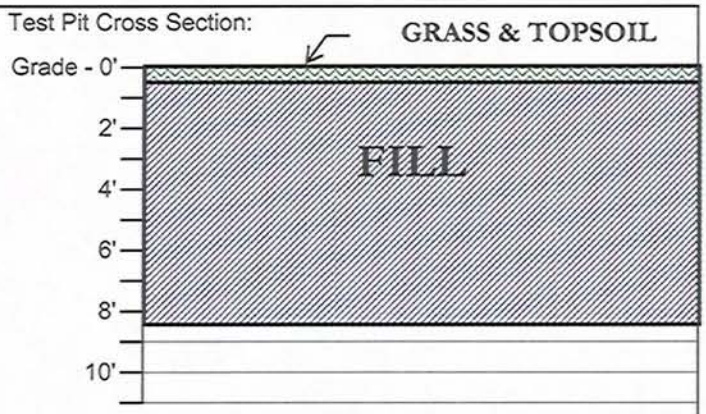
Test Pit Location: *NOT TO SCALE*

Refer to Figure in the Phase III report for exact location



TIME				
Start:	12:50	Length:	10.0 ft.	(approx.)
End:	13:40	Width:	3.0 ft.	(approx.)
		Depth:	8.5 ft.	(approx.)

Test Pit Cross Section:



Depth (fbgs)	USCS Symbol & Soil Description	PID Headspace (ppm)	Photos Y / N	Samples Collected (fbgs)
0.0 - 0.5	**Grass and topsoil:** Brown, moist, silt with some slag, loose	0.5	Y	YES
0.5 - 8.5	**Fill:** 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			

COMMENTS:

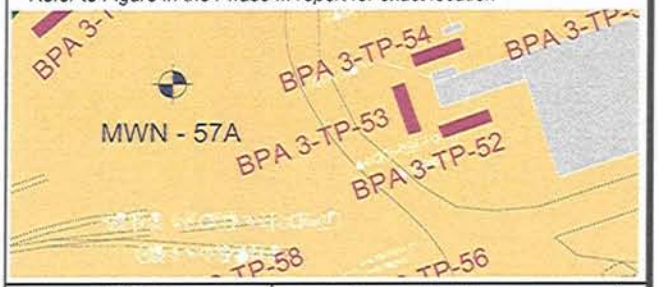
GROUNDWATER ENCOUNTERED:	☑ YES	☐ NO	If yes, depth to GW:	8.5'
VISUAL IMPACTS:	☐ YES	☑ NO	Describe:	
OLFACTORY OBSERVATIONS:	☐ YES	☑ NO	Describe:	
NON-NATIVE FILL ENCOUNTERED:	☑ YES	☐ NO		Slag, ash, and brick
OTHER OBSERVATIONS:	☐ YES	☑ NO	Describe:	
SAMPLES COLLECTED:			Sample I.D.:	TP-52 (0-2')
			Sample I.D.:	

TEST PIT EXCAVATION LOG

Project:	Phase III BPA Remedial Investigation	TEST PIT I.D.:	**BPA 3-TP-53**
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

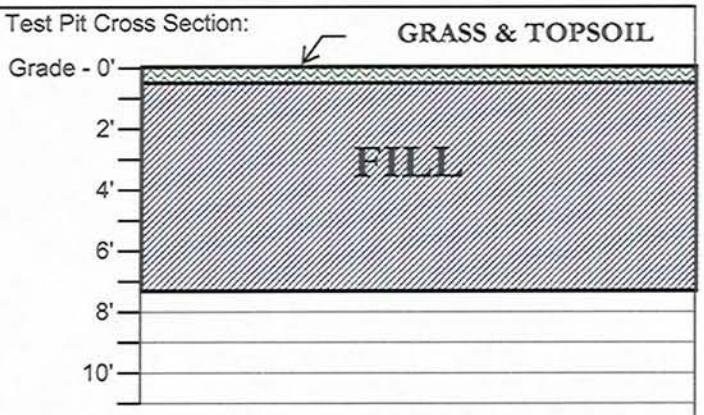
Test Pit Location: *NOT TO SCALE*

Refer to Figure in the Phase III report for exact location



TIME				
Start:	13:40	Length:	8.0 ft.	(approx.)
End:	14:50	Width:	3.0 ft.	(approx.)
		Depth:	7.5 ft.	(approx.)

Test Pit Cross Section:



Depth (fbgs)	USCS Symbol & Soil Description	PID Headspace (ppm)	Photos Y / N	Samples Collected (fbgs)
0.0 - 0.5	**Grass and topsoil:** Brown, moist, silt with some slag, loose	2.6	Y	YES
0.5 - 1.5	**Fill:** Gray, moist, Slag fill with ash, little Silt, dense	2.6	Y	YES
1.5 - 7.5	**Fill:** 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			

COMMENTS:

GROUNDWATER ENCOUNTERED:	☑ YES	☐ NO	If yes, depth to GW:	7.0'
VISUAL IMPACTS:	☐ YES	☑ NO	Describe:	
OLFACTORY OBSERVATIONS:	☐ YES	☑ NO	Describe:	
NON-NATIVE FILL ENCOUNTERED:	☑ YES	☐ NO	Slag, ash, and brick	
OTHER OBSERVATIONS:	☐ YES	☑ 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.:	**BPA 3-TP-54**
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

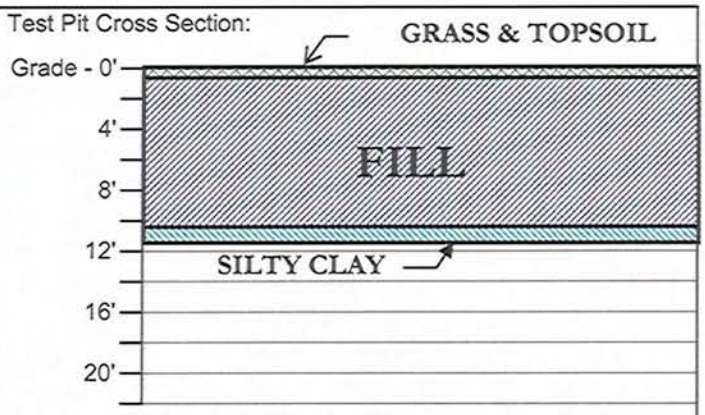
Test Pit Location: *NOT TO SCALE*

Refer to Figure in the Phase III report for exact location



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

Test Pit Cross Section:



Depth (fbgs)	USCS Symbol & Soil Description	PID Headspace (ppm)	Photos Y / N	Samples Collected (fbgs)
0.0 - 0.5	**Grass and topsoil:** Brown, moist, silt with some slag, loose	1.3	Y	YES
0.5 - 2.0	**Fill:** Gray, moist, Slag fill with ash, little Silt, dense	1.3	Y	YES
2.0 - 10.5	**Fill:** 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 (7.5 - 10.5')	Y	NO
10.5 - 11.5	**Silty Clay:** 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:	☑ YES	☐ NO	If yes, depth to GW:	7.5'
VISUAL IMPACTS:	☐ YES	☑ NO	Describe:	
OLFACTORY OBSERVATIONS:	☑ YES	☐ NO	Describe:	Moderate odor
NON-NATIVE FILL ENCOUNTERED:	☑ YES	☐ NO		Slag, ash, and brick
OTHER OBSERVATIONS:	☐ YES	☑ 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.:	**BPA 3-TP-54A**
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

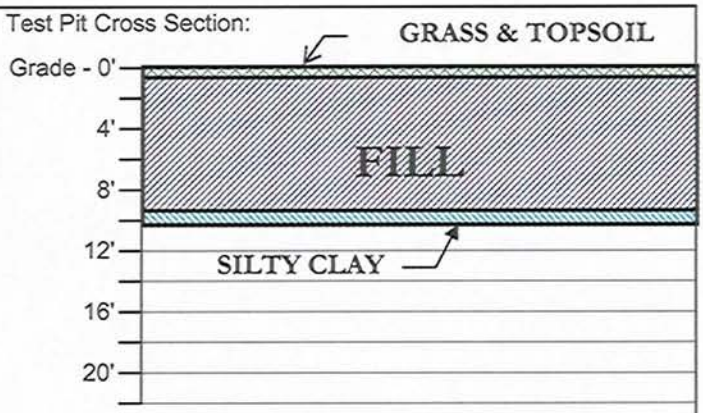
Test Pit Location: *NOT TO SCALE*

Refer to Figure in the Phase III report for exact location



TIME				
Start:	11:20	Length:	10.0 ft.	(approx.)
End:	11:35	Width:	3.0 ft.	(approx.)
		Depth:	10.0 ft.	(approx.)

Test Pit Cross Section:



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

COMMENTS: Located 30' south of TP-54

GROUNDWATER ENCOUNTERED:	☑ YES	☐ NO	If yes, depth to GW:	8'
VISUAL IMPACTS:	☐ YES	☑ NO	Describe:	
OLFACTORY OBSERVATIONS:	☐ YES	☑ NO	Describe:	
NON-NATIVE FILL ENCOUNTERED:	☑ YES	☐ NO		Slag, ash, and brick
OTHER OBSERVATIONS:	☐ YES	☑ NO	Describe:	
SAMPLES COLLECTED:			Sample I.D.:	
			Sample I.D.:	

TEST PIT EXCAVATION LOG

Project:	Phase III BPA Remedial Investigation	TEST PIT I.D.:	**BPA 3-TP-81**
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

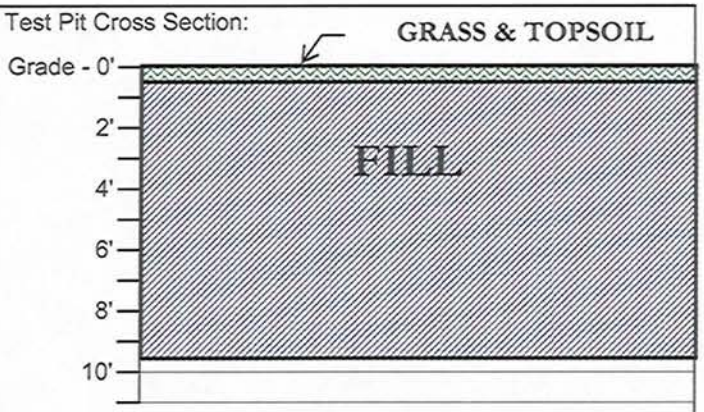
Test Pit Location: *NOT TO SCALE*

Refer to Figure in the Phase III report for exact location



TIME				
Start:	10:20	Length:	10.0 ft.	(approx.)
End:	11:00	Width:	3.0 ft.	(approx.)
		Depth:	9.8 ft.	(approx.)

Test Pit Cross Section:



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

COMMENTS:

GROUNDWATER ENCOUNTERED:	☑ YES	☐ NO	If yes, depth to GW:	9.0'
VISUAL IMPACTS:	☐ YES	☑ NO	Describe:	
OLFACTORY OBSERVATIONS:	☐ YES	☑ NO	Describe:	
NON-NATIVE FILL ENCOUNTERED:	☑ YES	☐ NO		Slag, ash, and brick
OTHER OBSERVATIONS:	☐ YES	☑ NO	Describe:	
SAMPLES COLLECTED:			Sample I.D.:	TP-81 (0-2')
			Sample I.D.:	

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-23

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
0.0	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-9.5 / 9.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
10.0						
	-11.5 / 11.5	End of Test Pit				

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-12-09

Length: 30'

Width: 3'

Depth: 11.5'

Depth to Water: 9.5'

Visual Impacts: none

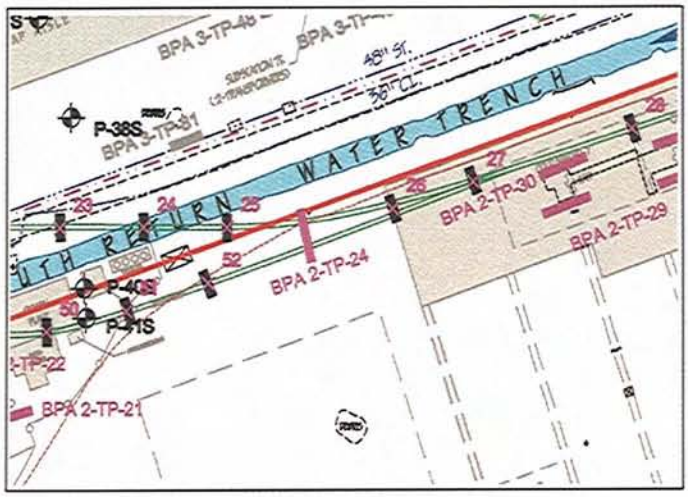
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: BPA 2-TP-24

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.2	BPA 2-TP-24 (0-2')	
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-7-09*

Length: *60'*

Width: *3'*

Depth: *7.5'*

Depth to Water: *7.5'*

Visual Impacts: *none*

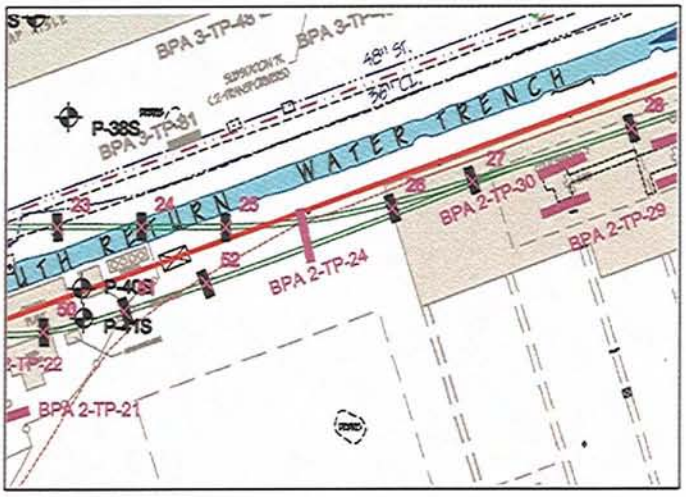
Olfactory Observations: *none*

Comments: *3' wide concrete footer*

- excavated on both sides

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-25

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		2.0		
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 7.5'

Depth to Water: 7.5'

Visual Impacts: none

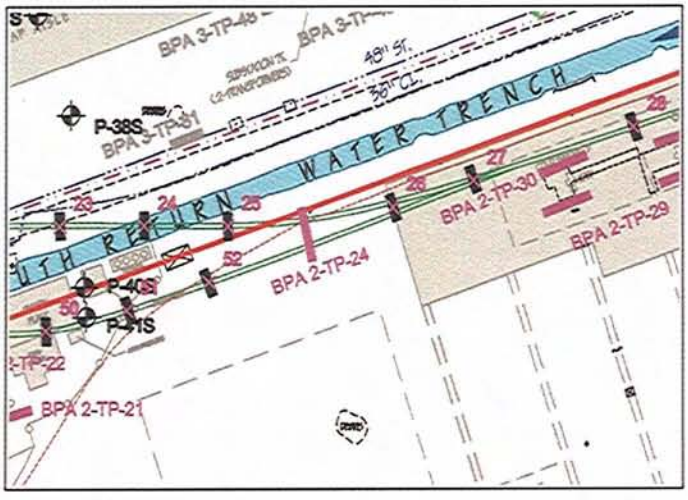
Olfactory Observations: none

Comments: 10' wide concrete transformer pad

- excavated on both sides

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment, Inc.
Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-26
Logged By: BMG
Checked By: BCH

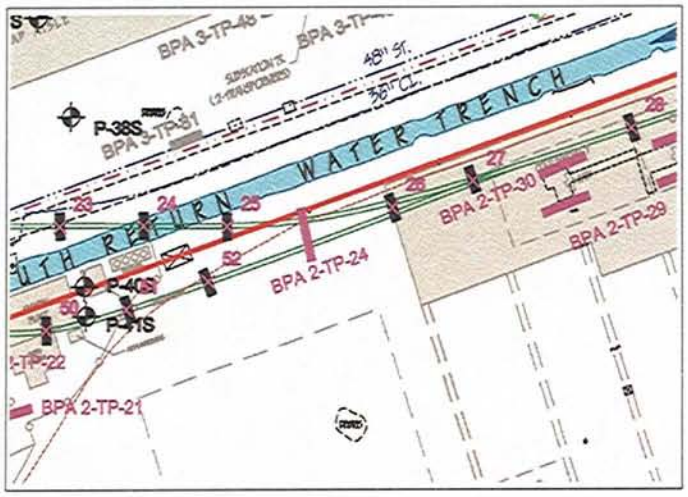
TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		5.3	RR-TP-26 (0-2')	
5.0						
	-7.5					
	7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction
Excavator Type: John Deere 892 ELC
Excavation Date(s): 5-7-09
Length: 30'
Width: 3'
Depth: 7.5'
Depth to Water: 7.5'
Visual Impacts: none
Olfactory Observations: none
Comments: 3' wide concrete footer
- excavated on both sides
--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-27

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 7.5'

Depth to Water: 7.5'

Visual Impacts: none

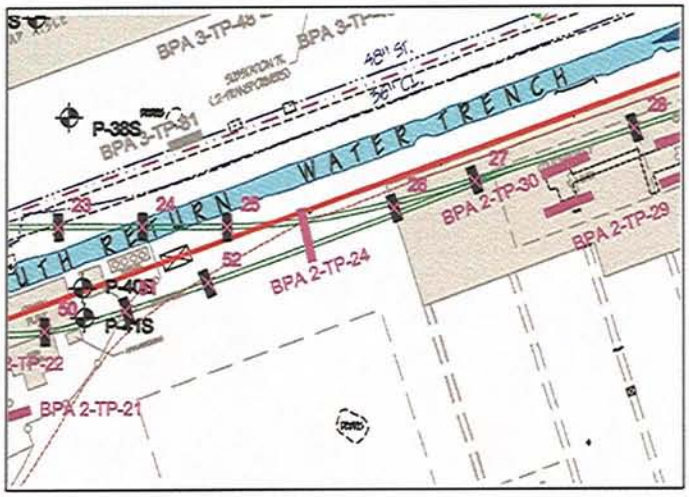
Olfactory Observations: none

Comments: 10' wide concrete transformer pad

- excavated on both sides

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: BPA 2-TP-30

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	BPA 2-TP-30 (0-2')	
5.0						
	-8.5 / 8.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 8.5'

Depth to Water: 8'

Visual Impacts: none

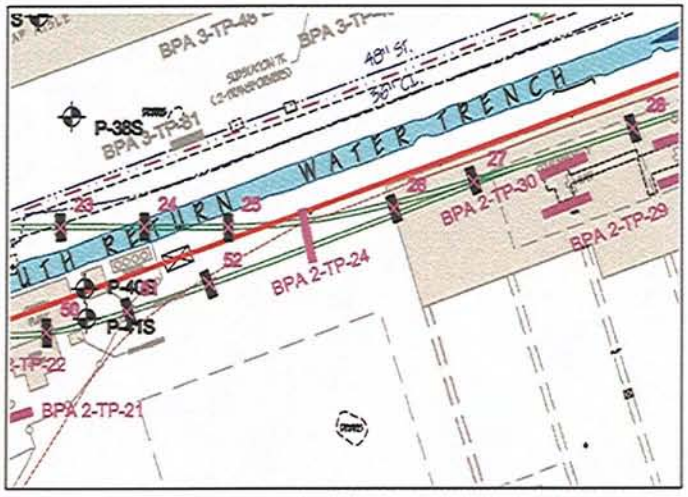
Olfactory Observations: none

Comments: 10' wide concrete transformer pad

- excavated on both sides

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-28

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	RR-TP-28 (0-2')	
5.0						
	-8.5 / 8.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 8.5'

Depth to Water: 8'

Visual Impacts: none

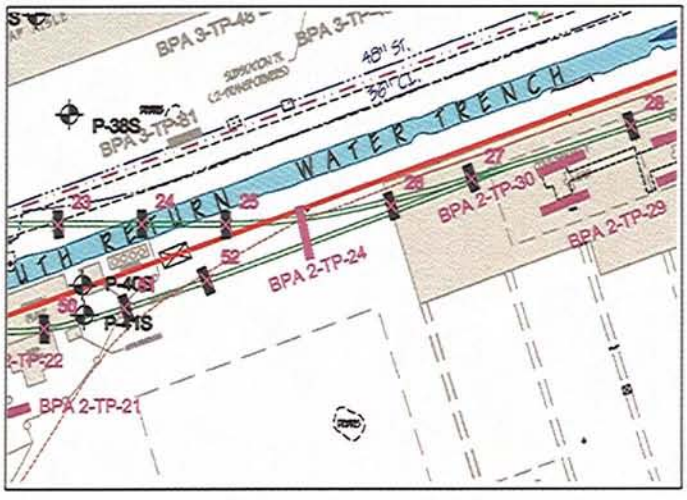
Olfactory Observations: none

Comments: 3' wide concrete footer

- excavated on both sides

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-29

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 7.5'

Depth to Water: 7.5'

Visual Impacts: none

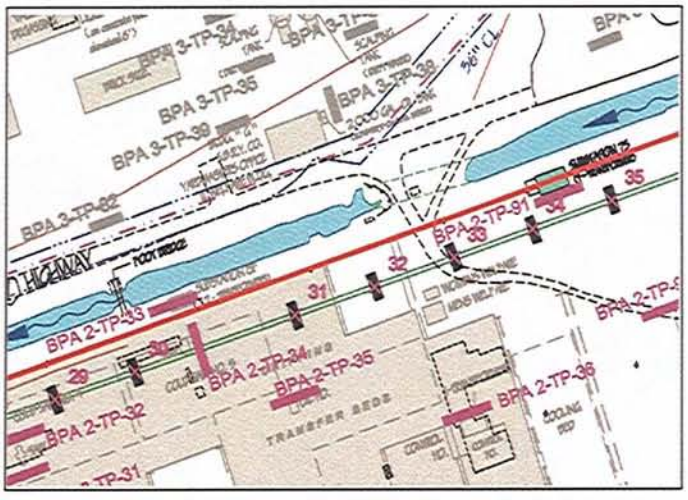
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-30

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	RR-TP-30 (0-2')	
5.0						
	-7.0 / 7.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 7'

Depth to Water: 6.5'

Visual Impacts: none

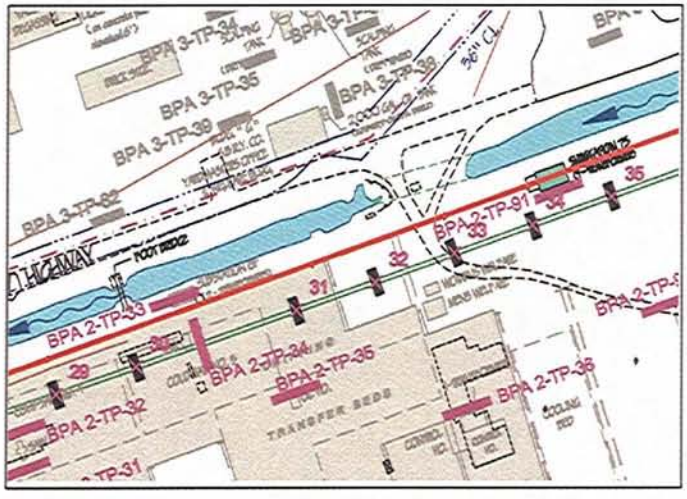
Olfactory Observations: none

Comments: 10' wide concrete transformer pad

- excavated on both sides

-- collect PCB sample from surface near pad

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: BPA 2-TP-34

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash and slag, loose when disturbed		0.0	BPA 2-TP-34 (0-2')	
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-6-09

Length: 20'

Width: 3'

Depth: 7.5'

Depth to Water: 7'

Visual Impacts: none

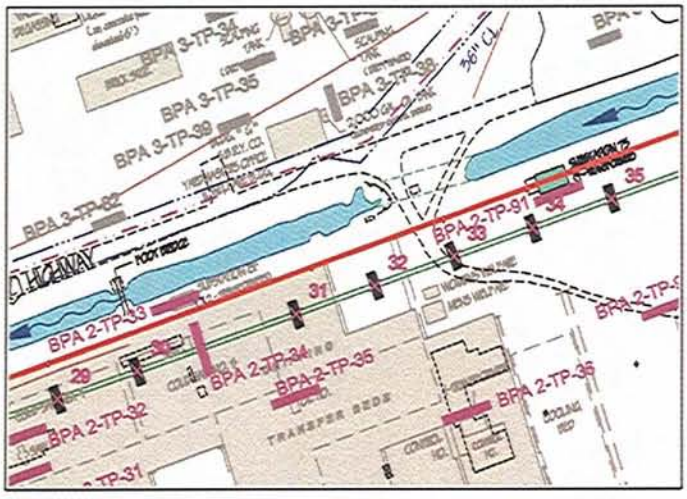
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-31

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.0 / 7.0	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-6-09*

Length: *30'*

Width: *3'*

Depth: *7'*

Depth to Water: *6.5'*

Visual Impacts: *none*

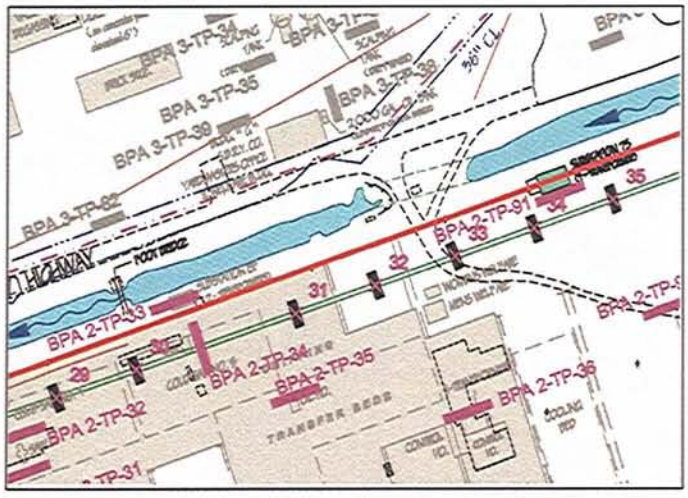
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment
Site Location: 1951 Hamburg Turnpike

Test Pit I.D.: RR-TP-32
Logged By: BMG
Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0 / 0.0	Ground Surface ***Fill*** Dark brown, moist, sindery ash and slag, loose when disturbed		0.0	RR-TP-32 (0-2')	
5.0						
	-7.0 / 7.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction
Excavator Type: John Deere 892 ELC
Excavation Date(s): 5-6-09
Length: 30'
Width: 3'
Depth: 7'
Depth to Water: 6'
Visual Impacts: none
Olfactory Observations: none
Comments:
-
--

Test Pit Location: Not to Scale

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-33

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
0.0	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.0					
	7.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-6-09

Length: 30'

Width: 3'

Depth: 7'

Depth to Water: 6.5'

Visual Impacts: none

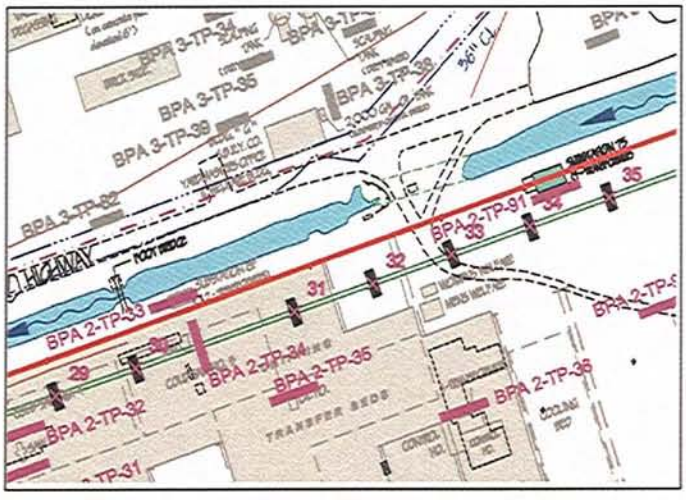
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-34

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash and slag, loose when disturbed			RR-TP-34 (0-2')	
				0.2		
5.0						
	-8.5 8.5	***Peat*** Brown, moist, decaying wood pieces and roots, spongy		0.0		
10.0	-10.5					
	10.5 -11.0 11.0	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
		End of Test Pit				

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-6-09

Length: 30'

Width: 3'

Depth: 11'

Depth to Water: 5.5'

Visual Impacts: none

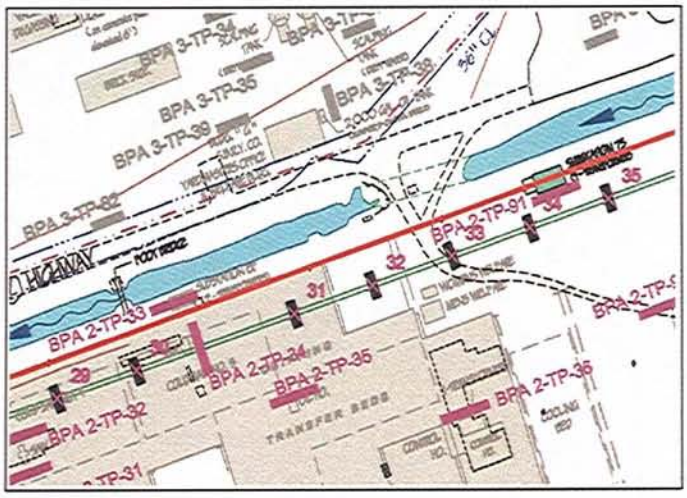
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-35

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed	Fill	2.7		
5.0						
	-9.0					
	9.0	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff	Silty Clay	0.0		
10.0	-10.5					
	10.5	End of Test Pit				

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-6-09

Length: 30'

Width: 3'

Depth: 10.5'

Depth to Water: 6'

Visual Impacts: none

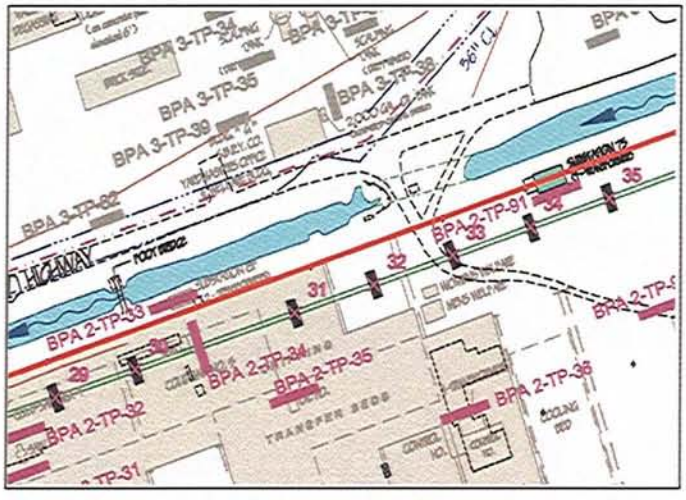
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-36

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	*Fill* Dark brown, moist, cindery ash and slag, loose when disturbed		0.0	RR-TP-36 (0-2')	
5.0						
	-6.0	End of Test Pit				
10.0	6.0					

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-6-09*

Length: *30'*

Width: *3'*

Depth: *6'*

Depth to Water: *5'*

Visual Impacts: *none*

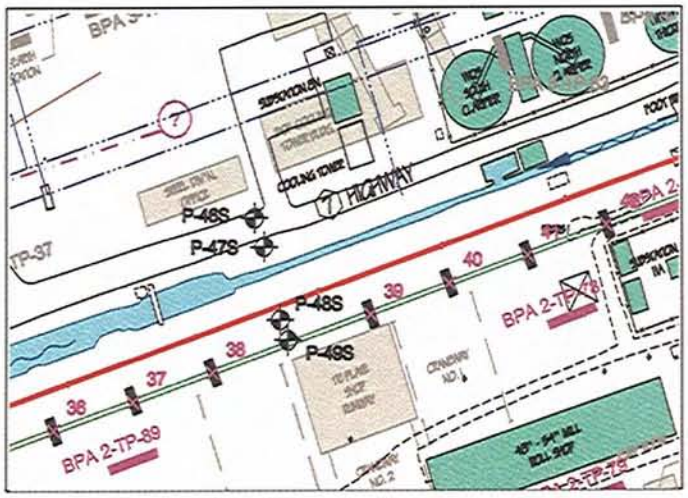
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-37

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0 / 0.0	Ground Surface				
		Fill Dark brown, moist, cindery ash and slag, loose when disturbed		0.0		
5.0						
	-6.5 / 6.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-6-09

Length: 30'

Width: 3'

Depth: 6.5'

Depth to Water: 6'

Visual Impacts: none

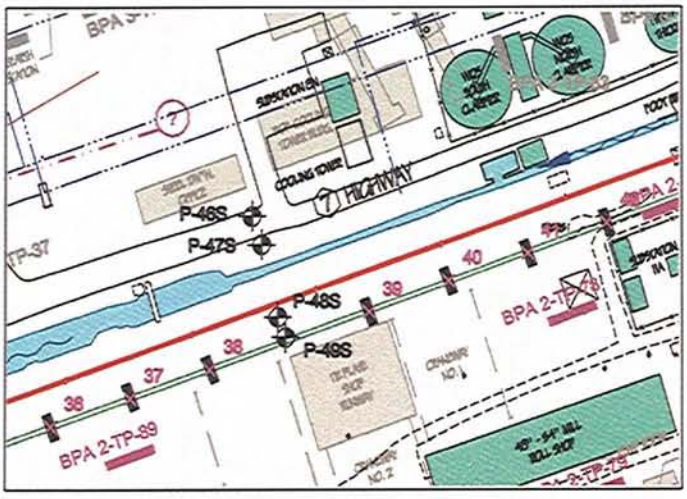
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-38

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash and slag, loose when disturbed		0.0	RR-TP-38 (0-2')	
5.0						
	-6.0 / 6.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-6-09

Length: 30'

Width: 3'

Depth: 6'

Depth to Water: 5'

Visual Impacts: none

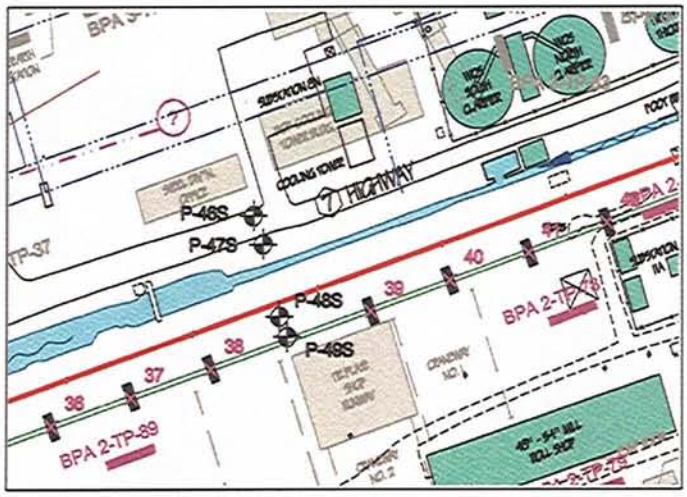
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-39

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash and slag, loose when disturbed		0.0		
5.0						
	-6.5					
	6.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-6-09

Length: 30'

Width: 3'

Depth: 6.5'

Depth to Water: 6'

Visual Impacts: none

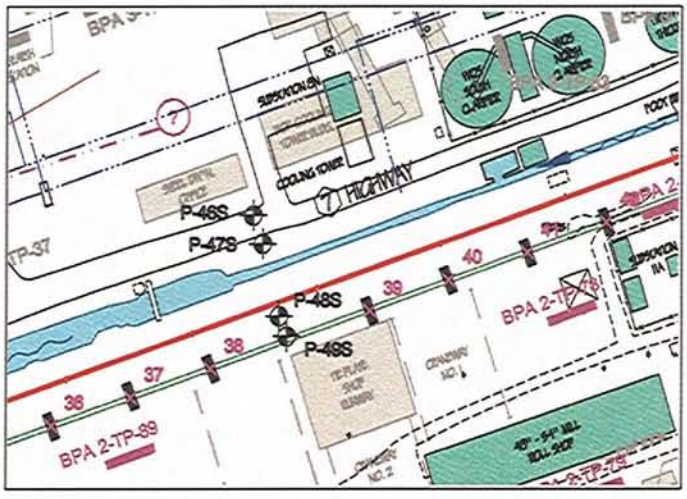
Olfactory Observations: none

Comments: 7" steel pipe with 3" and two 1" pipes inside

- encountered at 6" below grade, bent not broke

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-40

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash and slag, loose when disturbed		0.1	RR-TP-40 (0-2')	
5.0						
	-6.0					
10.0	6.0	End of Test Pit				

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-6-09*

Length: *30'*

Width: *3'*

Depth: *6'*

Depth to Water: *6'*

Visual Impacts: *none*

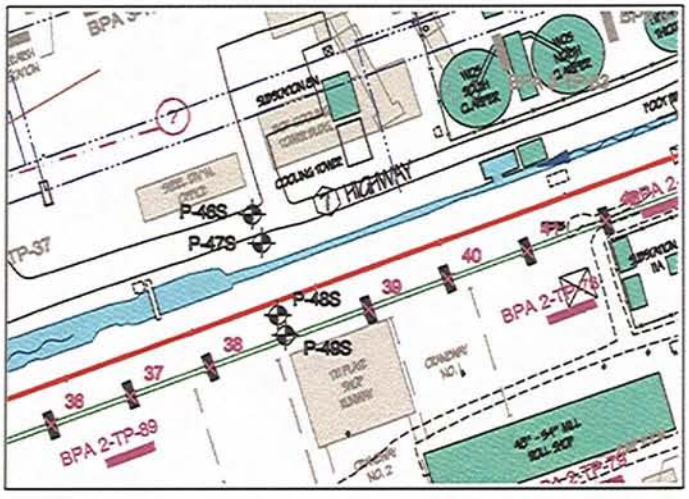
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-41

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
0.0	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0	-5.0 / 5.0	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-13-09*

Length: *30'*

Width: *3'*

Depth: *5'*

Depth to Water: *NA*

Visual Impacts: *none*

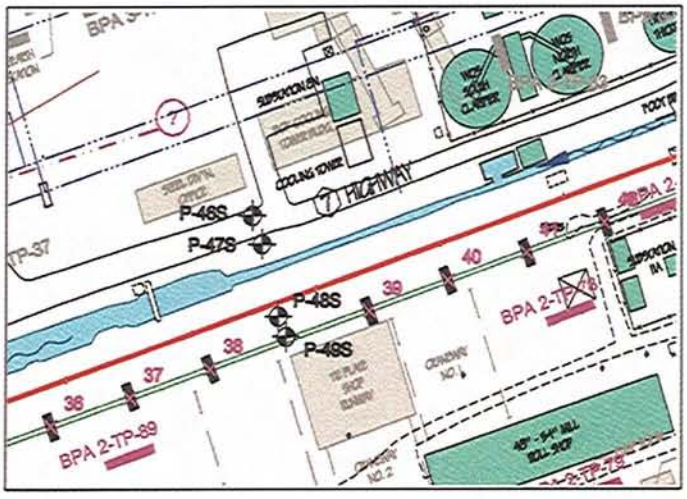
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-42

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag (with some mill scale ?), loose when disturbed			RR-TP-42 (0-2')	
5.0				0.0		
	-8.0 / 8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-13-09

Length: 30'

Width: 3'

Depth: 8.0'

Depth to Water: 7'

Visual Impacts: none

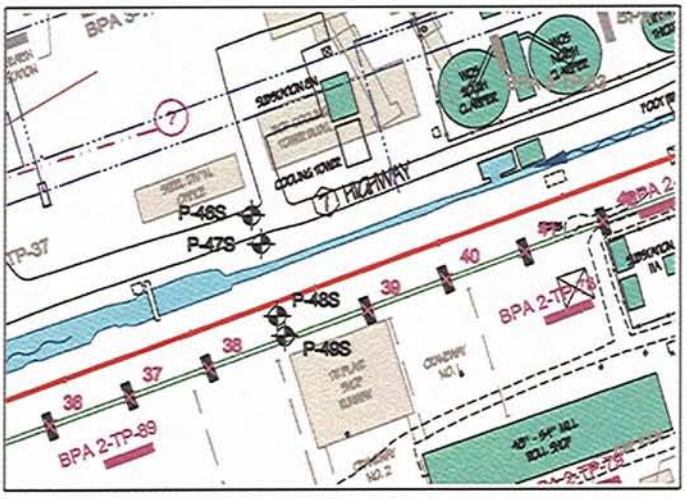
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: BPA 2-TP-92

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed			BPA 2-TP-92 (0-2')	
				0.0		
5.0						
	-6.0 6.0	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-7.0 7.0	End of Test Pit				
10.0						

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-13-09*

Length: *25'*

Width: *3'*

Depth: *7.0'*

Depth to Water: *6.5'*

Visual Impacts: *none*

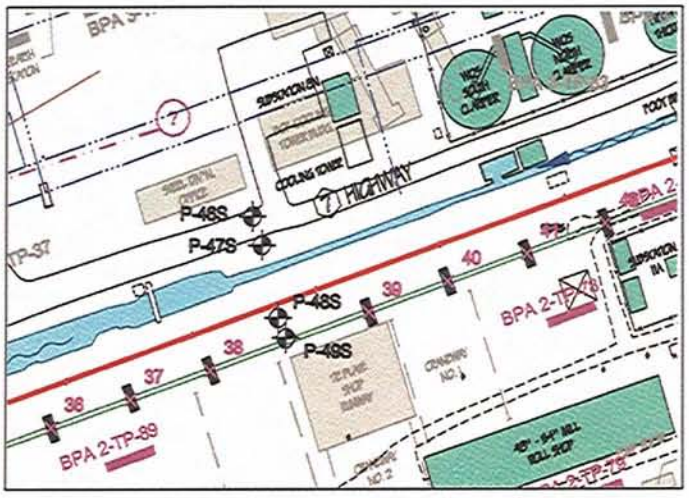
Olfactory Observations: *none*

Comments: *Sample heavy (metal ?)*

-

--

Test Pit Location: *Not to Scale*



Sheet: *1 of 1*

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-43

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
0.0	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0	-5.0 / 5.0	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-6.5 / 6.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-13-09

Length: 25'

Width: 3'

Depth: 6.5'

Depth to Water: 5'

Visual Impacts: none

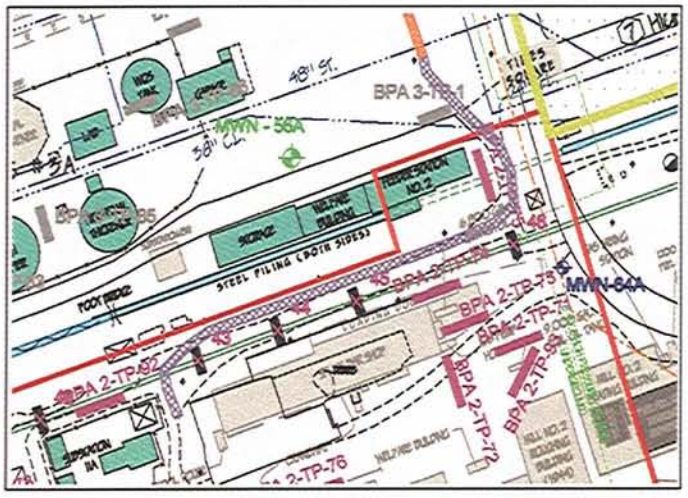
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-44

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
0.0	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	RR-TP-44 (0-2')	
5.0	-5.5 / 5.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-7.0 / 7.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-13-09

Length: 30'

Width: 3'

Depth: 7.0'

Depth to Water: 4.5'

Visual Impacts: none

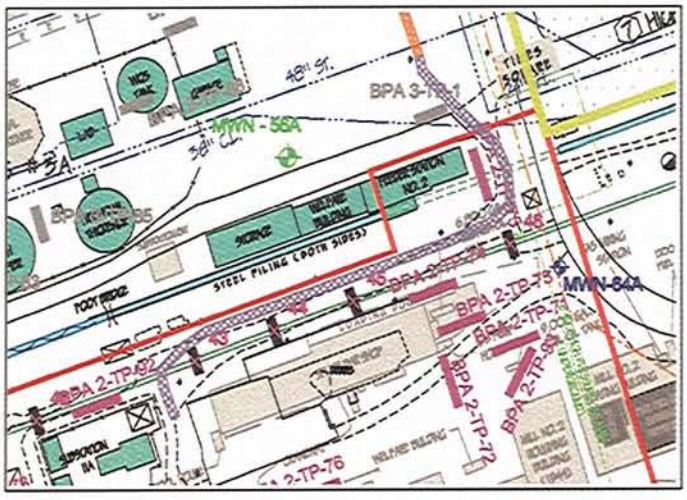
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-45

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-6.0	End of Test Pit				
10.0	6.0					

Excavated By: *Zoladz Construction*

Excavator Type: *John Deere 892 ELC*

Excavation Date(s): *5-13-09*

Length: *30'*

Width: *3'*

Depth: *6'*

Depth to Water: *5'*

Visual Impacts: *none*

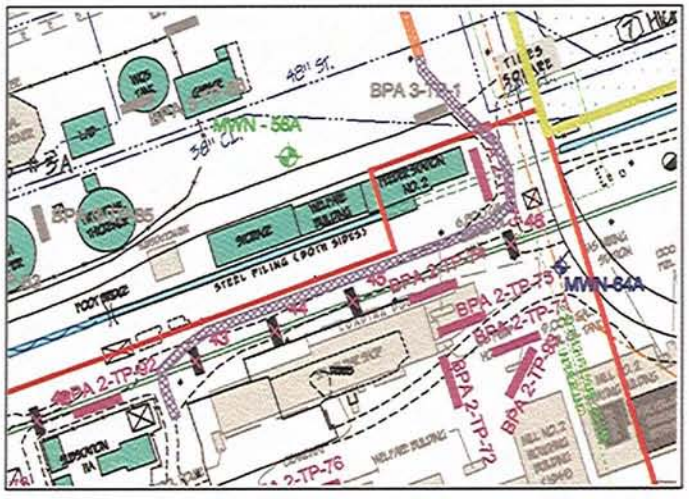
Olfactory Observations: *none*

Comments:

-

--

Test Pit Location: *Not to Scale*



TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: BPA 2-TP-74

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	BPA 2-TP-74 (0-2')	
5.0						
	-6.0 / 6.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-13-09

Length: 30'

Width: 3'

Depth: 6.0'

Depth to Water: 5.5'

Visual Impacts: none

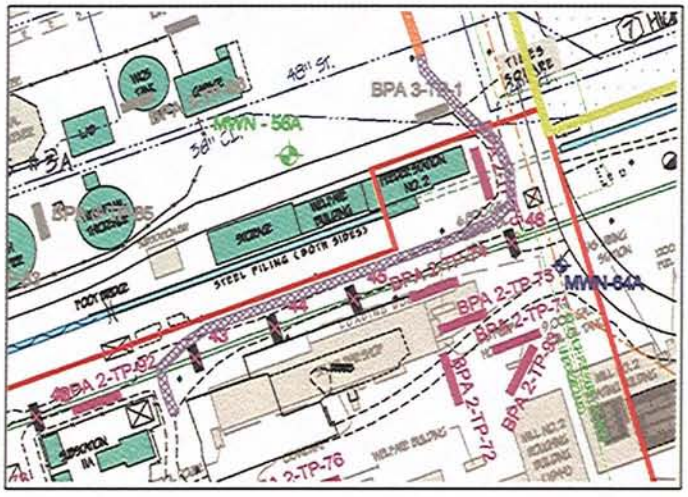
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-46

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, brick and slag, loose when disturbed		0.0	RR-TP-46 (0-2')	
5.0						
	-7.0 / 7.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-13-09

Length: 30'

Width: 3'

Depth: 7.0'

Depth to Water: 6.5'

Visual Impacts: none

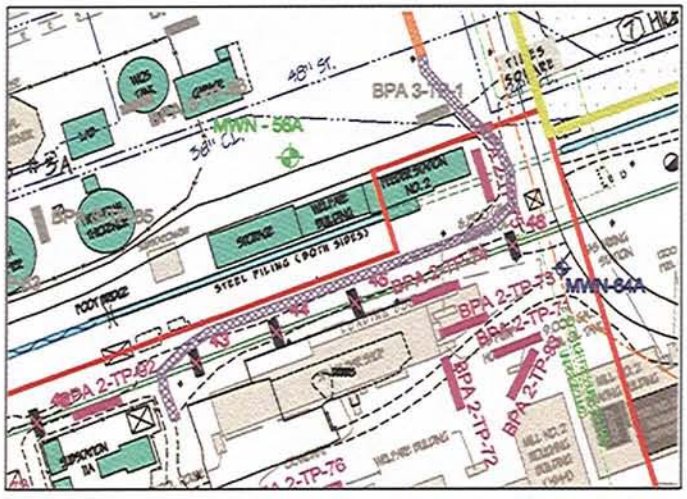
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-47

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, cindery ash, bricks and slag, loose when disturbed		0.0		
5.0	-6.0					
	6.0	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-8.5					
	8.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-13-09

Length: 30'

Width: 3'

Depth: 8.5'

Depth to Water: 7.5'

Visual Impacts: none

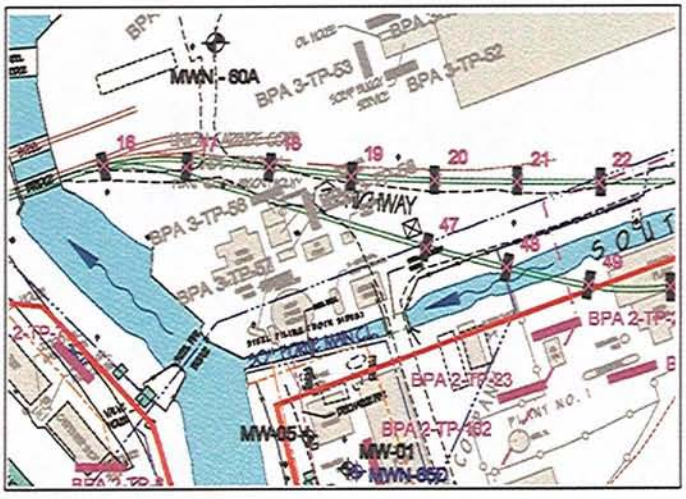
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-49

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, bricks and slag, loose when disturbed		0.0		
5.0					RR-TP-49 (7')	
	-7.5 / 7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
	-8.0 / 8.0	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 20'

Width: 3'

Depth: 8'

Depth to Water: 7.5'

Visual Impacts: none

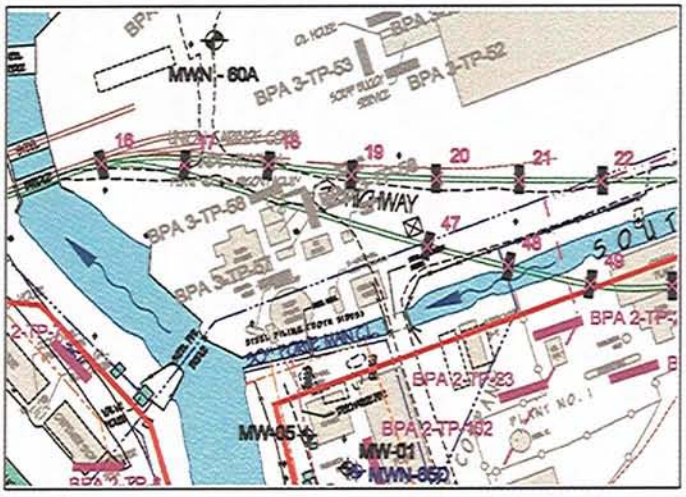
Olfactory Observations: none

Comments: Unknown oil like material floating on

- water with no visable source

-- collected sample for SVOC & VOC per BH

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-50

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, brick and slag, loose when disturbed			RR-TP-50 (0-2')	
				0.6		
5.0						
	-7.5 / 7.5	***Silty Clay*** Gray, moist, medium plastic fines with trace fine sand, stiff		0.0		
10.0						
	-11.0 / 11.0	End of Test Pit				

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 11'

Depth to Water: 8'

Visual Impacts: none

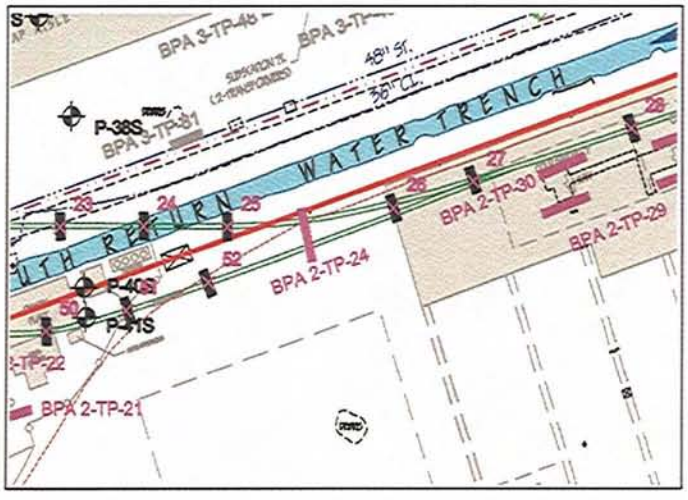
Olfactory Observations: none

Comments:

-

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124
Project: Railroad realignment
Client: Tecumseh Redevelopment, Inc.
Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-51
Logged By: BMG
Checked By: BCH

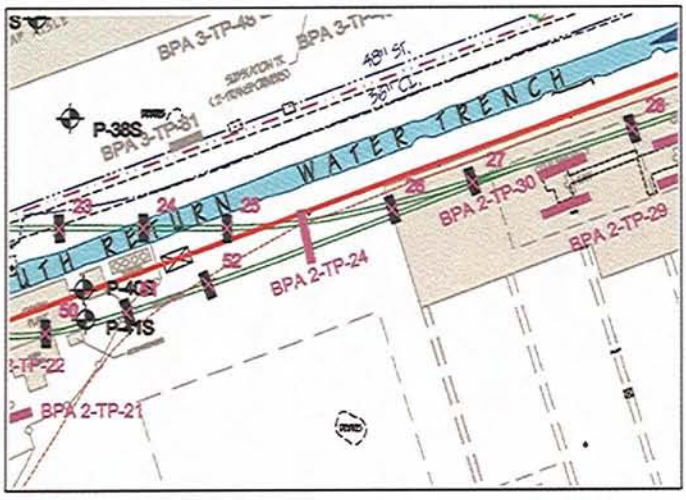
TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0635

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, bricks and slag, loose when disturbed		0.0		
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction
Excavator Type: John Deere 892 ELC
Excavation Date(s): 5-7-09
Length: 30'
Width: 3'
Depth: 7.5'
Depth to Water: 7.5'
Visual Impacts: none
Olfactory Observations: none
Comments:
-
--

Test Pit Location: Not to Scale



Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0071-009-124

Project: Railroad realignment

Client: Tecumseh Redevelopment, Inc.

Site Location: Lackawanna, NY

Test Pit I.D.: RR-TP-52

Logged By: BMG

Checked By: BCH

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

SUBSURFACE PROFILE

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol	PID VOCs (ppm, 0 – 1000 – 2000)	Lab Sample	Remarks
0.0	0.0	Ground Surface				
	0.0	***Fill*** Dark brown, moist, sindery ash, brick and slag, loose when disturbed		1.7	RR-TP-52 (0-2')	
5.0						
	-7.5 / 7.5	End of Test Pit				
10.0						

Excavated By: Zoladz Construction

Excavator Type: John Deere 892 ELC

Excavation Date(s): 5-7-09

Length: 30'

Width: 3'

Depth: 7.5'

Depth to Water: 7.5'

Visual Impacts: none

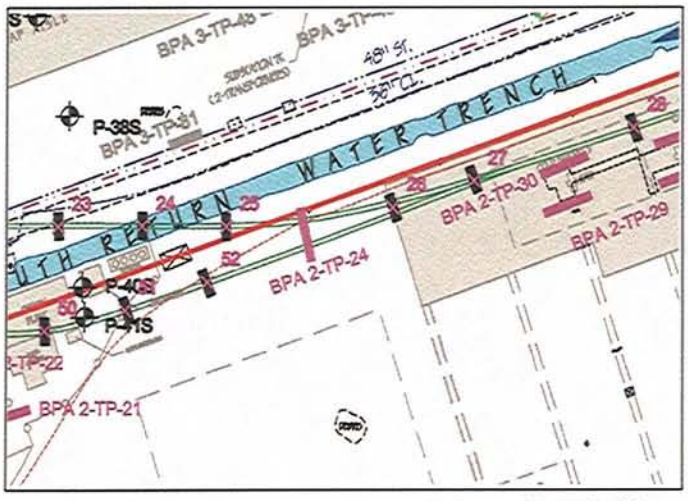
Olfactory Observations: none

Comments: 3' wide concrete footer

- excavated on both sides

--

Test Pit Location: Not to Scale



Sheet: 1 of 1

APPENDIX B

2009 RAIL CORRIDOR INVESTIGATION ANALYTICAL DATA PACKAGE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

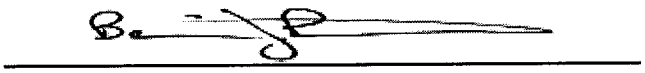
Analytical Report

Work Order: RSE0369

Project Description
TURNKEY - TECUMSEH REDEVELOPMENT SITE

For:

Bryan Hann
Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210



Brian Fischer
Project Manager
Brian.Fischer@testamericainc.com

Thursday, May 28, 2009

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to NELAP requirements are noted in this report. Persuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

TestAmerica Buffalo
Current Certifications

As of 1/27/2009

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA,CLP	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department of Energy	DOECAP-STB
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parameters for which accre ditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Case Narrative

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

There are pertinent documents appended to this report, 2 pages, are included and are an integral part of this report.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

The requested project specific reporting limits listed below were less than lab standard quantitation limits but greater than or equal to the lab MDL. It must be noted that results reported below lab standard quantitation limits (PQL) may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

SpecificMethod	Analyte	Units	Client RL	Lab PQL
8270C	4-Methylphenol	ug/kg dry	170	1600

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B3	Target analyte detected in calibration blank at or above the method reporting limit.
C-01	To reduce matrix interference, the sample extract has undergone sulfuric acid clean-up, method 3665A, which is specific to hydrocarbon contamination.
D02	Dilution required due to sample matrix effects
D08	Dilution required due to high concentration of target analyte(s)
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
QSU	Sulfur (EPA 3660) clean-up performed on extract.
R2	The RPD exceeded the acceptance limit.
Z6	Surrogate recovery was below acceptance limits.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-01 (RR-TP-40 - Solid)					**Sampled: 05/06/09 09:45**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	87		0.010	NR	%	1.00	05/14/09 07:12	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	57.1		10.0	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Barium	151		1.00	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Chromium	26.0		2.00	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Lead	172		5.0	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Mercury	0.404		0.0228	NR	mg/kg dry	1.00	05/13/09 14:37	MM	9E12055	7471A
Sample ID: RSE0369-02 (RR-TP-38 - Solid)					**Sampled: 05/06/09 10:45**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	85		0.010	NR	%	1.00	05/14/09 07:14	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	19.0		10.0	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Barium	90.8		1.00	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Cadmium	0.919		0.500	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Chromium	146		2.00	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Lead	325		5.0	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Mercury	1.04	D08	0.0454	NR	mg/kg dry	2.00	05/13/09 17:02	MM	9E12055	7471A
Sample ID: RSE0369-03 (RR-TP-36 - Solid)					**Sampled: 05/06/09 11:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	85		0.010	NR	%	1.00	05/14/09 07:16	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	62.1		10.0	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Barium	46.0		1.00	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Chromium	31.0		2.00	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Lead	237		5.0	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Mercury	0.297		0.0218	NR	mg/kg dry	1.00	05/13/09 14:44	MM	9E12055	7471A
Sample ID: RSE0369-04 (RR-TP-34 - Solid)					**Sampled: 05/06/09 13:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	82		0.010	NR	%	1.00	05/14/09 07:18	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	83.5		10.0	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Barium	51.4		1.00	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Chromium	29.2		2.00	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Lead	121		5.0	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Mercury	0.302		0.0240	NR	mg/kg dry	1.00	05/13/09 14:46	MM	9E12055	7471A
Sample ID: RSE0369-05 (RR-TP-32 - Solid)					**Sampled: 05/06/09 14:30**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	87		0.010	NR	%	1.00	05/14/09 07:20	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	30.5		10.0	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Barium	90.2		1.00	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Cadmium	17.0		0.500	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Chromium	115		2.00	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Lead	206		5.0	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Mercury	0.233		0.0240	NR	mg/kg dry	1.00	05/13/09 14:47	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-06 (RR-TP-30 - Solid)					**Sampled: 05/07/09 08:45**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	58		0.010	NR	%	1.00	05/14/09 07:22	LT	9E13102	Dry Weight
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1260	52000	QSU, D08	2800	600	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Total Metals by SW 846 Series Methods										
Arsenic	15.9		10.0	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Barium	109		1.00	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Cadmium	5.69		0.500	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Chromium	41.9		2.00	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Lead	207		5.0	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Mercury	0.0882		0.0358	NR	mg/kg dry	1.00	05/13/09 14:49	MM	9E12055	7471A
Sample ID: RSE0369-07 (BPA2-TP-34 - Solid)					**Sampled: 05/06/09 16:30**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	91		0.010	NR	%	1.00	05/14/09 07:24	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	13.2		10.0	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Barium	103		1.00	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Cadmium	2.49		0.500	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Chromium	55.3		2.00	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Lead	265		5.0	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Mercury	0.375		0.0228	NR	mg/kg dry	1.00	05/13/09 14:51	MM	9E12055	7471A
Sample ID: RSE0369-08 (RR-TP-28 - Solid)					**Sampled: 05/07/09 09:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	88		0.010	NR	%	1.00	05/14/09 07:26	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Barium	66.0		1.00	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Cadmium	1.23		0.500	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Chromium	464		2.00	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Lead	272		5.0	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Mercury	0.0891		0.0223	NR	mg/kg dry	1.00	05/13/09 14:55	MM	9E12055	7471A
Sample ID: RSE0369-09 (BPA2-TP-30 - Solid)					**Sampled: 05/07/09 10:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	83		0.010	NR	%	1.00	05/14/09 07:28	LT	9E13102	Dry Weight
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1254	120	QSU	19	4.1	ug/kg dry	1.00	05/13/09 09:58	tch	9E12035	8082
Aroclor 1260	360	QSU	19	4.1	ug/kg dry	1.00	05/13/09 09:58	JM	9E12035	8082
Semivolatile Organics by GC/MS										
2-Methylnaphthalene	43	D02,J	800	9.7	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Acenaphthylene	80	D02,J	800	6.5	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Anthracene	99	D02,J	800	20	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(a)anthracene	830	D02	800	14	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(a)pyrene	1100	D02	800	19	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(b)fluoranthene	1400	D02	800	15	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(ghi)perylene	980	D02	800	9.6	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(k)fluoranthene	530	D02,J	800	8.8	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Carbazole	39	D02,J	800	9.2	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Chrysene	960	D02	800	8.0	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-09 (BPA2-TP-30 - Solid) - cont.					**Sampled: 05/07/09 10:15**		**Recvd: 05/11/09 11:45**			
Semivolatile Organics by GC/MS - cont.										
Dibenzo(a,h)anthracene	250	D02,J	800	9.4	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Fluoranthene	1100	D02	800	12	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Indeno(1,2,3-cd)pyrene	810	D02	800	22	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Naphthalene	38	D02,J	800	13	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Phenanthrene	380	D02,J	800	17	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Pyrene	990	D02	800	5.2	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Total Metals by SW 846 Series Methods										
Aluminum	7570		11.7	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Arsenic	15.9		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Barium	68.1		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Calcium	97700	D08	585	NR	mg/kg dry	10.0	05/14/09 16:35	TWS	9E12064	6010B
Chromium	245		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Copper	70.6		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Iron	83600	D08	117	NR	mg/kg dry	10.0	05/14/09 16:35	TWS	9E12064	6010B
Lead	68.7		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Magnesium	19800		23.4	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Manganese	15100	D08	10.0	NR	mg/kg dry	10.0	05/14/09 16:35	TWS	9E12064	6010B
Nickel	17.9		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Potassium	1190		35.1	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Sodium	386		164	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Vanadium	269		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Zinc	159		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Mercury	0.0749		0.0234	NR	mg/kg dry	1.00	05/13/09 14:56	MM	9E12055	7471A
Volatile Organic Compounds by EPA 8260B										
Methylene Chloride	2.8	J	5.7	0.40	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Sample ID: RSE0369-10 (RR-TP-26 - Solid)					**Sampled: 05/07/09 11:40**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	85		0.010	NR	%	1.00	05/14/09 07:30	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	104		10.0	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Barium	81.6		1.00	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Cadmium	1.79		0.500	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Chromium	77.5		2.00	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Lead	179		5.0	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Mercury	0.0864		0.0241	NR	mg/kg dry	1.00	05/13/09 14:58	MM	9E12055	7471A
Sample ID: RSE0369-11 (RR-TP-52 - Solid)					**Sampled: 05/07/09 14:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	88		0.010	NR	%	1.00	05/14/09 07:32	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	44.3		10.0	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Barium	44.3		1.00	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Chromium	26.1		2.00	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Lead	49.1		5.0	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Mercury	0.0485		0.0225	NR	mg/kg dry	1.00	05/13/09 14:59	MM	9E12055	7471A
Sample ID: RSE0369-12 (RR-TP-50 - Solid)					**Sampled: 05/07/09 15:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	90		0.010	NR	%	1.00	05/14/09 07:34	LT	9E13102	Dry Weight

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-12 (RR-TP-50 - Solid) - cont.					**Sampled: 05/07/09 15:15**		**Recvd: 05/11/09 11:45**			
Total Metals by SW 846 Series Methods										
Arsenic	40.6		10.0	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Barium	80.1		1.00	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Chromium	175		2.00	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Lead	100		5.0	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Mercury	1.99	D08	0.206	NR	mg/kg dry	10.0	05/13/09 17:04	MM	9E12055	7471A
Sample ID: RSE0369-13 (RR-TP-49 - Solid)					**Sampled: 05/07/09 15:45**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	77		0.010	NR	%	1.00	05/14/09 07:36	LT	9E13102	Dry Weight
Semivolatile Organics by GC/MS										
Benzo(a)anthracene	450	D02,J	8600	150	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Chrysene	350	D02,J	8600	85	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	2.1	J	6.2	0.45	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Methylene Chloride	2.9	J	6.2	0.43	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Trichloroethene	2.7	J	6.2	0.43	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Sample ID: RSE0369-14 (RR-TP-10 - Solid)					**Sampled: 05/08/09 09:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	91		0.010	NR	%	1.00	05/14/09 07:38	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	25.2		10.0	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Barium	92.6		1.00	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Chromium	250		2.00	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Lead	63.9		5.0	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Mercury	0.0899		0.0221	NR	mg/kg dry	1.00	05/13/09 15:03	MM	9E12055	7471A
Sample ID: RSE0369-15 (RR-TP-8 - Solid)					**Sampled: 05/08/09 11:15**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	92		0.010	NR	%	1.00	05/14/09 07:40	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	60.2		10.0	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Barium	93.5		1.00	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Cadmium	1.60		0.500	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Chromium	368		2.00	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Lead	212		5.0	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Mercury	0.895	D08	0.0407	NR	mg/kg dry	2.00	05/13/09 17:05	MM	9E12055	7471A
Sample ID: RSE0369-16 (RR-TP-6 - Solid)					**Sampled: 05/08/09 13:40**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	86		0.010	NR	%	1.00	05/14/09 07:42	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	66.9		10.0	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Barium	91.2		1.00	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Cadmium	1.02		0.500	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Chromium	126		2.00	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Lead	211		5.0	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Mercury	0.322		0.0223	NR	mg/kg dry	1.00	05/13/09 15:06	MM	9E12055	7471A
Sample ID: RSE0369-17 (BPA2-TP-24 - Solid)					**Sampled: 05/07/09 13:50**		**Recvd: 05/11/09 11:45**			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-17 (BPA2-TP-24 - Solid) - cont.					**Sampled: 05/07/09 13:50**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	85		0.010	NR	%	1.00	05/14/09 07:44	LT	9E13102	Dry Weight
Semivolatile Organics by GC/MS										
2-Methylnaphthalene	54	D02,J	790	9.5	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Acenaphthylene	240	D02,J	790	6.4	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Anthracene	180	D02,J	790	20	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(a)anthracene	1100	D02	790	14	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(a)pyrene	1200	D02	790	19	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(b)fluoranthene	1500	D02	790	15	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(ghi)perylene	880	D02	790	9.4	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(k)fluoranthene	590	D02,J	790	8.7	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Chrysene	1300	D02	790	7.9	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Dibenzo(a,h)anthracene	260	D02,J	790	9.2	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Dibenzofuran	51	D02,J	790	8.2	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Fluoranthene	2200	D02	790	11	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Fluorene	37	D02,J	790	18	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Indeno(1,2,3-cd)pyrene	810	D02	790	22	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Naphthalene	57	D02,J	790	13	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Phenanthrene	930	D02	790	16	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Pyrene	1800	D02	790	5.1	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Total Metals by SW 846 Series Methods										
Arsenic	86.9		10.0	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Barium	96.0		1.00	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Cadmium	1.14		0.500	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Chromium	46.0		2.00	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Lead	103		5.0	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Mercury	0.135		0.0232	NR	mg/kg dry	1.00	05/13/09 15:07	MM	9E12055	7471A
Sample ID: RSE0369-18 (BLIND 1 - Solid)					**Sampled: 05/07/09 08:00**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	89		0.010	NR	%	1.00	05/14/09 07:46	LT	9E13102	Dry Weight
Semivolatile Organics by GC/MS										
2-Methylnaphthalene	97	D02,J	760	9.1	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Acenaphthene	42	D02,J	760	8.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Acenaphthylene	730	D02,J	760	6.2	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Anthracene	460	D02,J	760	19	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(a)anthracene	2300	D02	760	13	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(a)pyrene	2300	D02	760	18	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(b)fluoranthene	2900	D02	760	15	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(ghi)perylene	1600	D02	760	9.1	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(k)fluoranthene	1300	D02	760	8.3	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Chrysene	2500	D02	760	7.5	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Dibenzo(a,h)anthracene	460	D02,J	760	8.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Dibenzofuran	63	D02,J	760	7.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Fluoranthene	4200	D02	760	11	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Indeno(1,2,3-cd)pyrene	1400	D02	760	21	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Naphthalene	110	D02,J	760	13	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Phenanthrene	1400	D02	760	16	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Pyrene	3600	D02	760	4.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-18 (BLIND 1 - Solid) - cont.					**Sampled: 05/07/09 08:00**		**Recvd: 05/11/09 11:45**			
Total Metals by SW 846 Series Methods										
Arsenic	**223**		10.0	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Barium	**151**		1.00	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Cadmium	**2.08**		0.500	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Chromium	**206**		2.00	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Lead	**164**		5.0	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Mercury	**0.112**		0.0217	NR	mg/kg dry	1.00	05/28/09 14:12	MM	9E28026	7471A
Sample ID: RSE0369-19 (RR-TP-12 - Solid)					**Sampled: 05/08/09 13:40**		**Recvd: 05/11/09 11:45**			
General Chemistry Parameters										
Percent Solids	**87**		0.010	NR	%	1.00	05/14/09 07:48	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**147**		10.0	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Barium	**110**		1.00	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Cadmium	**2.61**		0.500	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Chromium	**158**		2.00	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Lead	**986**		5.0	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Mercury	**0.271**		0.0228	NR	mg/kg dry	1.00	05/13/09 15:09	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Sample Summary

SAMPLE IDENTIFICATION	LAB NUMBER	Client Matrix	Date/Time Sampled	Date/Time Received
RR-TP-40	RSE0369-01	Solid	05/06/09 09:45	05/11/09 11:45
RR-TP-38	RSE0369-02	Solid	05/06/09 10:45	05/11/09 11:45
RR-TP-36	RSE0369-03	Solid	05/06/09 11:15	05/11/09 11:45
RR-TP-34	RSE0369-04	Solid	05/06/09 13:15	05/11/09 11:45
RR-TP-32	RSE0369-05	Solid	05/06/09 14:30	05/11/09 11:45
RR-TP-30	RSE0369-06	Solid	05/07/09 08:45	05/11/09 11:45
BPA2-TP-34	RSE0369-07	Solid	05/06/09 16:30	05/11/09 11:45
RR-TP-28	RSE0369-08	Solid	05/07/09 09:15	05/11/09 11:45
BPA2-TP-30	RSE0369-09	Solid	05/07/09 10:15	05/11/09 11:45
RR-TP-26	RSE0369-10	Solid	05/07/09 11:40	05/11/09 11:45
RR-TP-52	RSE0369-11	Solid	05/07/09 14:15	05/11/09 11:45
RR-TP-50	RSE0369-12	Solid	05/07/09 15:15	05/11/09 11:45
RR-TP-49	RSE0369-13	Solid	05/07/09 15:45	05/11/09 11:45
RR-TP-10	RSE0369-14	Solid	05/08/09 09:15	05/11/09 11:45
RR-TP-8	RSE0369-15	Solid	05/08/09 11:15	05/11/09 11:45
RR-TP-6	RSE0369-16	Solid	05/08/09 13:40	05/11/09 11:45
BPA2-TP-24	RSE0369-17	Solid	05/07/09 13:50	05/11/09 11:45
BLIND 1	RSE0369-18	Solid	05/07/09 08:00	05/11/09 11:45
RR-TP-12	RSE0369-19	Solid	05/08/09 13:40	05/11/09 11:45

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-01 (RR-TP-40 - Solid)						**Sampled: 05/06/09 09:45**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**87**		0.010	NR	%	1.00	05/14/09 07:12	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**57.1**		10.0	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Barium	**151**		1.00	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Chromium	**26.0**		2.00	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Lead	**172**		5.0	NR	mg/kg dry	1.00	05/13/09 23:14	TWS	9E12064	6010B
Mercury	**0.404**		0.0228	NR	mg/kg dry	1.00	05/13/09 14:37	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-02 (RR-TP-38 - Solid)						**Sampled: 05/06/09 10:45**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**85**		0.010	NR	%	1.00	05/14/09 07:14	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**19.0**		10.0	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Barium	**90.8**		1.00	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Cadmium	**0.919**		0.500	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Chromium	**146**		2.00	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Lead	**325**		5.0	NR	mg/kg dry	1.00	05/13/09 23:39	TWS	9E12064	6010B
Mercury	**1.04**	D08	0.0454	NR	mg/kg dry	2.00	05/13/09 17:02	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-03 (RR-TP-36 - Solid)						**Sampled: 05/06/09 11:15**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**85**		0.010	NR	%	1.00	05/14/09 07:16	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**62.1**		10.0	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Barium	**46.0**		1.00	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Chromium	**31.0**		2.00	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Lead	**237**		5.0	NR	mg/kg dry	1.00	05/13/09 23:56	TWS	9E12064	6010B
Mercury	**0.297**		0.0218	NR	mg/kg dry	1.00	05/13/09 14:44	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-04 (RR-TP-34 - Solid)						**Sampled: 05/06/09 13:15**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**82**		0.010	NR	%	1.00	05/14/09 07:18	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**83.5**		10.0	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Barium	**51.4**		1.00	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Chromium	**29.2**		2.00	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Lead	**121**		5.0	NR	mg/kg dry	1.00	05/14/09 00:01	TWS	9E12064	6010B
Mercury	**0.302**		0.0240	NR	mg/kg dry	1.00	05/13/09 14:46	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-05 (RR-TP-32 - Solid)						**Sampled: 05/06/09 14:30**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**87**		0.010	NR	%	1.00	05/14/09 07:20	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**30.5**		10.0	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Barium	**90.2**		1.00	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Cadmium	**17.0**		0.500	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Chromium	**115**		2.00	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Lead	**206**		5.0	NR	mg/kg dry	1.00	05/14/09 00:06	TWS	9E12064	6010B
Mercury	**0.233**		0.0240	NR	mg/kg dry	1.00	05/13/09 14:47	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-06 (RR-TP-30 - Solid)						**Sampled: 05/07/09 08:45**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	58		0.010	NR	%	1.00	05/14/09 07:22	LT	9E13102	Dry Weight
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND	QSU, D08	2800	550	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Aroclor 1221	ND	QSU, D08	2800	550	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Aroclor 1232	ND	QSU, D08	2800	550	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Aroclor 1242	ND	QSU, D08	2800	610	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Aroclor 1248	ND	QSU, D08	2800	550	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Aroclor 1254	ND	QSU, D08	2800	600	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Aroclor 1260	52000	QSU, D08	2800	600	ug/kg dry	100	05/13/09 09:29	JM	9E12035	8082
Surr: Decachlorobiphenyl (34-148%)	*	*QSU, D08*					05/13/09 09:29	JM	9E12035	8082
Surr: Tetrachloro-m-xylene (35-134%)	*	*QSU, D08*					05/13/09 09:29	JM	9E12035	8082
Total Metals by SW 846 Series Methods										
Arsenic	15.9		10.0	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Barium	109		1.00	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Cadmium	5.69		0.500	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Chromium	41.9		2.00	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Lead	207		5.0	NR	mg/kg dry	1.00	05/14/09 00:11	TWS	9E12064	6010B
Mercury	0.0882		0.0358	NR	mg/kg dry	1.00	05/13/09 14:49	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-07 (BPA2-TP-34 - Solid)						**Sampled: 05/06/09 16:30**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	05/14/09 07:24	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**13.2**		10.0	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Barium	**103**		1.00	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Cadmium	**2.49**		0.500	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Chromium	**55.3**		2.00	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Lead	**265**		5.0	NR	mg/kg dry	1.00	05/14/09 00:16	TWS	9E12064	6010B
Mercury	**0.375**		0.0228	NR	mg/kg dry	1.00	05/13/09 14:51	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-08 (RR-TP-28 - Solid)						**Sampled: 05/07/09 09:15**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**88**		0.010	NR	%	1.00	05/14/09 07:26	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	ND		10.0	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Barium	**66.0**		1.00	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Cadmium	**1.23**		0.500	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Chromium	**464**		2.00	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Lead	**272**		5.0	NR	mg/kg dry	1.00	05/14/09 00:21	TWS	9E12064	6010B
Mercury	**0.0891**		0.0223	NR	mg/kg dry	1.00	05/13/09 14:55	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-09 (BPA2-TP-30 - Solid)						**Sampled: 05/07/09 10:15**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**83**		0.010	NR	%	1.00	05/14/09 07:28	LT	9E13102	Dry Weight
Cyanide	ND		1.1	1.0	mg/kg dry	1.00	05/13/09 08:44	jmm	9E13038	9012A
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND	QSU	19	3.8	ug/kg dry	1.00	05/13/09 09:58	JM	9E12035	8082
Aroclor 1221	ND	QSU	19	3.8	ug/kg dry	1.00	05/13/09 09:58	JM	9E12035	8082
Aroclor 1232	ND	QSU	19	3.8	ug/kg dry	1.00	05/13/09 09:58	JM	9E12035	8082
Aroclor 1242	ND	QSU	19	4.2	ug/kg dry	1.00	05/13/09 09:58	JM	9E12035	8082
Aroclor 1248	ND	QSU	19	3.8	ug/kg dry	1.00	05/13/09 09:58	JM	9E12035	8082
Aroclor 1254	**120**	QSU	19	4.1	ug/kg dry	1.00	05/13/09 09:58	tch	9E12035	8082
Aroclor 1260	**360**	QSU	19	4.1	ug/kg dry	1.00	05/13/09 09:58	JM	9E12035	8082
Surr: Decachlorobiphenyl (34-148%)	*114 %*	*QSU*					05/13/09 09:58	JM	9E12035	8082
Surr: Tetrachloro-m-xylene (35-134%)	*86 %*	*QSU*					05/13/09 09:58	JM	9E12035	8082
Semivolatile Organics by GC/MS										
2,4,5-Trichlorophenol	ND	D02	800	170	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2,4,6-Trichlorophenol	ND	D02	800	53	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2,4-Dichlorophenol	ND	D02	800	42	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2,4-Dimethylphenol	ND	D02	800	220	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2,4-Dinitrophenol	ND	D02	1600	280	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2,4-Dinitrotoluene	ND	D02	800	120	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2,6-Dinitrotoluene	ND	D02	800	200	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2-Chloronaphthalene	ND	D02	800	53	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2-Chlorophenol	ND	D02	800	41	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2-Methylnaphthalene	**43**	D02,J	800	9.7	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2-Methylphenol	ND	D02	800	25	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2-Nitroaniline	ND	D02	1600	260	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2-Nitrophenol	ND	D02	800	36	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
3,3'-Dichlorobenzidine	ND	D02	800	700	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
3-Nitroaniline	ND	D02	1600	180	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4,6-Dinitro-2-methylphenol	ND	D02	1600	280	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4-Bromophenyl phenyl ether	ND	D02	800	250	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4-Chloro-3-methylphenol	ND	D02	800	33	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4-Chloroaniline	ND	D02	800	230	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4-Chlorophenyl phenyl ether	ND	D02	800	17	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4-Methylphenol	ND	D02	800	44	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4-Nitroaniline	ND	D02	1600	89	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
4-Nitrophenol	ND	D02	1600	190	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Acenaphthene	ND	D02	800	9.4	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Acenaphthylene	**80**	D02,J	800	6.5	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Acetophenone	ND	D02	800	41	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Anthracene	**99**	D02,J	800	20	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Atrazine	ND	D02	800	35	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzaldehyde	ND	D02	800	87	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(a)anthracene	**830**	D02	800	14	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(a)pyrene	**1100**	D02	800	19	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(b)fluoranthene	**1400**	D02	800	15	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(ghi)perylene	**980**	D02	800	9.6	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Benzo(k)fluoranthene	**530**	D02,J	800	8.8	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Biphenyl	ND	D02	800	50	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-09 (BPA2-TP-30 - Solid) - cont.						**Sampled: 05/07/09 10:15**		**Recvd: 05/11/09 11:45**		
Semivolatile Organics by GC/MS - cont.										
Bis(2-chloroethoxy)methane	ND	D02	800	43	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Bis(2-chloroethyl)ether	ND	D02	800	69	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
2,2'-Oxybis(1-Chloropropane)	ND	D02	800	83	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Bis(2-ethylhexyl) phthalate	ND	D02	800	260	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Butyl benzyl phthalate	ND	D02	800	210	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Caprolactam	ND	D02	800	340	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Carbazole	**39**	D02,J	800	9.2	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Chrysene	**960**	D02	800	8.0	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Dibenzo(a,h)anthracene	**250**	D02,J	800	9.4	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Dibenzofuran	ND	D02	800	8.3	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Diethyl phthalate	ND	D02	800	24	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Dimethyl phthalate	ND	D02	800	21	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Di-n-butyl phthalate	ND	D02	800	280	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Di-n-octyl phthalate	ND	D02	800	19	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Fluoranthene	**1100**	D02	800	12	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Fluorene	ND	D02	800	18	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Hexachlorobenzene	ND	D02	800	40	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Hexachlorobutadiene	ND	D02	800	41	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Hexachlorocyclopentadiene	ND	D02	800	240	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Hexachloroethane	ND	D02	800	62	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Indeno(1,2,3-cd)pyrene	**810**	D02	800	22	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Isophorone	ND	D02	800	40	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Naphthalene	**38**	D02,J	800	13	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Nitrobenzene	ND	D02	800	35	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
N-Nitrosodi-n-propylamine	ND	D02	800	63	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
N-Nitrosodiphenylamine	ND	D02,L	800	44	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Pentachlorophenol	ND	D02	1600	270	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Phenanthrene	**380**	D02,J	800	17	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Phenol	ND	D02	800	84	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Pyrene	**990**	D02	800	5.2	ug/kg dry	4.00	05/20/09 23:48	JLG	9E11087	8270C
Surr: 2,4,6-Tribromophenol (39-146%)	*85 %*	*D02*					05/20/09 23:48	JLG	9E11087	8270C
Surr: 2-Fluorobiphenyl (37-120%)	*90 %*	*D02*					05/20/09 23:48	JLG	9E11087	8270C
Surr: 2-Fluorophenol (18-120%)	*69 %*	*D02*					05/20/09 23:48	JLG	9E11087	8270C
Surr: Nitrobenzene-d5 (34-132%)	*86 %*	*D02*					05/20/09 23:48	JLG	9E11087	8270C
Surr: Phenol-d5 (11-120%)	*78 %*	*D02*					05/20/09 23:48	JLG	9E11087	8270C
Surr: p-Terphenyl-d14 (58-147%)	*90 %*	*D02*					05/20/09 23:48	JLG	9E11087	8270C
Total Metals by SW 846 Series Methods										
Aluminum	**7570**		11.7	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Antimony	ND		17.6	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Arsenic	**15.9**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Barium	**68.1**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Beryllium	ND		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Cadmium	ND		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Calcium	**97700**	D08	585	NR	mg/kg dry	10.0	05/14/09 16:35	TWS	9E12064	6010B
Chromium	**245**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Cobalt	ND		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-09 (BPA2-TP-30 - Solid) - cont.						**Sampled: 05/07/09 10:15**		**Recvd: 05/11/09 11:45**		
Total Metals by SW 846 Series Methods - cont.										
Copper	**70.6**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Iron	**83600**	D08	117	NR	mg/kg dry	10.0	05/14/09 16:35	TWS	9E12064	6010B
Lead	**68.7**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Magnesium	**19800**		23.4	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Manganese	**15100**	D08	10.0	NR	mg/kg dry	10.0	05/14/09 16:35	TWS	9E12064	6010B
Nickel	**17.9**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Potassium	**1190**		35.1	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Selenium	ND		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Silver	ND		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Sodium	**386**		164	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Thallium	ND	D02	70.3	NR	mg/kg dry	10.0	05/14/09 16:35	TWS	9E12064	6010B
Vanadium	**269**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Zinc	**159**		10.0	NR	mg/kg dry	1.00	05/14/09 00:26	TWS	9E12064	6010B
Mercury	**0.0749**		0.0234	NR	mg/kg dry	1.00	05/13/09 14:56	MM	9E12055	7471A
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	ND		5.7	0.41	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,1,2,2-Tetrachloroethane	ND		5.7	0.92	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,1,2-Trichloroethane	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.7	0.60	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,1-Dichloroethane	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,1-Dichloroethene	ND		5.7	0.69	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,2,4-Trichlorobenzene	ND		5.7	0.34	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,2,4-Trimethylbenzene	ND		5.7	0.41	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,2-Dibromo-3-chloropropane	ND		5.7	1.1	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,2-Dibromoethane	ND		5.7	0.22	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,2-Dichlorobenzene	ND		5.7	0.85	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,2-Dichloroethane	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,2-Dichloropropane	ND		5.7	0.29	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,3,5-Trimethylbenzene	ND		5.7	0.36	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,3-Dichlorobenzene	ND		5.7	0.80	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
1,4-Dichlorobenzene	ND		5.7	0.79	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
2-Butanone	ND		28	7.7	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
2-Hexanone	ND		28	2.0	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
p-Cymene	ND		5.7	0.45	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
4-Methyl-2-pentanone	ND		28	1.9	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Acetone	ND		28	1.2	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Benzene	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Bromodichloromethane	ND		5.7	0.29	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Bromoform	ND		5.7	0.52	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Bromomethane	ND		5.7	0.52	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Carbon disulfide	ND		5.7	0.49	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Carbon Tetrachloride	ND		5.7	0.21	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Chlorobenzene	ND		5.7	0.25	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Dibromochloromethane	ND		5.7	0.31	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Chloroethane	ND		5.7	0.92	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Chloroform	ND		5.7	0.35	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Chloromethane	ND		5.7	0.34	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
cis-1,2-Dichloroethene	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-09 (BPA2-TP-30 - Solid) - cont.						**Sampled: 05/07/09 10:15**		**Recvd: 05/11/09 11:45**		
Volatile Organic Compounds by EPA 8260B - cont.										
cis-1,3-Dichloropropene	ND		5.7	0.32	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Cyclohexane	ND		5.7	0.26	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Dichlorodifluoromethane	ND		5.7	0.47	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Ethylbenzene	ND		5.7	0.39	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Isopropylbenzene	ND		5.7	0.37	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Methyl Acetate	ND		5.7	0.31	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Methyl-t-Butyl Ether (MTBE)	ND		5.7	0.56	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Methylcyclohexane	ND		5.7	0.37	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Methylene Chloride	**2.8**	J	5.7	0.40	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
m-Xylene & p-Xylene	ND		11	0.95	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
n-Butylbenzene	ND		5.7	0.49	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
n-Propylbenzene	ND		5.7	0.43	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
o-Xylene	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
sec-Butylbenzene	ND		5.7	0.49	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Styrene	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
tert-Butylbenzene	ND		5.7	0.59	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Tetrachloroethene	ND		5.7	0.76	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Toluene	ND		5.7	0.96	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
trans-1,2-Dichloroethene	ND		5.7	0.58	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
trans-1,3-Dichloropropene	ND		5.7	0.28	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Trichloroethene	ND		5.7	0.39	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Trichlorofluoromethane	ND		5.7	1.8	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Vinyl chloride	ND		11	0.23	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Xylenes, total	ND		11	0.95	ug/kg dry	1.00	05/13/09 20:53	CDC	9E13076	8260B
Surr: 1,2-Dichloroethane-d4 (64-126%)	*104 %*						05/13/09 20:53	CDC	9E13076	8260B
Surr: 4-Bromofluorobenzene (72-126%)	*112 %*						05/13/09 20:53	CDC	9E13076	8260B
Surr: Toluene-d8 (71-125%)	*106 %*						05/13/09 20:53	CDC	9E13076	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-10 (RR-TP-26 - Solid)						**Sampled: 05/07/09 11:40**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**85**		0.010	NR	%	1.00	05/14/09 07:30	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**104**		10.0	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Barium	**81.6**		1.00	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Cadmium	**1.79**		0.500	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Chromium	**77.5**		2.00	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Lead	**179**		5.0	NR	mg/kg dry	1.00	05/14/09 00:31	TWS	9E12064	6010B
Mercury	**0.0864**		0.0241	NR	mg/kg dry	1.00	05/13/09 14:58	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-11 (RR-TP-52 - Solid)					**Sampled: 05/07/09 14:15**			**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**88**		0.010	NR	%	1.00	05/14/09 07:32	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**44.3**		10.0	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Barium	**44.3**		1.00	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Chromium	**26.1**		2.00	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Lead	**49.1**		5.0	NR	mg/kg dry	1.00	05/14/09 00:36	TWS	9E12064	6010B
Mercury	**0.0485**		0.0225	NR	mg/kg dry	1.00	05/13/09 14:59	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-12 (RR-TP-50 - Solid)						**Sampled: 05/07/09 15:15**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**90**		0.010	NR	%	1.00	05/14/09 07:34	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**40.6**		10.0	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Barium	**80.1**		1.00	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Chromium	**175**		2.00	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Lead	**100**		5.0	NR	mg/kg dry	1.00	05/14/09 00:41	TWS	9E12064	6010B
Mercury	**1.99**	D08	0.206	NR	mg/kg dry	10.0	05/13/09 17:04	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-13 (RR-TP-49 - Solid)						**Sampled: 05/07/09 15:45**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	77		0.010	NR	%	1.00	05/14/09 07:36	LT	9E13102	Dry Weight
Semivolatile Organics by GC/MS										
2,4,5-Trichlorophenol	ND	D02	8600	1900	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2,4,6-Trichlorophenol	ND	D02	8600	560	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2,4-Dichlorophenol	ND	D02	8600	450	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2,4-Dimethylphenol	ND	D02	8600	2300	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2,4-Dinitrophenol	ND	D02	17000	3000	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2,4-Dinitrotoluene	ND	D02	8600	1300	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2,6-Dinitrotoluene	ND	D02	8600	2100	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2-Chloronaphthalene	ND	D02	8600	570	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2-Chlorophenol	ND	D02	8600	430	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2-Methylnaphthalene	ND	D02	8600	100	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2-Methylphenol	ND	D02	8600	260	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2-Nitroaniline	ND	D02	17000	2700	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2-Nitrophenol	ND	D02	8600	390	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
3,3'-Dichlorobenzidine	ND	D02	8600	7500	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
3-Nitroaniline	ND	D02	17000	2000	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4,6-Dinitro-2-methylphenol	ND	D02	17000	2900	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4-Bromophenyl phenyl ether	ND	D02	8600	2700	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4-Chloro-3-methylphenol	ND	D02	8600	350	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4-Chloroaniline	ND	D02	8600	2500	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4-Chlorophenyl phenyl ether	ND	D02	8600	180	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4-Methylphenol	ND	D02	8600	470	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4-Nitroaniline	ND	D02	17000	950	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
4-Nitrophenol	ND	D02	17000	2100	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Acenaphthene	ND	D02	8600	100	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Acenaphthylene	ND	D02	8600	70	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Acetophenone	ND	D02	8600	440	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Anthracene	ND	D02	8600	220	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Atrazine	ND	D02	8600	380	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Benzaldehyde	ND	D02	8600	930	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Benzo(a)anthracene	**450**	D02,J	8600	150	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Benzo(a)pyrene	ND	D02	8600	210	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Benzo(b)fluoranthene	ND	D02	8600	170	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Benzo(ghi)perylene	ND	D02	8600	100	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Benzo(k)fluoranthene	ND	D02	8600	94	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Biphenyl	ND	D02	8600	530	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Bis(2-chloroethoxy)methane	ND	D02	8600	460	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Bis(2-chloroethyl)ether	ND	D02	8600	740	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
2,2'-Oxybis(1-Chloropropane)	ND	D02	8600	890	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Bis(2-ethylhexyl) phthalate	ND	D02	8600	2700	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Butyl benzyl phthalate	ND	D02	8600	2300	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Caprolactam	ND	D02	8600	3700	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Carbazole	ND	D02	8600	99	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Chrysene	**350**	D02,J	8600	85	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Dibenzo(a,h)anthracene	ND	D02	8600	100	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Dibenzofuran	ND	D02	8600	89	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Diethyl phthalate	ND	D02	8600	260	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Dimethyl phthalate	ND	D02	8600	220	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-13 (RR-TP-49 - Solid) - cont.						**Sampled: 05/07/09 15:45**		**Recvd: 05/11/09 11:45**		
Semivolatile Organics by GC/MS - cont.										
Di-n-butyl phthalate	ND	D02	8600	2900	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Di-n-octyl phthalate	ND	D02	8600	200	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Fluoranthene	ND	D02	8600	120	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Fluorene	ND	D02	8600	200	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Hexachlorobenzene	ND	D02	8600	420	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Hexachlorobutadiene	ND	D02	8600	440	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Hexachlorocyclopentadiene	ND	D02	8600	2600	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Hexachloroethane	ND	D02	8600	660	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Indeno(1,2,3-cd)pyrene	ND	D02	8600	240	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Isophorone	ND	D02	8600	430	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Naphthalene	ND	D02	8600	140	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Nitrobenzene	ND	D02	8600	380	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
N-Nitrosodi-n-propylamine	ND	D02	8600	670	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
N-Nitrosodiphenylamine	ND	D02,L	8600	470	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Pentachlorophenol	ND	D02	17000	2900	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Phenanthrene	ND	D02	8600	180	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Phenol	ND	D02	8600	900	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Pyrene	ND	D02	8600	55	ug/kg dry	40.0	05/20/09 09:55	JLG	9E11087	8270C
Surr: 2,4,6-Tribromophenol (39-146%)	*110 %*	*D02*					05/20/09 09:55	JLG	9E11087	8270C
Surr: 2-Fluorobiphenyl (37-120%)	*64 %*	*D02*					05/20/09 09:55	JLG	9E11087	8270C
Surr: 2-Fluorophenol (18-120%)	*22 %*	*D02*					05/20/09 09:55	JLG	9E11087	8270C
Surr: Nitrobenzene-d5 (34-132%)	*32 %*	*D02,Z6*					05/20/09 09:55	JLG	9E11087	8270C
Surr: Phenol-d5 (11-120%)	*33 %*	*D02*					05/20/09 09:55	JLG	9E11087	8270C
Surr: p-Terphenyl-d14 (58-147%)	*62 %*	*D02*					05/20/09 09:55	JLG	9E11087	8270C
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	**2.1**	J	6.2	0.45	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,1,2,2-Tetrachloroethane	ND		6.2	1.0	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,1,2-Trichloroethane	ND		6.2	0.31	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		6.2	0.66	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,1-Dichloroethane	ND		6.2	0.31	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,1-Dichloroethene	ND		6.2	0.76	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,2,4-Trichlorobenzene	ND		6.2	0.38	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,2,4-Trimethylbenzene	ND		6.2	0.45	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,2-Dibromo-3-chloropropane	ND		6.2	1.2	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,2-Dibromoethane	ND		6.2	0.24	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,2-Dichlorobenzene	ND		6.2	0.94	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,2-Dichloroethane	ND		6.2	0.31	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,2-Dichloropropane	ND		6.2	0.32	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,3,5-Trimethylbenzene	ND		6.2	0.40	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,3-Dichlorobenzene	ND		6.2	0.88	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
1,4-Dichlorobenzene	ND		6.2	0.87	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
2-Butanone	ND		31	8.5	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
2-Hexanone	ND		31	2.2	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
p-Cymene	ND		6.2	0.50	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
4-Methyl-2-pentanone	ND		31	2.0	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Acetone	ND		31	1.4	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Benzene	ND		6.2	0.30	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Bromodichloromethane	ND		6.2	0.32	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-13 (RR-TP-49 - Solid) - cont.						**Sampled: 05/07/09 15:45**		**Recvd: 05/11/09 11:45**		
Volatile Organic Compounds by EPA 8260B - cont.										
Bromoform	ND		6.2	0.57	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Bromomethane	ND		6.2	0.57	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Carbon disulfide	ND		6.2	0.53	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Carbon Tetrachloride	ND		6.2	0.23	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Chlorobenzene	ND		6.2	0.27	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Dibromochloromethane	ND		6.2	0.34	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Chloroethane	ND		6.2	1.0	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Chloroform	ND		6.2	0.38	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Chloromethane	ND		6.2	0.38	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
cis-1,2-Dichloroethene	ND		6.2	0.31	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
cis-1,3-Dichloropropene	ND		6.2	0.36	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Cyclohexane	ND		6.2	0.29	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Dichlorodifluoromethane	ND		6.2	0.51	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Ethylbenzene	ND		6.2	0.43	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Isopropylbenzene	ND		6.2	0.41	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Methyl Acetate	ND		6.2	0.34	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Methyl-t-Butyl Ether (MTBE)	ND		6.2	0.61	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Methylcyclohexane	ND		6.2	0.40	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Methylene Chloride	**2.9**	J	6.2	0.43	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
m-Xylene & p-Xylene	ND		12	1.0	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
n-Butylbenzene	ND		6.2	0.54	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
n-Propylbenzene	ND		6.2	0.47	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
o-Xylene	ND		6.2	0.31	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
sec-Butylbenzene	ND		6.2	0.54	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Styrene	ND		6.2	0.31	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
tert-Butylbenzene	ND		6.2	0.65	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Tetrachloroethene	ND		6.2	0.84	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Toluene	ND		6.2	1.1	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
trans-1,2-Dichloroethene	ND		6.2	0.64	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
trans-1,3-Dichloropropene	ND		6.2	0.30	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Trichloroethene	**2.7**	J	6.2	0.43	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Trichlorofluoromethane	ND		6.2	1.9	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Vinyl chloride	ND		12	0.25	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Xylenes, total	ND		12	1.0	ug/kg dry	1.00	05/13/09 21:18	CDC	9E13076	8260B
Surr: 1,2-Dichloroethane-d4 (64-126%)	*101 %*						05/13/09 21:18	CDC	9E13076	8260B
Surr: 4-Bromofluorobenzene (72-126%)	*100 %*						05/13/09 21:18	CDC	9E13076	8260B
Surr: Toluene-d8 (71-125%)	*108 %*						05/13/09 21:18	CDC	9E13076	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-14 (RR-TP-10 - Solid)						**Sampled: 05/08/09 09:15**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	05/14/09 07:38	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**25.2**		10.0	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Barium	**92.6**		1.00	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Chromium	**250**		2.00	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Lead	**63.9**		5.0	NR	mg/kg dry	1.00	05/14/09 00:59	TWS	9E12064	6010B
Mercury	**0.0899**		0.0221	NR	mg/kg dry	1.00	05/13/09 15:03	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-15 (RR-TP-8 - Solid)					**Sampled: 05/08/09 11:15**			**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	05/14/09 07:40	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**60.2**		10.0	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Barium	**93.5**		1.00	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Cadmium	**1.60**		0.500	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Chromium	**368**		2.00	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Lead	**212**		5.0	NR	mg/kg dry	1.00	05/14/09 01:04	TWS	9E12064	6010B
Mercury	**0.895**	D08	0.0407	NR	mg/kg dry	2.00	05/13/09 17:05	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-16 (RR-TP-6 - Solid)						**Sampled: 05/08/09 13:40**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**86**		0.010	NR	%	1.00	05/14/09 07:42	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**66.9**		10.0	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Barium	**91.2**		1.00	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Cadmium	**1.02**		0.500	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Chromium	**126**		2.00	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Lead	**211**		5.0	NR	mg/kg dry	1.00	05/14/09 01:09	TWS	9E12064	6010B
Mercury	**0.322**		0.0223	NR	mg/kg dry	1.00	05/13/09 15:06	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-17 (BPA2-TP-24 - Solid)						**Sampled: 05/07/09 13:50**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**85**		0.010	NR	%	1.00	05/14/09 07:44	LT	9E13102	Dry Weight
Semivolatile Organics by GC/MS										
2,4-Dinitrotoluene	ND	D02	790	120	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
2,6-Dinitrotoluene	ND	D02	790	190	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
2-Chloronaphthalene	ND	D02	790	53	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
2-Methylnaphthalene	**54**	D02,J	790	9.5	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
2-Nitroaniline	ND	D02	1500	250	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
3,3'-Dichlorobenzidine	ND	D02	790	690	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
3-Nitroaniline	ND	D02	1500	180	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
4-Bromophenyl phenyl ether	ND	D02	790	250	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
4-Chloroaniline	ND	D02	790	230	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
4-Chlorophenyl phenyl ether	ND	D02	790	17	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
4-Nitroaniline	ND	D02	1500	88	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Acenaphthene	ND	D02	790	9.2	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Acenaphthylene	**240**	D02,J	790	6.4	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Acetophenone	ND	D02	790	40	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Anthracene	**180**	D02,J	790	20	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Atrazine	ND	D02	790	35	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzaldehyde	ND	D02	790	86	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(a)anthracene	**1100**	D02	790	14	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(a)pyrene	**1200**	D02	790	19	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(b)fluoranthene	**1500**	D02	790	15	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(ghi)perylene	**880**	D02	790	9.4	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzo(k)fluoranthene	**590**	D02,J	790	8.7	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Benzyl alcohol	ND	D02	1500	38	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Biphenyl	ND	D02	790	49	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Bis(2-chloroethoxy)methane	ND	D02	790	43	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Bis(2-chloroethyl)ether	ND	D02	790	68	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
2,2'-Oxybis(1-Chloropropane)	ND	D02	790	82	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Bis(2-ethylhexyl) phthalate	ND	D02	790	250	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Butyl benzyl phthalate	ND	D02	790	210	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Caprolactam	ND	D02	790	340	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Chrysene	**1300**	D02	790	7.9	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Dibenzo(a,h)anthracene	**260**	D02,J	790	9.2	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Dibenzofuran	**51**	D02,J	790	8.2	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Diethyl phthalate	ND	D02	790	24	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Dimethyl phthalate	ND	D02	790	21	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Di-n-butyl phthalate	ND	D02	790	270	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Di-n-octyl phthalate	ND	D02	790	18	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Fluoranthene	**2200**	D02	790	11	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Fluorene	**37**	D02,J	790	18	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Hexachlorobenzene	ND	D02	790	39	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Hexachlorobutadiene	ND	D02	790	40	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Hexachlorocyclopentadiene	ND	D02	790	240	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Hexachloroethane	ND	D02	790	61	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Indeno(1,2,3-cd)pyrene	**810**	D02	790	22	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Isophorone	ND	D02	790	39	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Naphthalene	**57**	D02,J	790	13	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Nitrobenzene	ND	D02	790	35	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-17 (BPA2-TP-24 - Solid) - cont.						**Sampled: 05/07/09 13:50**		**Recvd: 05/11/09 11:45**		
Semivolatile Organics by GC/MS - cont.										
N-Nitrosodi-n-propylamine	ND	D02	790	62	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
N-Nitrosodiphenylamine	ND	D02,L	790	43	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Phenanthrene	**930**	D02	790	16	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Pyrene	**1800**	D02	790	5.1	ug/kg dry	4.00	05/21/09 00:11	JLG	9E11087	8270C
Surr: 2,4,6-Tribromophenol (39-146%)	*86 %*	*D02*					05/21/09 00:11	JLG	9E11087	8270C
Surr: 2-Fluorobiphenyl (37-120%)	*95 %*	*D02*					05/21/09 00:11	JLG	9E11087	8270C
Surr: 2-Fluorophenol (18-120%)	*69 %*	*D02*					05/21/09 00:11	JLG	9E11087	8270C
Surr: Nitrobenzene-d5 (34-132%)	*92 %*	*D02*					05/21/09 00:11	JLG	9E11087	8270C
Surr: Phenol-d5 (11-120%)	*80 %*	*D02*					05/21/09 00:11	JLG	9E11087	8270C
Surr: p-Terphenyl-d14 (58-147%)	*93 %*	*D02*					05/21/09 00:11	JLG	9E11087	8270C
Total Metals by SW 846 Series Methods										
Arsenic	**86.9**		10.0	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Barium	**96.0**		1.00	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Cadmium	**1.14**		0.500	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Chromium	**46.0**		2.00	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Lead	**103**		5.0	NR	mg/kg dry	1.00	05/14/09 03:44	TWS	9E12068	6010B
Mercury	**0.135**		0.0232	NR	mg/kg dry	1.00	05/13/09 15:07	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Sample ID: RSE0369-18 (BLIND 1 - Solid) — **Sampled: 05/07/09 08:00** — **Recvd: 05/11/09 11:45**

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
General Chemistry Parameters										
Percent Solids	**89**		0.010	NR	%	1.00	05/14/09 07:46	LT	9E13102	Dry Weight
Semivolatile Organics by GC/MS										
2,4-Dinitrotoluene	ND	D02	760	120	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
2,6-Dinitrotoluene	ND	D02	760	180	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
2-Chloronaphthalene	ND	D02	760	51	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
2-Methylnaphthalene	**97**	D02,J	760	9.1	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
2-Nitroaniline	ND	D02	1500	240	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
3,3'-Dichlorobenzidine	ND	D02	760	660	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
3-Nitroaniline	ND	D02	1500	170	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
4-Bromophenyl phenyl ether	ND	D02	760	240	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
4-Chloroaniline	ND	D02	760	220	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
4-Chlorophenyl phenyl ether	ND	D02	760	16	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
4-Nitroaniline	ND	D02	1500	84	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Acenaphthene	**42**	D02,J	760	8.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Acenaphthylene	**730**	D02,J	760	6.2	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Acetophenone	ND	D02	760	39	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Anthracene	**460**	D02,J	760	19	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Atrazine	ND	D02	760	34	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzaldehyde	ND	D02	760	83	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(a)anthracene	**2300**	D02	760	13	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(a)pyrene	**2300**	D02	760	18	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(b)fluoranthene	**2900**	D02	760	15	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(ghi)perylene	**1600**	D02	760	9.1	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzo(k)fluoranthene	**1300**	D02	760	8.3	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Benzyl alcohol	ND	D02	1500	36	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Biphenyl	ND	D02	760	47	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Bis(2-chloroethoxy)methane	ND	D02	760	41	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Bis(2-chloroethyl)ether	ND	D02	760	65	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
2,2'-Oxybis(1-Chloropropane)	ND	D02	760	79	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Bis(2-ethylhexyl) phthalate	ND	D02	760	240	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Butyl benzyl phthalate	ND	D02	760	200	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Caprolactam	ND	D02	760	330	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Chrysene	**2500**	D02	760	7.5	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Dibenzo(a,h)anthracene	**460**	D02,J	760	8.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Dibenzofuran	**63**	D02,J	760	7.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Diethyl phthalate	ND	D02	760	23	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Dimethyl phthalate	ND	D02	760	20	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Di-n-butyl phthalate	ND	D02	760	260	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Di-n-octyl phthalate	ND	D02	760	18	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Fluoranthene	**4200**	D02	760	11	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Fluorene	ND	D02	760	17	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Hexachlorobenzene	ND	D02	760	38	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Hexachlorobutadiene	ND	D02	760	39	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Hexachlorocyclopentadiene	ND	D02	760	230	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Hexachloroethane	ND	D02	760	58	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Indeno(1,2,3-cd)pyrene	**1400**	D02	760	21	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Isophorone	ND	D02	760	38	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Naphthalene	**110**	D02,J	760	13	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Nitrobenzene	ND	D02	760	33	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-18 (BLIND 1 - Solid) - cont.						**Sampled: 05/07/09 08:00**		**Recvd: 05/11/09 11:45**		
Semivolatile Organics by GC/MS - cont.										
N-Nitrosodi-n-propylamine	ND	D02	760	60	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
N-Nitrosodiphenylamine	ND	D02,L	760	41	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Phenanthrene	**1400**	D02	760	16	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Pyrene	**3600**	D02	760	4.9	ug/kg dry	4.00	05/21/09 00:34	JLG	9E11087	8270C
Surr: 2,4,6-Tribromophenol (39-146%)	*89 %*	*D02*					05/21/09 00:34	JLG	9E11087	8270C
Surr: 2-Fluorobiphenyl (37-120%)	*103 %*	*D02*					05/21/09 00:34	JLG	9E11087	8270C
Surr: 2-Fluorophenol (18-120%)	*79 %*	*D02*					05/21/09 00:34	JLG	9E11087	8270C
Surr: Nitrobenzene-d5 (34-132%)	*101 %*	*D02*					05/21/09 00:34	JLG	9E11087	8270C
Surr: Phenol-d5 (11-120%)	*91 %*	*D02*					05/21/09 00:34	JLG	9E11087	8270C
Surr: p-Terphenyl-d14 (58-147%)	*92 %*	*D02*					05/21/09 00:34	JLG	9E11087	8270C
Total Metals by SW 846 Series Methods										
Arsenic	**223**		10.0	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Barium	**151**		1.00	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Cadmium	**2.08**		0.500	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Chromium	**206**		2.00	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Lead	**164**		5.0	NR	mg/kg dry	1.00	05/14/09 04:09	TWS	9E12068	6010B
Mercury	**0.112**		0.0217	NR	mg/kg dry	1.00	05/28/09 14:12	MM	9E28026	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0369-19 (RR-TP-12 - Solid)						**Sampled: 05/08/09 13:40**		**Recvd: 05/11/09 11:45**		
General Chemistry Parameters										
Percent Solids	**87**		0.010	NR	%	1.00	05/14/09 07:48	LT	9E13102	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**147**		10.0	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Barium	**110**		1.00	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Cadmium	**2.61**		0.500	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Chromium	**158**		2.00	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Lead	**986**		5.0	NR	mg/kg dry	1.00	05/14/09 04:27	TWS	9E12068	6010B
Mercury	**0.271**		0.0228	NR	mg/kg dry	1.00	05/13/09 15:09	MM	9E12055	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Units	Extract Volume	Units	Date	Analyst	Extraction Method
General Chemistry Parameters									
9012A	9E13038	RSE0369-09	0.54	g	50.00	mL	05/12/09 11:30	RJK	Cn Digestion
Dry Weight	9E13102	RSE0369-01	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-02	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-03	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-04	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-05	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-06	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-07	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-08	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-09	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-10	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-11	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-12	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-13	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-14	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-15	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-16	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-17	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-18	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Dry Weight	9E13102	RSE0369-19	10.00	g	10.00	g	05/13/09 22:45	LT	Dry Weight
Polychlorinated Biphenyls by EPA Method 8082									
8082	9E12035	RSE0369-06	30.52	g	10.00	mL	05/12/09 21:36	LT	3550B GC
8082	9E12035	RSE0369-09	30.93	g	10.00	mL	05/12/09 21:36	LT	3550B GC
Semivolatile Organics by GC/MS									
8270C	9E11087	RSE0369-18	30.23	g	1.00	mL	05/12/09 08:00	BL	3550B MB
8270C	9E11087	RSE0369-17	30.40	g	1.00	mL	05/12/09 08:00	BL	3550B MB
8270C	9E11087	RSE0369-09	30.46	g	1.00	mL	05/12/09 08:00	BL	3550B MB
8270C	9E11087	RSE0369-13	30.73	g	1.00	mL	05/12/09 08:00	BL	3550B MB
Total Metals by SW 846 Series Methods									
6010B	9E12064	RSE0369-01	0.48	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-11	0.48	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12068	RSE0369-17	0.49	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12068	RSE0369-19	0.49	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-03	0.50	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-16	0.50	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12068	RSE0369-18	0.50	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-06	0.51	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-10	0.51	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-09	0.51	g	50.00	mL	05/13/09 10:30	MLD	3050B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Units	Extract Volume	Units	Date	Analyst	Extraction Method
6010B	9E12064	RSE0369-15	0.51	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-07	0.52	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-14	0.52	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-08	0.53	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-05	0.53	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-02	0.53	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-04	0.54	g	50.00	mL	05/13/09 10:30	MLD	3050B
6010B	9E12064	RSE0369-12	0.54	g	50.00	mL	05/13/09 10:30	MLD	3050B
7471A	9E12055	RSE0369-05	0.58	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-06	0.58	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-07	0.58	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-10	0.59	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-14	0.60	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-01	0.61	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-19	0.61	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-11	0.61	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-08	0.61	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-17	0.61	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-04	0.61	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-09	0.62	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-02	0.62	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-16	0.63	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-12	0.64	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-15	0.64	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E12055	RSE0369-03	0.65	g	50.00	mL	05/13/09 13:45	MM	7471A_
7471A	9E28026	RSE0369-18	0.62	g	50.00	mL	05/28/09 13:15	MM	7471A_
Volatile Organic Compounds by EPA 8260B									
8260B	9E13076	RSE0369-13	5.19	g	5.00	mL	05/13/09 18:29	CDC	5030B MS
8260B	9E13076	RSE0369-09	5.29	g	5.00	mL	05/13/09 18:29	CDC	5030B MS

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
General Chemistry Parameters												
Blank Analyzed: 05/13/09 (9E13038-BLK1)												
Cyanide	9E13038			1.0	0.9	mg/kg wet	ND					
LCS Analyzed: 05/13/09 (9E13038-BS1)												
Cyanide	9E13038		34.4	0.9	0.8	mg/kg wet	25.9	75	40-160			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Polychlorinated Biphenyls by EPA Method 8082												
Blank Analyzed: 05/13/09 (9E12035-BLK1)												
Aroclor 1016	9E12035			17	3.2	ug/kg wet	ND					QSU
Aroclor 1221	9E12035			17	3.2	ug/kg wet	ND					QSU
Aroclor 1232	9E12035			17	3.2	ug/kg wet	ND					QSU
Aroclor 1242	9E12035			17	3.6	ug/kg wet	ND					QSU
Aroclor 1248	9E12035			17	3.3	ug/kg wet	ND					QSU
Aroclor 1254	9E12035			17	3.5	ug/kg wet	ND					QSU
Aroclor 1260	9E12035			17	3.5	ug/kg wet	ND					QSU
Surrogate: Decachlorobiphenyl						ug/kg wet		*105*	*34-148*			QSU
Surrogate: Tetrachloro-m-xylene						ug/kg wet		*97*	*35-134*			QSU
LCS Analyzed: 05/13/09 (9E12035-BS1)												
Aroclor 1016	9E12035		170	17	3.2	ug/kg wet	144	87	59-154			QSU
Aroclor 1221	9E12035			17	3.2	ug/kg wet	ND		0-200			QSU
Aroclor 1232	9E12035			17	3.2	ug/kg wet	ND		0-200			QSU
Aroclor 1242	9E12035			17	3.6	ug/kg wet	ND		0-200			QSU
Aroclor 1248	9E12035			17	3.3	ug/kg wet	ND		0-200			QSU
Aroclor 1254	9E12035			17	3.5	ug/kg wet	ND		0-200			QSU
Aroclor 1260	9E12035		170	17	3.5	ug/kg wet	162	97	51-179			QSU
Surrogate: Decachlorobiphenyl						ug/kg wet		*102*	*34-148*			QSU
Surrogate: Tetrachloro-m-xylene						ug/kg wet		*97*	*35-134*			QSU
LCS Dup Analyzed: 05/13/09 (9E12035-BSD1)												
Aroclor 1016	9E12035		160	16	3.2	ug/kg wet	142	86	59-154	1	50	QSU
Aroclor 1221	9E12035			16	3.2	ug/kg wet	ND		0-200		200	QSU
Aroclor 1232	9E12035			16	3.2	ug/kg wet	ND		0-200		200	QSU
Aroclor 1242	9E12035			16	3.6	ug/kg wet	ND		0-200		200	QSU
Aroclor 1248	9E12035			16	3.2	ug/kg wet	ND		0-200		200	QSU
Aroclor 1254	9E12035			16	3.5	ug/kg wet	ND		0-200		200	QSU
Aroclor 1260	9E12035		160	16	3.5	ug/kg wet	161	98	51-179	1	50	QSU
Surrogate: Decachlorobiphenyl						ug/kg wet		*101*	*34-148*			QSU
Surrogate: Tetrachloro-m-xylene						ug/kg wet		*95*	*35-134*			QSU

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
Blank Analyzed: 05/20/09 (9E11087-BLK1)												
1,2,4,5-Tetrachlorobenzene	9E11087			170	15	ug/kg wet	ND					
1,2,4-Trichlorobenzene	9E11087			320	4.7	ug/kg wet	ND					
1,2-Dichlorobenzene	9E11087			320	3.1	ug/kg wet	ND					
1,2-Diphenylhydrazine	9E11087			320	39	ug/kg wet	ND					
1,3,5-Trinitrobenzene	9E11087			320	13	ug/kg wet	ND					
1,3-Dichlorobenzene	9E11087			320	2.9	ug/kg wet	ND					
1,3-Dinitrobenzene	9E11087			320	11	ug/kg wet	ND					
1,4-Dichlorobenzene	9E11087			320	2.2	ug/kg wet	ND					
1,4-Dinitrobenzene	9E11087			320	320	ug/kg wet	ND					
1,4-Dioxane	9E11087			320	36	ug/kg wet	ND					
1,4-Naphthoquinone	9E11087			320	7.9	ug/kg wet	ND					
1-Naphthylamine	9E11087			320	190	ug/kg wet	ND					
2,3,4,6-Tetrachlorophenol	9E11087			170	170	ug/kg wet	ND					
1,4-Dihydroxyanthraquinone	9E11087			640	110	ug/kg wet	ND					
2,4,5-Trichlorophenol	9E11087			170	36	ug/kg wet	ND					
2,4,6-Trichlorophenol	9E11087			170	11	ug/kg wet	ND					
2,4-Dichlorophenol	9E11087			170	8.6	ug/kg wet	ND					
2,4-Dimethylphenol	9E11087			170	44	ug/kg wet	ND					
2,4-Dinitrophenol	9E11087			320	57	ug/kg wet	ND					
2,4-Dinitrotoluene	9E11087			170	25	ug/kg wet	ND					
1-Hydroxyanthraquinone	9E11087			640	240	ug/kg wet	ND					
2,6-Dichlorophenol	9E11087			320	320	ug/kg wet	ND					
2,6-Dinitrotoluene	9E11087			170	40	ug/kg wet	ND					
2-Acetylaminofluorene	9E11087			320	19	ug/kg wet	ND					
2-Chloronaphthalene	9E11087			170	11	ug/kg wet	ND					
2-Chlorophenol	9E11087			170	8.3	ug/kg wet	ND					
2-Methylnaphthalene	9E11087			170	2.0	ug/kg wet	ND					
2-Methylphenol	9E11087			170	5.0	ug/kg wet	ND					
2-Naphthylamine	9E11087			320	21	ug/kg wet	ND					
2-Nitroaniline	9E11087			320	53	ug/kg wet	ND					
2-Nitrophenol	9E11087			170	7.5	ug/kg wet	ND					
2-Picoline	9E11087			320	320	ug/kg wet	ND					
2-Toluidine	9E11087			320	67	ug/kg wet	ND					
3 & 4 Methylphenol	9E11087			320	9.1	ug/kg wet	ND					
3,3'-Dichlorobenzidine	9E11087			170	140	ug/kg wet	ND					
3,3'-Dimethylbenzidine	9E11087			320	40	ug/kg wet	ND					
2-Chloroaniline	9E11087			320	29	ug/kg wet	ND					
3-Methylcholanthrene	9E11087			320	29	ug/kg wet	ND					
3-Nitroaniline	9E11087			320	38	ug/kg wet	ND					
4,6-Dinitro-2-methylphenol	9E11087			320	57	ug/kg wet	ND					
4-Aminobiphenyl	9E11087			320	16	ug/kg wet	ND					
4-Bromophenyl phenyl ether	9E11087			170	52	ug/kg wet	ND					
4-Chloro-3-methylphenol	9E11087			170	6.7	ug/kg wet	ND					
4-Chloroaniline	9E11087			170	48	ug/kg wet	ND					
4-Chlorophenyl phenyl ether	9E11087			170	3.5	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
Blank Analyzed: 05/20/09 (9E11087-BLK1)												
4-Nitroaniline	9E11087			320	18	ug/kg wet	ND					
4-Nitrophenol	9E11087			320	40	ug/kg wet	ND					
4-Nitroquinoline-1-oxide	9E11087			640	640	ug/kg wet	ND					
7,12-Dimethylbenz[a]anthracene	9E11087			320	17	ug/kg wet	ND					
a,a-Dimethylphenethylamine	9E11087			320	320	ug/kg wet	ND					
Acenaphthene	9E11087			170	1.9	ug/kg wet	ND					
Acenaphthylene	9E11087			170	1.3	ug/kg wet	ND					
Acetophenone	9E11087			170	8.4	ug/kg wet	ND					
Aniline	9E11087			320	90	ug/kg wet	ND					
Anthracene	9E11087			170	4.2	ug/kg wet	ND					
Aramite	9E11087			320	320	ug/kg wet	ND					
Atrazine	9E11087			170	7.3	ug/kg wet	ND					
Benzaldehyde	9E11087			170	18	ug/kg wet	ND					
Benzidine	9E11087			4900	2100	ug/kg wet	ND					
Benzo[a]anthracene	9E11087			170	2.8	ug/kg wet	ND					
Benzo[a]pyrene	9E11087			170	4.0	ug/kg wet	ND					
Benzo[b]fluoranthene	9E11087			170	3.2	ug/kg wet	ND					
Benzo[g,h,i]perylene	9E11087			170	2.0	ug/kg wet	ND					
Benzo[k]fluoranthene	9E11087			170	1.8	ug/kg wet	ND					
Benzoic acid	9E11087			4700	240	ug/kg wet	ND					
Benzyl alcohol	9E11087			320	7.8	ug/kg wet	ND					
Biphenyl	9E11087			170	10	ug/kg wet	ND					
Bis(2-chloroethoxy)methane	9E11087			170	8.9	ug/kg wet	ND					
Bis(2-chloroethyl)ether	9E11087			170	14	ug/kg wet	ND					
Bis(2-chloroisopropyl) ether	9E11087			170	17	ug/kg wet	ND					
9-Octadecenamide	9E11087			3200	790	ug/kg wet	ND					
Bis(2-ethylhexyl) phthalate	9E11087			170	53	ug/kg wet	ND					
Butyl benzyl phthalate	9E11087			170	44	ug/kg wet	ND					
Caprolactam	9E11087			170	71	ug/kg wet	ND					
Carbazole	9E11087			170	1.9	ug/kg wet	ND					
Chlorobenzilate	9E11087			320	16	ug/kg wet	ND					
Chrysene	9E11087			170	1.6	ug/kg wet	ND					
Diallate	9E11087			320	8.6	ug/kg wet	ND					
Dibenz[a,h]anthracene	9E11087			170	1.9	ug/kg wet	ND					
Anthraquinone	9E11087			320	150	ug/kg wet	ND					
Dibenzo[a,e]pyrene	9E11087			320	320	ug/kg wet	ND					
Dibenzofuran	9E11087			170	1.7	ug/kg wet	ND					
Diethyl phthalate	9E11087			170	5.0	ug/kg wet	ND					
Dimethoate	9E11087			320	11	ug/kg wet	ND					
Dimethyl phthalate	9E11087			170	4.3	ug/kg wet	ND					
Di-n-butyl phthalate	9E11087			170	57	ug/kg wet	ND					
Di-n-octyl phthalate	9E11087			170	3.8	ug/kg wet	ND					
Dinoseb	9E11087			320	320	ug/kg wet	ND					
Diphenylamine	9E11087			320	320	ug/kg wet	ND					
Disulfoton	9E11087			320	12	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
Blank Analyzed: 05/20/09 (9E11087-BLK1)												
Ethyl Methanesulfonate	9E11087			320	45	ug/kg wet	ND					
Famphur	9E11087			640	30	ug/kg wet	ND					
Fluoranthene	9E11087			170	2.4	ug/kg wet	ND					
Fluorene	9E11087			170	3.8	ug/kg wet	ND					
Hexachlorobenzene	9E11087			170	8.1	ug/kg wet	ND					
Hexachlorobutadiene	9E11087			170	8.4	ug/kg wet	ND					
Hexachlorocyclopentadiene	9E11087			170	50	ug/kg wet	ND					
Hexachloroethane	9E11087			170	13	ug/kg wet	ND					
Hexachlorophene	9E11087			3200	3200	ug/kg wet	ND					
Hexachloropropene	9E11087			320	19	ug/kg wet	ND					
Indeno[1,2,3-cd]pyrene	9E11087			170	4.5	ug/kg wet	ND					
Isodrin	9E11087			320	30	ug/kg wet	ND					
Isophorone	9E11087			170	8.2	ug/kg wet	ND					
Isosafrole	9E11087			320	26	ug/kg wet	ND					
Kepone	9E11087			640	48	ug/kg wet	ND					
Methapyrilene	9E11087			1500	970	ug/kg wet	ND					
Methyl Methanesulfonate	9E11087			320	100	ug/kg wet	ND					
N,N-Dimethyl Formamide	9E11087			640	210	ug/kg wet	ND					
Naphthalene	9E11087			170	2.7	ug/kg wet	ND					
Nitrobenzene	9E11087			170	7.3	ug/kg wet	ND					
N-Nitro-o-toluidine	9E11087			320	21	ug/kg wet	ND					
N-Nitrosodiethylamine	9E11087			320	31	ug/kg wet	ND					
N-Nitrosodimethylamine	9E11087			320	12	ug/kg wet	ND					
N-Nitrosodi-n-butylamine	9E11087			320	24	ug/kg wet	ND					
N-Nitrosodi-n-propylamine	9E11087			170	13	ug/kg wet	ND					
N-Nitrosodiphenylamine	9E11087			170	9.0	ug/kg wet	ND					L
N-Nitrosomethylethylamine	9E11087			320	31	ug/kg wet	ND					
N-Nitrosomorpholine	9E11087			320	320	ug/kg wet	ND					
N-Nitrosopiperidine	9E11087			320	44	ug/kg wet	ND					
N-Nitrosopyrrolidine	9E11087			320	24	ug/kg wet	ND					
O,O,O-Triethyl phosphorothioate	9E11087			320	11	ug/kg wet	ND					
Parathion-ethyl	9E11087			320	8.9	ug/kg wet	ND					
Parathion-methyl	9E11087			320	12	ug/kg wet	ND					
p-Dimethylamino azobenzene	9E11087			320	33	ug/kg wet	ND					
Pentachlorobenzene	9E11087			320	38	ug/kg wet	ND					
Pentachloronitrobenzene	9E11087			320	33	ug/kg wet	ND					
Pentachlorophenol	9E11087			320	56	ug/kg wet	ND					
Phenacetin	9E11087			320	27	ug/kg wet	ND					
Phenanthrene	9E11087			170	3.4	ug/kg wet	ND					
Phenol	9E11087			170	17	ug/kg wet	ND					
Phorate	9E11087			320	65	ug/kg wet	ND					
Phthalic anhydride	9E11087			9700	750	ug/kg wet	ND					
p-Phenylene diamine	9E11087			780	190	ug/kg wet	ND					
Pronamide	9E11087			320	7.5	ug/kg wet	ND					
Pyrene	9E11087			170	1.1	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
Blank Analyzed: 05/20/09 (9E11087-BLK1)												
Pyridine	9E11087			320	92	ug/kg wet	ND					
Quinoline	9E11087			320	52	ug/kg wet	ND					
Safrole	9E11087			320	18	ug/kg wet	ND					
Sulfotepp	9E11087			320	320	ug/kg wet	ND					
Tetraethyl lead	9E11087			970	160	ug/kg wet	ND					
Thionazin	9E11087			320	9.8	ug/kg wet	ND					
Surrogate: 2,4,6-Tribromophenol						ug/kg wet		*91*	*39-146*			
Surrogate: 2-Fluorobiphenyl						ug/kg wet		*94*	*37-120*			
Surrogate: 2-Fluorophenol						ug/kg wet		*79*	*18-120*			
Surrogate: Nitrobenzene-d5						ug/kg wet		*87*	*34-132*			
Surrogate: Phenol-d5						ug/kg wet		*85*	*11-120*			
Surrogate: p-Terphenyl-d14						ug/kg wet		*95*	*58-147*			
LCS Analyzed: 05/20/09 (9E11087-BS1)												
1,2,4,5-Tetrachlorobenzene	9E11087		3300	170	15	ug/kg wet	2950	89	0-200			
1,2,4-Trichlorobenzene	9E11087		3300	330	4.8	ug/kg wet	2570	78	39-120			
1,2-Dichlorobenzene	9E11087		3300	330	3.2	ug/kg wet	2370	72	18-120			
1,2-Diphenylhydrazine	9E11087			330	40	ug/kg wet	3190		0-200			
1,3,5-Trinitrobenzene	9E11087			330	14	ug/kg wet	ND		0-200			
1,3-Dichlorobenzene	9E11087		3300	330	3.0	ug/kg wet	2400	72	14-120			
1,3-Dinitrobenzene	9E11087		3300	330	11	ug/kg wet	ND		0-200			
1,4-Dichlorobenzene	9E11087		3300	330	2.2	ug/kg wet	2430	73	34-120			
1,4-Dinitrobenzene	9E11087		3300	330	330	ug/kg wet	ND		0-200			
1,4-Dioxane	9E11087		3300	330	37	ug/kg wet	ND		0-200			
1,4-Naphthoquinone	9E11087			330	8.1	ug/kg wet	ND		0-200			
1-Naphthylamine	9E11087			330	200	ug/kg wet	ND		0-200			
2,3,4,6-Tetrachlorophenol	9E11087		3300	170	170	ug/kg wet	3270	99	0-200			
1,4-Dihydroxyanthraquinone	9E11087			660	110	ug/kg wet	ND		0-200			
2,4,5-Trichlorophenol	9E11087		3300	170	37	ug/kg wet	3120	94	59-126			
2,4,6-Trichlorophenol	9E11087		3300	170	11	ug/kg wet	2900	87	59-123			
2,4-Dichlorophenol	9E11087		3300	170	8.8	ug/kg wet	2720	82	52-120			
2,4-Dimethylphenol	9E11087		3300	170	45	ug/kg wet	2810	85	36-120			
2,4-Dinitrophenol	9E11087		3300	330	59	ug/kg wet	2670	80	35-146			
2,4-Dinitrotoluene	9E11087		3300	170	26	ug/kg wet	3350	101	55-125			
1-Hydroxyanthraquinone	9E11087			660	250	ug/kg wet	ND		0-200			
2,6-Dichlorophenol	9E11087			330	330	ug/kg wet	ND		0-200			
2,6-Dinitrotoluene	9E11087		3300	170	41	ug/kg wet	3160	95	66-128			
2-Acetylaminofluorene	9E11087			330	19	ug/kg wet	ND		0-200			
2-Chloronaphthalene	9E11087		3300	170	11	ug/kg wet	2870	86	57-120			
2-Chlorophenol	9E11087		3300	170	8.5	ug/kg wet	2530	76	38-120			
2-Methylnaphthalene	9E11087		3300	170	2.0	ug/kg wet	2950	89	47-120			
2-Methylphenol	9E11087		3300	170	5.2	ug/kg wet	2950	89	48-120			
2-Naphthylamine	9E11087			330	22	ug/kg wet	ND		0-200			
2-Nitroaniline	9E11087		3300	330	54	ug/kg wet	3180	96	61-130			
2-Nitrophenol	9E11087		3300	170	7.7	ug/kg wet	2680	81	50-120			
2-Picoline	9E11087			330	330	ug/kg wet	ND		0-200			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Analyzed: 05/20/09 (9E11087-BS1)												
2-Toluidine	9E11087			330	69	ug/kg wet	ND		0-200			
3 & 4 Methylphenol	9E11087		3300	330	9.4	ug/kg wet	2900	87	50-119			
3,3'-Dichlorobenzidine	9E11087		3300	170	150	ug/kg wet	2550	77	48-126			
3,3'-Dimethylbenzidine	9E11087			330	40	ug/kg wet	ND		0-200			
2-Chloroaniline	9E11087			330	29	ug/kg wet	ND		0-200			
3-Methylcholanthrene	9E11087			330	30	ug/kg wet	ND		0-200			
3-Nitroaniline	9E11087		3300	330	39	ug/kg wet	2820	85	61-127			
4,6-Dinitro-2-methylphenol	9E11087		3300	330	58	ug/kg wet	3400	103	49-155			
4-Aminobiphenyl	9E11087			330	16	ug/kg wet	ND		0-200			
4-Bromophenyl phenyl ether	9E11087		3300	170	53	ug/kg wet	3120	94	58-131			
4-Chloro-3-methylphenol	9E11087		3300	170	6.9	ug/kg wet	3100	93	49-125			
4-Chloroaniline	9E11087		3300	170	49	ug/kg wet	2630	79	49-120			
4-Chlorophenyl phenyl ether	9E11087		3300	170	3.6	ug/kg wet	2920	88	63-124			
4-Nitroaniline	9E11087		3300	330	19	ug/kg wet	3140	95	63-128			
4-Nitrophenol	9E11087		3300	330	41	ug/kg wet	3250	98	43-137			
4-Nitroquinoline-1-oxide	9E11087			660	660	ug/kg wet	ND		0-200			
7,12-Dimethylbenz[a]anthracene	9E11087			330	17	ug/kg wet	ND		0-200			
a,a-Dimethylphenethylamine	9E11087			330	330	ug/kg wet	ND		0-200			
Acenaphthene	9E11087		3300	170	2.0	ug/kg wet	3010	91	53-120			
Acenaphthylene	9E11087		3300	170	1.4	ug/kg wet	3040	92	58-121			
Acetophenone	9E11087		3300	170	8.6	ug/kg wet	2760	83	66-120			
Aniline	9E11087		3300	330	92	ug/kg wet	2840	86	45-120			
Anthracene	9E11087		3300	170	4.3	ug/kg wet	3130	94	62-129			
Aramite	9E11087			330	330	ug/kg wet	ND		0-200			
Atrazine	9E11087		3300	170	7.5	ug/kg wet	2860	86	73-133			
Benzaldehyde	9E11087		3300	170	18	ug/kg wet	1810	55	21-120			
Benzidine	9E11087		3300	5000	2100	ug/kg wet	ND		20-120			
Benzo[a]anthracene	9E11087		3300	170	2.9	ug/kg wet	3170	96	65-133			
Benzo[a]pyrene	9E11087		3300	170	4.0	ug/kg wet	3500	106	64-127			
Benzo[b]fluoranthene	9E11087		3300	170	3.3	ug/kg wet	3330	100	64-135			
Benzo[g,h,i]perylene	9E11087		3300	170	2.0	ug/kg wet	3540	107	50-152			
Benzo[k]fluoranthene	9E11087		3300	170	1.8	ug/kg wet	3150	95	58-138			
Benzoic acid	9E11087		8300	4800	240	ug/kg wet	6600	80	62-120			
Benzyl alcohol	9E11087		3300	330	8.0	ug/kg wet	2480	75	15-145			
Biphenyl	9E11087		3300	170	10	ug/kg wet	2550	77	71-120			
Bis(2-chloroethoxy)methane	9E11087		3300	170	9.1	ug/kg wet	2090	63	61-133			
Bis(2-chloroethyl)ether	9E11087		3300	170	14	ug/kg wet	2430	73	45-120			
Bis(2-chloroisopropyl) ether	9E11087		3300	170	18	ug/kg wet	2460	74	44-120			
9-Octadecenamide	9E11087			3300	810	ug/kg wet	ND		0-200			
Bis(2-ethylhexyl) phthalate	9E11087		3300	170	54	ug/kg wet	3050	92	61-133			
Butyl benzyl phthalate	9E11087		3300	170	45	ug/kg wet	3100	93	61-129			
Caprolactam	9E11087		3300	170	73	ug/kg wet	3190	96	54-133			
Carbazole	9E11087		3300	170	1.9	ug/kg wet	3150	95	59-129			
Chlorobenzilate	9E11087			330	17	ug/kg wet	ND		0-200			
Chrysene	9E11087		3300	170	1.7	ug/kg wet	3240	98	64-131			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Analyzed: 05/20/09 (9E11087-BS1)												
Diallate	9E11087			330	8.9	ug/kg wet	ND		0-200			
Dibenz[a,h]anthracene	9E11087		3300	170	2.0	ug/kg wet	3530	107	54-148			
Anthraquinone	9E11087			330	150	ug/kg wet	ND		0-200			
Dibenzo[a,e]pyrene	9E11087			330	330	ug/kg wet	ND		0-200			
Dibenzofuran	9E11087		3300	170	1.7	ug/kg wet	3030	91	56-120			
Diethyl phthalate	9E11087		3300	170	5.1	ug/kg wet	3170	96	66-126			
Dimethoate	9E11087			330	11	ug/kg wet	ND		0-200			
Dimethyl phthalate	9E11087		3300	170	4.4	ug/kg wet	3120	94	65-124			
Di-n-butyl phthalate	9E11087		3300	170	58	ug/kg wet	3160	95	58-130			
Di-n-octyl phthalate	9E11087		3300	170	3.9	ug/kg wet	3030	91	62-133			
Dinoseb	9E11087			330	330	ug/kg wet	ND		0-200			
Diphenylamine	9E11087		3300	330	330	ug/kg wet	ND		0-200			
Disulfoton	9E11087			330	12	ug/kg wet	ND		0-200			
Ethyl Methanesulfonate	9E11087			330	46	ug/kg wet	ND		0-200			
Famphur	9E11087			660	31	ug/kg wet	ND		0-200			
Fluoranthene	9E11087		3300	170	2.4	ug/kg wet	3150	95	62-131			
Fluorene	9E11087		3300	170	3.9	ug/kg wet	3200	97	63-126			
Hexachlorobenzene	9E11087		3300	170	8.3	ug/kg wet	3060	92	60-132			
Hexachlorobutadiene	9E11087		3300	170	8.6	ug/kg wet	2520	76	45-120			
Hexachlorocyclopentadiene	9E11087		3300	170	51	ug/kg wet	2740	83	31-120			
Hexachloroethane	9E11087		3300	170	13	ug/kg wet	2420	73	41-120			
Hexachlorophene	9E11087			3300	3300	ug/kg wet	ND		0-200			
Hexachloropropene	9E11087			330	19	ug/kg wet	ND		0-200			
Indeno[1,2,3-cd]pyrene	9E11087		3300	170	4.6	ug/kg wet	3600	109	56-149			
Isodrin	9E11087			330	31	ug/kg wet	ND		0-200			
Isophorone	9E11087		3300	170	8.4	ug/kg wet	2630	79	56-120			
Isosafrole	9E11087			330	27	ug/kg wet	ND		0-200			
Kepone	9E11087			660	49	ug/kg wet	ND		0-200			
Methapyrilene	9E11087			1500	990	ug/kg wet	ND		0-200			
Methyl Methanesulfonate	9E11087			330	100	ug/kg wet	ND		0-200			
N,N-Dimethyl Formamide	9E11087			660	210	ug/kg wet	ND		0-200			
Naphthalene	9E11087		3300	170	2.8	ug/kg wet	2730	82	46-120			
Nitrobenzene	9E11087		3300	170	7.4	ug/kg wet	2610	79	49-120			
N-Nitro-o-toluidine	9E11087			330	22	ug/kg wet	ND		0-200			
N-Nitrosodiethylamine	9E11087			330	32	ug/kg wet	ND		0-200			
N-Nitrosodimethylamine	9E11087		3300	330	12	ug/kg wet	2320	70	0-200			
N-Nitrosodi-n-butylamine	9E11087			330	25	ug/kg wet	ND		0-200			
N-Nitrosodi-n-propylamine	9E11087		3300	170	13	ug/kg wet	2790	84	46-120			
N-Nitrosodiphenylamine	9E11087		3300	170	9.2	ug/kg wet	3940	119	20-119			
N-Nitrosomethylethylamine	9E11087			330	32	ug/kg wet	ND		0-200			
N-Nitrosomorpholine	9E11087			330	330	ug/kg wet	ND		0-200			
N-Nitrosopiperidine	9E11087			330	45	ug/kg wet	ND		0-200			
N-Nitrosopyrrolidine	9E11087			330	25	ug/kg wet	ND		0-200			
O,O,O-Triethyl phosphorothioate	9E11087			330	11	ug/kg wet	ND		0-200			
Parathion-ethyl	9E11087			330	9.2	ug/kg wet	ND		0-200			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Analyzed: 05/20/09 (9E11087-BS1)												
Parathion-methyl	9E11087			330	12	ug/kg wet	ND		0-200			
p-Dimethylamino azobenzene	9E11087			330	33	ug/kg wet	ND		0-200			
Pentachlorobenzene	9E11087			330	39	ug/kg wet	ND		0-200			
Pentachloronitrobenzene	9E11087			330	34	ug/kg wet	ND		0-200			
Pentachlorophenol	9E11087		3300	330	58	ug/kg wet	2990	90	33-136			
Phenacetin	9E11087			330	27	ug/kg wet	ND		0-200			
Phenanthrene	9E11087		3300	170	3.5	ug/kg wet	3180	96	60-130			
Phenol	9E11087		3300	170	18	ug/kg wet	2640	79	36-120			
Phorate	9E11087			330	66	ug/kg wet	ND		0-200			
Phthalic anhydride	9E11087			9900	770	ug/kg wet	ND		0-200			
p-Phenylene diamine	9E11087			800	200	ug/kg wet	ND		0-200			
Pronamide	9E11087			330	7.7	ug/kg wet	ND		0-200			
Pyrene	9E11087		3300	170	1.1	ug/kg wet	3070	93	51-133			
Pyridine	9E11087		3300	330	94	ug/kg wet	2160	65	8-120			
Quinoline	9E11087		3300	330	53	ug/kg wet	ND		0-200			
Safrole	9E11087			330	18	ug/kg wet	ND		0-200			
Sulfotepp	9E11087			330	330	ug/kg wet	ND		0-200			
Thionazin	9E11087			330	10	ug/kg wet	ND		0-200			
Surrogate: 2,4,6-Tribromophenol						ug/kg wet		*93*	*39-146*			
Surrogate: 2-Fluorobiphenyl						ug/kg wet		*85*	*37-120*			
Surrogate: 2-Fluorophenol						ug/kg wet		*72*	*18-120*			
Surrogate: Nitrobenzene-d5						ug/kg wet		*81*	*34-132*			
Surrogate: Phenol-d5						ug/kg wet		*79*	*11-120*			
Surrogate: p-Terphenyl-d14						ug/kg wet		*80*	*58-147*			
LCS Dup Analyzed: 05/20/09 (9E11087-BSD1)												
1,2,4,5-Tetrachlorobenzene	9E11087		3300	170	15	ug/kg wet	2980	90	0-200	1	200	R2
1,2,4-Trichlorobenzene	9E11087		3300	330	4.8	ug/kg wet	2490	75	39-120	3	30	
1,2-Dichlorobenzene	9E11087		3300	330	3.2	ug/kg wet	2220	67	18-120	7	29	
1,2-Diphenylhydrazine	9E11087			330	40	ug/kg wet	3320		0-200	4	200	R2
1,3,5-Trinitrobenzene	9E11087			330	14	ug/kg wet	ND		0-200		200	
1,3-Dichlorobenzene	9E11087		3300	330	3.0	ug/kg wet	2270	69	14-120	6	37	
1,3-Dinitrobenzene	9E11087		3300	330	11	ug/kg wet	ND		0-200		200	
1,4-Dichlorobenzene	9E11087		3300	330	2.2	ug/kg wet	2290	69	34-120	6	35	
1,4-Dinitrobenzene	9E11087		3300	330	330	ug/kg wet	ND		0-200		200	
1,4-Dioxane	9E11087		3300	330	37	ug/kg wet	ND		0-200		200	
1,4-Naphthoquinone	9E11087			330	8.0	ug/kg wet	ND		0-200		200	
1-Naphthylamine	9E11087			330	200	ug/kg wet	ND		0-200		200	
2,3,4,6-Tetrachlorophenol	9E11087		3300	170	170	ug/kg wet	3510	106	0-200	7	200	R2
1,4-Dihydroxyanthraquinone	9E11087			650	110	ug/kg wet	ND		0-200		200	
2,4,5-Trichlorophenol	9E11087		3300	170	36	ug/kg wet	3290	100	59-126	5	18	
2,4,6-Trichlorophenol	9E11087		3300	170	11	ug/kg wet	3200	97	59-123	10	19	
2,4-Dichlorophenol	9E11087		3300	170	8.8	ug/kg wet	2830	86	52-120	4	19	
2,4-Dimethylphenol	9E11087		3300	170	45	ug/kg wet	2670	81	36-120	5	42	
2,4-Dinitrophenol	9E11087		3300	330	59	ug/kg wet	2790	84	35-146	4	22	
2,4-Dinitrotoluene	9E11087		3300	170	26	ug/kg wet	3580	108	55-125	7	20	

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Dup Analyzed: 05/20/09 (9E11087-BSD1)												
1-Hydroxyanthraquinone	9E11087			650	250	ug/kg wet	ND		0-200		200	
2,6-Dichlorophenol	9E11087			330	330	ug/kg wet	ND		0-200		200	
2,6-Dinitrotoluene	9E11087		3300	170	41	ug/kg wet	3370	102	66-128	6	15	
2-Acetylaminofluorene	9E11087			330	19	ug/kg wet	ND		0-200		200	
2-Chloronaphthalene	9E11087		3300	170	11	ug/kg wet	2970	90	57-120	4	21	
2-Chlorophenol	9E11087		3300	170	8.5	ug/kg wet	2410	73	38-120	5	25	
2-Methylnaphthalene	9E11087		3300	170	2.0	ug/kg wet	3000	91	47-120	2	21	
2-Methylphenol	9E11087		3300	170	5.1	ug/kg wet	2890	88	48-120	2	27	
2-Naphthylamine	9E11087			330	22	ug/kg wet	ND		0-200		200	
2-Nitroaniline	9E11087		3300	330	54	ug/kg wet	3360	102	61-130	5	15	
2-Nitrophenol	9E11087		3300	170	7.7	ug/kg wet	2710	82	50-120	1	18	
2-Picoline	9E11087			330	330	ug/kg wet	ND		0-200		200	
2-Toluidine	9E11087			330	68	ug/kg wet	ND		0-200		200	
3 & 4 Methylphenol	9E11087		3300	330	9.3	ug/kg wet	2890	87	50-119	0	24	
3,3'-Dichlorobenzidine	9E11087		3300	170	150	ug/kg wet	3020	91	48-126	17	25	
3,3'-Dimethylbenzidine	9E11087			330	40	ug/kg wet	ND		0-200		200	
2-Chloroaniline	9E11087			330	29	ug/kg wet	ND		0-200		200	
3-Methylcholanthrene	9E11087			330	30	ug/kg wet	ND		0-200		200	
3-Nitroaniline	9E11087		3300	330	38	ug/kg wet	3340	101	61-127	17	19	
4,6-Dinitro-2-methylphenol	9E11087		3300	330	58	ug/kg wet	3540	107	49-155	4	15	
4-Aminobiphenyl	9E11087			330	16	ug/kg wet	ND		0-200		200	
4-Bromophenyl phenyl ether	9E11087		3300	170	53	ug/kg wet	3330	101	58-131	6	15	
4-Chloro-3-methylphenol	9E11087		3300	170	6.9	ug/kg wet	3250	98	49-125	5	27	
4-Chloroaniline	9E11087		3300	170	49	ug/kg wet	3000	91	49-120	13	22	
4-Chlorophenyl phenyl ether	9E11087		3300	170	3.6	ug/kg wet	3100	94	63-124	6	16	
4-Nitroaniline	9E11087		3300	330	19	ug/kg wet	3320	100	63-128	6	24	
4-Nitrophenol	9E11087		3300	330	41	ug/kg wet	3240	98	43-137	0	25	
4-Nitroquinoline-1-oxide	9E11087			650	650	ug/kg wet	ND		0-200		200	
7,12-Dimethylbenz[a]anthracene	9E11087			330	17	ug/kg wet	ND		0-200		200	
a,a-Dimethylphenethylamine	9E11087			330	330	ug/kg wet	ND		0-200		200	
Acenaphthene	9E11087		3300	170	2.0	ug/kg wet	3200	97	53-120	6	35	
Acenaphthylene	9E11087		3300	170	1.4	ug/kg wet	3210	97	58-121	5	18	
Acetophenone	9E11087		3300	170	8.6	ug/kg wet	2690	81	66-120	3	20	
Aniline	9E11087		3300	330	92	ug/kg wet	2920	88	45-120	3	30	
Anthracene	9E11087		3300	170	4.3	ug/kg wet	3350	101	62-129	7	15	
Aramite	9E11087			330	330	ug/kg wet	ND		0-200		200	
Atrazine	9E11087		3300	170	7.4	ug/kg wet	3680	111	73-133	25	20	R2
Benzaldehyde	9E11087		3300	170	18	ug/kg wet	2650	80	21-120	38	20	R2
Benzidine	9E11087		3300	5000	2100	ug/kg wet	2300	70	20-120		15	J
Benzo[a]anthracene	9E11087		3300	170	2.9	ug/kg wet	3400	103	65-133	7	15	
Benzo[a]pyrene	9E11087		3300	170	4.0	ug/kg wet	3710	112	64-127	6	15	
Benzo[b]fluoranthene	9E11087		3300	170	3.2	ug/kg wet	3520	107	64-135	6	15	
Benzo[g,h,i]perylene	9E11087		3300	170	2.0	ug/kg wet	3690	112	50-152	4	15	
Benzo[k]fluoranthene	9E11087		3300	170	1.8	ug/kg wet	3280	99	58-138	4	22	
Benzoic acid	9E11087		8300	4800	240	ug/kg wet	7180	87	62-120	8	50	

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Dup Analyzed: 05/20/09 (9E11087-BSD1)												
Benzyl alcohol	9E11087		3300	330	8.0	ug/kg wet	2680	81	15-145	8	34	
Biphenyl	9E11087		3300	170	10	ug/kg wet	2710	82	71-120	6	20	
Bis(2-chloroethoxy)methane	9E11087		3300	170	9.1	ug/kg wet	2190	66	61-133	5	17	
Bis(2-chloroethyl)ether	9E11087		3300	170	14	ug/kg wet	2360	72	45-120	3	21	
Bis(2-chloroisopropyl) ether	9E11087		3300	170	17	ug/kg wet	2340	71	44-120	5	24	
9-Octadecenamide	9E11087			3300	810	ug/kg wet	ND		0-200		200	
Bis(2-ethylhexyl) phthalate	9E11087		3300	170	54	ug/kg wet	3300	100	61-133	8	15	
Butyl benzyl phthalate	9E11087		3300	170	45	ug/kg wet	3360	102	61-129	8	16	
Caprolactam	9E11087		3300	170	72	ug/kg wet	3410	103	54-133	7	20	
Carbazole	9E11087		3300	170	1.9	ug/kg wet	3270	99	59-129	4	20	
Chlorobenzilate	9E11087			330	17	ug/kg wet	ND		0-200		200	
Chrysene	9E11087		3300	170	1.7	ug/kg wet	3440	104	64-131	6	15	
Diallate	9E11087			330	8.8	ug/kg wet	ND		0-200		200	
Dibenz[a,h]anthracene	9E11087		3300	170	2.0	ug/kg wet	3720	113	54-148	5	15	
Anthraquinone	9E11087			330	150	ug/kg wet	ND		0-200		200	
Dibenzo[a,e]pyrene	9E11087			330	330	ug/kg wet	ND		0-200		200	
Dibenzofuran	9E11087		3300	170	1.7	ug/kg wet	3210	97	56-120	6	15	
Diethyl phthalate	9E11087		3300	170	5.1	ug/kg wet	3380	102	66-126	7	15	
Dimethoate	9E11087			330	11	ug/kg wet	ND		0-200		200	
Dimethyl phthalate	9E11087		3300	170	4.4	ug/kg wet	3350	101	65-124	7	15	
Di-n-butyl phthalate	9E11087		3300	170	58	ug/kg wet	3310	100	58-130	5	15	
Di-n-octyl phthalate	9E11087		3300	170	3.9	ug/kg wet	3290	100	62-133	8	16	
Dinoseb	9E11087			330	330	ug/kg wet	ND		0-200		200	
Diphenylamine	9E11087		3300	330	330	ug/kg wet	ND		0-200		200	
Disulfoton	9E11087			330	12	ug/kg wet	ND		0-200		200	
Ethyl Methanesulfonate	9E11087			330	46	ug/kg wet	ND		0-200		200	
Famphur	9E11087			650	31	ug/kg wet	ND		0-200		200	
Fluoranthene	9E11087		3300	170	2.4	ug/kg wet	3320	100	62-131	5	15	
Fluorene	9E11087		3300	170	3.9	ug/kg wet	3390	103	63-126	6	15	
Hexachlorobenzene	9E11087		3300	170	8.3	ug/kg wet	3280	99	60-132	7	15	
Hexachlorobutadiene	9E11087		3300	170	8.6	ug/kg wet	2420	73	45-120	4	44	
Hexachlorocyclopentadiene	9E11087		3300	170	51	ug/kg wet	2340	71	31-120	16	49	
Hexachloroethane	9E11087		3300	170	13	ug/kg wet	2250	68	41-120	8	46	
Hexachlorophene	9E11087			3300	3300	ug/kg wet	ND		0-200		200	
Hexachloropropene	9E11087			330	19	ug/kg wet	ND		0-200		200	
Indeno[1,2,3-cd]pyrene	9E11087		3300	170	4.6	ug/kg wet	3750	114	56-149	4	15	
Isodrin	9E11087			330	31	ug/kg wet	ND		0-200		200	
Isophorone	9E11087		3300	170	8.4	ug/kg wet	2790	84	56-120	6	17	
Isosafrole	9E11087			330	27	ug/kg wet	ND		0-200		200	
Kepone	9E11087			650	49	ug/kg wet	ND		0-200		200	
Methapyrilene	9E11087			1500	990	ug/kg wet	ND		0-200		200	
Methyl Methanesulfonate	9E11087			330	100	ug/kg wet	ND		0-200		200	
N,N-Dimethyl Formamide	9E11087			650	210	ug/kg wet	ND		0-200		200	
Naphthalene	9E11087		3300	170	2.8	ug/kg wet	2700	82	46-120	1	29	
Nitrobenzene	9E11087		3300	170	7.4	ug/kg wet	2640	80	49-120	1	24	

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Dup Analyzed: 05/20/09 (9E11087-BSD1)												
N-Nitro-o-toluidine	9E11087			330	22	ug/kg wet	ND		0-200		200	
N-Nitrosodiethylamine	9E11087			330	32	ug/kg wet	ND		0-200		200	
N-Nitrosodimethylamine	9E11087		3300	330	12	ug/kg wet	2180	66	0-200	6	200	R2
N-Nitrosodi-n-butylamine	9E11087			330	25	ug/kg wet	ND		0-200		200	
N-Nitrosodi-n-propylamine	9E11087		3300	170	13	ug/kg wet	2810	85	46-120	1	31	
N-Nitrosodiphenylamine	9E11087		3300	170	9.1	ug/kg wet	4190	127	20-119	6	15	L1
N-Nitrosomethylethylamine	9E11087			330	32	ug/kg wet	ND		0-200		200	
N-Nitrosomorpholine	9E11087			330	330	ug/kg wet	ND		0-200		200	
N-Nitrosopiperidine	9E11087			330	45	ug/kg wet	ND		0-200		200	
N-Nitrosopyrrolidine	9E11087			330	25	ug/kg wet	ND		0-200		200	
O,O,O-Triethyl phosphorothioate	9E11087			330	11	ug/kg wet	ND		0-200		200	
Parathion-ethyl	9E11087			330	9.1	ug/kg wet	ND		0-200		200	
Parathion-methyl	9E11087			330	12	ug/kg wet	ND		0-200		200	
p-Dimethylamino azobenzene	9E11087			330	33	ug/kg wet	ND		0-200		200	
Pentachlorobenzene	9E11087			330	39	ug/kg wet	ND		0-200		200	
Pentachloronitrobenzene	9E11087			330	34	ug/kg wet	ND		0-200		200	
Pentachlorophenol	9E11087		3300	330	57	ug/kg wet	3090	93	33-136	3	35	
Phenacetin	9E11087			330	27	ug/kg wet	ND		0-200		200	
Phenanthrene	9E11087		3300	170	3.5	ug/kg wet	3410	103	60-130	7	15	
Phenol	9E11087		3300	170	18	ug/kg wet	2570	78	36-120	2	35	
Phorate	9E11087			330	66	ug/kg wet	ND		0-200		200	
Phthalic anhydride	9E11087			9900	770	ug/kg wet	ND		0-200		200	
p-Phenylene diamine	9E11087			790	200	ug/kg wet	ND		0-200		200	
Pronamide	9E11087			330	7.6	ug/kg wet	ND		0-200		200	
Pyrene	9E11087		3300	170	1.1	ug/kg wet	3330	101	51-133	8	35	
Pyridine	9E11087		3300	330	94	ug/kg wet	2110	64	8-120	2	49	
Quinoline	9E11087		3300	330	53	ug/kg wet	ND		0-200		200	
Safrole	9E11087			330	18	ug/kg wet	ND		0-200		200	
Sulfotepp	9E11087			330	330	ug/kg wet	ND		0-200		200	
Thionazin	9E11087			330	10	ug/kg wet	ND		0-200		200	
Surrogate: 2,4,6-Tribromophenol						ug/kg wet		*102*	*39-146*			
Surrogate: 2-Fluorobiphenyl						ug/kg wet		*89*	*37-120*			
Surrogate: 2-Fluorophenol						ug/kg wet		*69*	*18-120*			
Surrogate: Nitrobenzene-d5						ug/kg wet		*82*	*34-132*			
Surrogate: Phenol-d5						ug/kg wet		*77*	*11-120*			
Surrogate: p-Terphenyl-d14						ug/kg wet		*87*	*58-147*			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Total Metals by SW 846 Series Methods												
Blank Analyzed: 05/13/09 (9E12055-BLK1)												
Mercury	9E12055			0.0192	NR	mg/kg wet	ND					
Matrix Spike Analyzed: 05/13/09 (9E12055-MS1)												
QC Source Sample: RSE0369-01												
Mercury	9E12055	0.404	0.367	0.0441	NR	mg/kg dry	0.986	158	75-125			D08,M1
Matrix Spike Dup Analyzed: 05/13/09 (9E12055-MSD1)												
QC Source Sample: RSE0369-01												
Mercury	9E12055	0.404	0.371	0.0446	NR	mg/kg dry	0.934	143	75-125	5	20	D08,M1
Reference Analyzed: 05/13/09 (9E12055-SRM1)												
Mercury	9E12055		1.77	0.106	NR	mg/kg wet	1.38	78	68.4-132.2			
Total Metals by SW 846 Series Methods												
Blank Analyzed: 05/13/09 (9E12064-BLK1)												
Aluminum	9E12064			10.0	NR	mg/kg wet	ND					
Antimony	9E12064			15.0	NR	mg/kg wet	ND					
Arsenic	9E12064			2.0	NR	mg/kg wet	ND					
Barium	9E12064			0.500	NR	mg/kg wet	ND					
Beryllium	9E12064			5.00	NR	mg/kg wet	ND					
Cadmium	9E12064			0.200	NR	mg/kg wet	ND					
Calcium	9E12064			50.0	NR	mg/kg wet	ND					
Chromium	9E12064			0.500	NR	mg/kg wet	ND					
Cobalt	9E12064			5.00	NR	mg/kg wet	ND					
Copper	9E12064			5.0	NR	mg/kg wet	ND					
Iron	9E12064			10.0	NR	mg/kg wet	ND					B3
Lead	9E12064			1.0	NR	mg/kg wet	ND					
Magnesium	9E12064			20.0	NR	mg/kg wet	ND					
Manganese	9E12064			5.0	NR	mg/kg wet	ND					
Nickel	9E12064			5.00	NR	mg/kg wet	ND					
Potassium	9E12064			30.0	NR	mg/kg wet	ND					
Selenium	9E12064			5.0	NR	mg/kg wet	ND					
Silver	9E12064			5.00	NR	mg/kg wet	ND					
Sodium	9E12064			140	NR	mg/kg wet	ND					
Thallium	9E12064			6.0	NR	mg/kg wet	ND					
Vanadium	9E12064			5.00	NR	mg/kg wet	ND					
Zinc	9E12064			5.0	NR	mg/kg wet	ND					B
Matrix Spike Analyzed: 05/13/09 (9E12064-MS1)												
QC Source Sample: RSE0369-01												
Aluminum	9E12064	15800	2210	11.0	NR	mg/kg dry	14000	-81	75-125			MHA
Antimony	9E12064	4.56	44.1	16.5	NR	mg/kg dry	31.3	61	75-125			M1
Arsenic	9E12064	57.1	44.1	2.2	NR	mg/kg dry	89.4	73	75-125			M1
Barium	9E12064	151	44.1	0.551	NR	mg/kg dry	154	8	75-125			M1
Beryllium	9E12064	2.06	44.1	5.00	NR	mg/kg dry	39.4	85	75-125			
Cadmium	9E12064	0.158	44.1	0.221	NR	mg/kg dry	37.5	85	75-125			
Calcium	9E12064	70700	2210	55.1	NR	mg/kg dry	55600	-686	75-125			MHA
Chromium	9E12064	26.0	44.1	0.551	NR	mg/kg dry	68.0	95	75-125			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Total Metals by SW 846 Series Methods												
Matrix Spike Analyzed: 05/13/09 (9E12064-MS1)												
QC Source Sample: RSE0369-01												
Cobalt	9E12064	4.61	44.1	5.00	NR	mg/kg dry	43.5	88	75-125			
Copper	9E12064	75.8	44.1	5.0	NR	mg/kg dry	101	57	75-125			M1
Iron	9E12064	37700	2210	11.0	NR	mg/kg dry	40300	115	75-125			
Lead	9E12064	172	44.1	1.1	NR	mg/kg dry	160	-29	75-125			M1
Magnesium	9E12064	3790	2210	22.1	NR	mg/kg dry	5570	81	75-125			
Manganese	9E12064	3730	44.1	5.0	NR	mg/kg dry	4380	1460	75-125			MHA,D08
Nickel	9E12064	14.0	44.1	5.00	NR	mg/kg dry	50.7	83	75-125			
Potassium	9E12064	1760	2210	33.1	NR	mg/kg dry	3370	73	75-125			M1
Selenium	9E12064	0.770	44.1	5.0	NR	mg/kg dry	30.3	67	75-125			M1
Silver	9E12064	0.127	11.0	5.00	NR	mg/kg dry	10.4	93	75-125			
Sodium	9E12064	511	2210	154	NR	mg/kg dry	2290	81	75-125			
Thallium	9E12064	ND	44.1	6.6	NR	mg/kg dry	35.6	81	75-125			
Vanadium	9E12064	23.0	44.1	5.00	NR	mg/kg dry	61.4	87	75-125			
Zinc	9E12064	151	44.1	5.0	NR	mg/kg dry	204	119	75-125			
Matrix Spike Dup Analyzed: 05/13/09 (9E12064-MSD1)												
QC Source Sample: RSE0369-01												
Aluminum	9E12064	15800	2160	10.8	NR	mg/kg dry	9650	-283	75-125	37	20	MHA,R2
Antimony	9E12064	4.56	43.2	16.2	NR	mg/kg dry	32.7	65	75-125	4	20	M1
Arsenic	9E12064	57.1	43.2	2.2	NR	mg/kg dry	142	198	75-125	46	20	M1,R2
Barium	9E12064	151	43.2	0.540	NR	mg/kg dry	157	15	75-125	2	20	M1
Beryllium	9E12064	2.06	43.2	5.00	NR	mg/kg dry	40.1	88	75-125	2	20	
Cadmium	9E12064	0.158	43.2	0.216	NR	mg/kg dry	38.7	89	75-125	3	20	
Calcium	9E12064	70700	2160	54.0	NR	mg/kg dry	39100	-1460	75-125	35	20	MHA,R2
Chromium	9E12064	26.0	43.2	0.540	NR	mg/kg dry	80.7	127	75-125	17	20	M1
Cobalt	9E12064	4.61	43.2	5.00	NR	mg/kg dry	45.3	94	75-125	4	20	
Copper	9E12064	75.8	43.2	5.0	NR	mg/kg dry	116	94	75-125	14	20	
Iron	9E12064	37700	2160	10.8	NR	mg/kg dry	46100	389	75-125	14	20	MHA
Lead	9E12064	172	43.2	1.1	NR	mg/kg dry	152	-48	75-125	5	20	M1
Magnesium	9E12064	3790	2160	21.6	NR	mg/kg dry	4660	40	75-125	18	20	M1
Manganese	9E12064	3730	43.2	5.0	NR	mg/kg dry	2640	-2540	75-125	50	20	MHA,D08,R2
Nickel	9E12064	14.0	43.2	5.00	NR	mg/kg dry	56.9	99	75-125	11	20	
Potassium	9E12064	1760	2160	32.4	NR	mg/kg dry	3040	59	75-125	10	20	M1
Selenium	9E12064	0.770	43.2	5.0	NR	mg/kg dry	32.2	73	75-125	6	20	M1
Silver	9E12064	0.127	10.8	5.00	NR	mg/kg dry	10.5	96	75-125	1	20	
Sodium	9E12064	511	2160	151	NR	mg/kg dry	2210	79	75-125	4	20	
Thallium	9E12064	ND	43.2	6.5	NR	mg/kg dry	36.4	84	75-125	2	20	
Vanadium	9E12064	23.0	43.2	5.00	NR	mg/kg dry	63.1	93	75-125	3	20	
Zinc	9E12064	151	43.2	5.0	NR	mg/kg dry	184	75	75-125	10	20	
Reference Analyzed: 05/13/09 (9E12064-SRM1)												
Aluminum	9E12064		10100	10.0	NR	mg/kg wet	8500	84	52.1-147.5			
Antimony	9E12064		138	15.0	NR	mg/kg wet	86.4	63	0-233.3			
Arsenic	9E12064		123	2.0	NR	mg/kg wet	113	92	82.9-117.1			
Barium	9E12064		256	0.500	NR	mg/kg wet	236	92	80.5-119.5			
Beryllium	9E12064		75.9	5.00	NR	mg/kg wet	70.6	93	82.7-117.4			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Total Metals by SW 846 Series Methods												
Reference Analyzed: 05/13/09 (9E12064-SRM1)												
Cadmium	9E12064		258	0.200	NR	mg/kg wet	230	89	83.7-116.7			
Calcium	9E12064		9830	50.0	NR	mg/kg wet	9230	94	81.2-119			
Chromium	9E12064		138	0.500	NR	mg/kg wet	131	95	81.9-118.1			
Cobalt	9E12064		216	5.00	NR	mg/kg wet	196	91	83.8-116.7			
Copper	9E12064		122	5.0	NR	mg/kg wet	111	91	83.6-115.6			
Iron	9E12064		17600	10.0	NR	mg/kg wet	14500	82	50.5-149.4			B3
Lead	9E12064		136	1.0	NR	mg/kg wet	127	93	80.9-119.9			
Magnesium	9E12064		4210	20.0	NR	mg/kg wet	3910	93	77.2-122.8			
Manganese	9E12064		570	10.0	NR	mg/kg wet	534	94	82.5-117.5			
Nickel	9E12064		111	10.0	NR	mg/kg wet	102	92	83.8-117.1			
Potassium	9E12064		4480	30.0	NR	mg/kg wet	4070	91	72.1-127.7			
Selenium	9E12064		199	10.0	NR	mg/kg wet	188	94	79.9-119.6			
Silver	9E12064		62.4	10.0	NR	mg/kg wet	60.8	97	66.2-133.7			
Sodium	9E12064		869	140	NR	mg/kg wet	813	94	70.2-130			
Thallium	9E12064		297	10.0	NR	mg/kg wet	284	95	81.1-118.9			
Vanadium	9E12064		158	10.0	NR	mg/kg wet	144	91	79.7-120.3			
Zinc	9E12064		314	10.0	NR	mg/kg wet	283	90	82.2-118.2			
Total Metals by SW 846 Series Methods												
Blank Analyzed: 05/14/09 (9E12068-BLK1)												
Arsenic	9E12068			2.0	NR	mg/kg wet	ND					
Barium	9E12068			0.500	NR	mg/kg wet	ND					
Cadmium	9E12068			0.200	NR	mg/kg wet	ND					
Chromium	9E12068			0.500	NR	mg/kg wet	ND					
Lead	9E12068			1.0	NR	mg/kg wet	ND					B
Matrix Spike Analyzed: 05/14/09 (9E12068-MS1)												
QC Source Sample: RSE0369-17												
Arsenic	9E12068	86.9	45.9	2.3	NR	mg/kg dry	157	153	75-125			M1
Barium	9E12068	96.0	45.9	0.574	NR	mg/kg dry	143	103	75-125			
Cadmium	9E12068	1.14	45.9	0.230	NR	mg/kg dry	42.6	90	75-125			
Chromium	9E12068	46.0	45.9	0.574	NR	mg/kg dry	89.6	95	75-125			
Lead	9E12068	103	45.9	1.1	NR	mg/kg dry	135	68	75-125			M1
Matrix Spike Dup Analyzed: 05/14/09 (9E12068-MSD1)												
QC Source Sample: RSE0369-17												
Arsenic	9E12068	86.9	43.5	2.2	NR	mg/kg dry	141	124	75-125	11	20	
Barium	9E12068	96.0	43.5	0.544	NR	mg/kg dry	137	95	75-125	4	20	
Cadmium	9E12068	1.14	43.5	0.218	NR	mg/kg dry	39.8	89	75-125	7	20	
Chromium	9E12068	46.0	43.5	0.544	NR	mg/kg dry	161	264	75-125	57	20	M1,R2
Lead	9E12068	103	43.5	1.1	NR	mg/kg dry	135	72	75-125	0	20	M1
Reference Analyzed: 05/14/09 (9E12068-SRM1)												
Arsenic	9E12068		123	2.0	NR	mg/kg wet	116	94	82.9-117.1			
Barium	9E12068		256	0.501	NR	mg/kg wet	240	94	80.5-119.5			
Cadmium	9E12068		258	0.200	NR	mg/kg wet	234	91	83.7-116.7			
Chromium	9E12068		138	0.501	NR	mg/kg wet	132	96	81.9-118.1			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

Total Metals by SW 846 Series Methods

Reference Analyzed: 05/14/09 (9E12068-SRM1)								
Lead	9E12068	136	1.0	NR	mg/kg wet	129	95	80.9-119.9

Total Metals by SW 846 Series Methods

Blank Analyzed: 05/28/09 (9E28026-BLK1)								
Mercury	9E28026		0.0196	NR	mg/kg wet	ND		
Reference Analyzed: 05/28/09 (9E28026-SRM1)								
Mercury	9E28026	1.77	0.106	NR	mg/kg wet	1.78	101	68.4-132.2

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
Blank Analyzed: 05/13/09 (9E13076-BLK1)												
1,1,1,2-Tetrachloroethane	9E13076			5.0	0.31	ug/kg wet	ND					
1,1,1-Trichloroethane	9E13076			5.0	0.36	ug/kg wet	ND					
1,1,2,2-Tetrachloroethane	9E13076			5.0	0.81	ug/kg wet	ND					
1,1,2-Trichloroethane	9E13076			5.0	0.25	ug/kg wet	ND					
1,1,2-Trichlorotrifluoroethane	9E13076			5.0	0.53	ug/kg wet	ND					
1,1-Dichloroethane	9E13076			5.0	0.25	ug/kg wet	ND					
1,1-Dichloroethene	9E13076			5.0	0.61	ug/kg wet	ND					
1,1-Dichloropropene	9E13076			5.0	0.29	ug/kg wet	ND					
1,1-Dimethoxyethane	9E13076			25	2.0	ug/kg wet	ND					
1,2,3-Trichlorobenzene	9E13076			5.0	0.53	ug/kg wet	ND					
1,2,3-Trichloropropane	9E13076			5.0	0.51	ug/kg wet	ND					
1,2,3-Trimethylbenzene	9E13076			5.0	0.27	ug/kg wet	ND					
1,2,4-Trichlorobenzene	9E13076			5.0	0.30	ug/kg wet	ND					
1,2,4-Trimethylbenzene	9E13076			5.0	0.36	ug/kg wet	ND					
1,2-Dibromo-3-chloropropane	9E13076			5.0	1.0	ug/kg wet	ND					
1,2-Dibromoethane (EDB)	9E13076			5.0	0.19	ug/kg wet	ND					
1,2-Dichlorobenzene	9E13076			5.0	0.75	ug/kg wet	ND					
1,2-Dichloroethane	9E13076			5.0	0.25	ug/kg wet	ND					
1,2-Dichloroethene, Total	9E13076			10	2.6	ug/kg wet	ND					
1,2-Dichloropropane	9E13076			5.0	0.26	ug/kg wet	ND					
1,3,5-Trimethylbenzene	9E13076			5.0	0.32	ug/kg wet	ND					
1,3-Dichlorobenzene	9E13076			5.0	0.71	ug/kg wet	ND					
1,3-Dichloropropane	9E13076			5.0	0.30	ug/kg wet	ND					
1,4-Dichlorobenzene	9E13076			5.0	0.70	ug/kg wet	ND					
1,4-Dioxane	9E13076			200	53	ug/kg wet	ND					
2,2-Dichloropropane	9E13076			5.0	0.34	ug/kg wet	ND					
2-Butanone (MEK)	9E13076			25	6.8	ug/kg wet	ND					
2-Chloroethyl vinyl ether	9E13076			25	1.6	ug/kg wet	ND					
2-Chlorotoluene	9E13076			5.0	0.78	ug/kg wet	ND					
2-Hexanone	9E13076			25	1.7	ug/kg wet	ND					
3-Chlorotoluene	9E13076			5.0	0.29	ug/kg wet	ND					
4-Chlorotoluene	9E13076			5.0	0.75	ug/kg wet	ND					
4-Isopropyltoluene	9E13076			5.0	0.40	ug/kg wet	ND					
4-Methyl-2-pentanone (MIBK)	9E13076			25	1.6	ug/kg wet	ND					
Acetone	9E13076			25	1.1	ug/kg wet	ND					
Acetonitrile	9E13076			200	12	ug/kg wet	ND					
Acrolein	9E13076			100	5.9	ug/kg wet	ND					
Acrylonitrile	9E13076			100	2.1	ug/kg wet	ND					
Allyl chloride	9E13076			5.0	0.42	ug/kg wet	ND					
Benzene	9E13076			5.0	0.24	ug/kg wet	ND					
Bromobenzene	9E13076			5.0	0.78	ug/kg wet	ND					
Bromochloromethane	9E13076			5.0	0.36	ug/kg wet	ND					
Bromodichloromethane	9E13076			5.0	0.26	ug/kg wet	ND					
Bromoform	9E13076			5.0	0.46	ug/kg wet	ND					
Bromomethane	9E13076			5.0	0.46	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
Blank Analyzed: 05/13/09 (9E13076-BLK1)												
Carbon disulfide	9E13076			5.0	0.43	ug/kg wet	ND					
Carbon Tetrachloride	9E13076			5.0	0.18	ug/kg wet	ND					
Chlorobenzene	9E13076			5.0	0.22	ug/kg wet	ND					
Chlorodibromomethane	9E13076			5.0	0.28	ug/kg wet	ND					
Chloroethane	9E13076			5.0	0.81	ug/kg wet	ND					
Chloroform	9E13076			5.0	0.31	ug/kg wet	ND					
Chloromethane	9E13076			5.0	0.30	ug/kg wet	ND					
Chloroprene	9E13076			5.0	0.33	ug/kg wet	ND					
cis-1,2-Dichloroethene	9E13076			5.0	0.25	ug/kg wet	ND					
cis-1,3-Dichloropropene	9E13076			5.0	0.29	ug/kg wet	ND					
Cyclohexane	9E13076			5.0	0.23	ug/kg wet	ND					
Cyclohexanone	9E13076			50	3.8	ug/kg wet	ND					
Dibromomethane	9E13076			5.0	0.52	ug/kg wet	ND					
Dichlorodifluoromethane	9E13076			5.0	0.41	ug/kg wet	ND					
Dicyclopentadiene	9E13076			5.0	0.26	ug/kg wet	ND					
Diethyl ether	9E13076			25	0.55	ug/kg wet	ND					
Epichlorohydrin	9E13076			100	1.8	ug/kg wet	ND					
Ethyl Acetate	9E13076			5.0	1.9	ug/kg wet	ND					
Ethyl Methacrylate	9E13076			5.0	0.27	ug/kg wet	ND					
Ethyl tert-Butyl Ether	9E13076			5.0	0.20	ug/kg wet	ND					
Ethylbenzene	9E13076			5.0	0.35	ug/kg wet	ND					
Heptane	9E13076			100	0.60	ug/kg wet	ND					
Hexachlorobutadiene	9E13076			5.0	0.59	ug/kg wet	ND					
Hexane	9E13076			50	0.50	ug/kg wet	ND					
Iodomethane	9E13076			5.0	0.24	ug/kg wet	ND					
Isobutanol	9E13076			200	8.8	ug/kg wet	ND					
Isopropyl ether	9E13076			5.0	0.28	ug/kg wet	ND					
Isopropylbenzene	9E13076			5.0	0.33	ug/kg wet	ND					
Methacrylonitrile	9E13076			25	0.30	ug/kg wet	ND					
Methyl Acetate	9E13076			5.0	0.27	ug/kg wet	ND					
Methyl Methacrylate	9E13076			5.0	0.54	ug/kg wet	ND					
Methyl tert-Butyl Ether	9E13076			5.0	0.49	ug/kg wet	ND					
Methylcyclohexane	9E13076			5.0	0.32	ug/kg wet	ND					
Methylene Chloride	9E13076			5.0	0.35	ug/kg wet	ND					
m-Xylene & p-Xylene	9E13076			10	0.84	ug/kg wet	ND					
Naphthalene	9E13076			5.0	0.68	ug/kg wet	ND					
n-Butanol	9E13076			200	12	ug/kg wet	ND					
n-Butylbenzene	9E13076			5.0	0.43	ug/kg wet	ND					
n-Propylbenzene	9E13076			5.0	0.38	ug/kg wet	ND					
o-Xylene	9E13076			5.0	0.25	ug/kg wet	ND					
Propionitrile	9E13076			50	2.6	ug/kg wet	ND					
Propylene Oxide	9E13076			25	1.7	ug/kg wet	ND					
sec-Butylbenzene	9E13076			5.0	0.43	ug/kg wet	ND					
Styrene	9E13076			5.0	0.25	ug/kg wet	ND					
t-Butanol	9E13076			100	13	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
Blank Analyzed: 05/13/09 (9E13076-BLK1)												
Tert-Amyl Methyl Ether	9E13076			5.0	0.15	ug/kg wet	ND					
tert-Butylbenzene	9E13076			5.0	0.52	ug/kg wet	ND					
Tetrachloroethene	9E13076			5.0	0.67	ug/kg wet	ND					
Tetrahydrofuran	9E13076			25	1.5	ug/kg wet	ND					
Toluene	9E13076			5.0	0.85	ug/kg wet	1.5					B,J
trans-1,2-Dichloroethene	9E13076			5.0	0.52	ug/kg wet	ND					
trans-1,3-Dichloropropene	9E13076			5.0	0.24	ug/kg wet	ND					
trans-1,4-Dichloro-2-butene	9E13076			25	1.4	ug/kg wet	ND					
Trichloroethene	9E13076			5.0	0.35	ug/kg wet	ND					
Trichlorofluoromethane	9E13076			5.0	1.6	ug/kg wet	ND					
Vinyl acetate	9E13076			25	1.0	ug/kg wet	ND					
Vinyl chloride	9E13076			10	0.20	ug/kg wet	ND					
Xylenes, total	9E13076			10	0.84	ug/kg wet	ND					
2-Nitropropane	9E13076			25	2.7	ug/kg wet	ND					
Surrogate: 1,2-Dichloroethane-d4						ug/kg wet		*100*	*64-126*			
Surrogate: 4-Bromofluorobenzene						ug/kg wet		*110*	*72-126*			
Surrogate: Toluene-d8						ug/kg wet		*104*	*71-125*			
LCS Analyzed: 05/13/09 (9E13076-BS1)												
1,1,1,2-Tetrachloroethane	9E13076		50	N/A	NR	ug/kg wet	52.7	105	74-127			
1,1,1-Trichloroethane	9E13076		50	N/A	NR	ug/kg wet	55.6	111	77-121			
1,1,2,2-Tetrachloroethane	9E13076		50	N/A	NR	ug/kg wet	52.0	104	80-120			
1,1,2-Trichloroethane	9E13076		50	N/A	NR	ug/kg wet	52.3	105	78-122			
1,1,2-Trichlorotrifluoroethane	9E13076		50	N/A	NR	ug/kg wet	51.8	104	60-140			
1,1-Dichloroethane	9E13076		50	N/A	NR	ug/kg wet	54.7	109	79-126			
1,1-Dichloroethene	9E13076		50	N/A	NR	ug/kg wet	60.5	121	65-153			
1,1-Dichloropropene	9E13076		50	N/A	NR	ug/kg wet	57.3	115	72-128			
1,2,3-Trichlorobenzene	9E13076		50	N/A	NR	ug/kg wet	48.7	97	60-120			
1,2,3-Trichloropropane	9E13076		50	N/A	NR	ug/kg wet	47.8	96	73-128			
1,2,4-Trichlorobenzene	9E13076		50	N/A	NR	ug/kg wet	50.4	101	64-120			
1,2,4-Trimethylbenzene	9E13076		50	N/A	NR	ug/kg wet	53.6	107	74-120			
1,2-Dibromo-3-chloropropane	9E13076		50	N/A	NR	ug/kg wet	47.6	95	63-124			
1,2-Dibromoethane (EDB)	9E13076		50	N/A	NR	ug/kg wet	52.6	105	78-120			
1,2-Dichlorobenzene	9E13076		50	N/A	NR	ug/kg wet	52.1	104	75-120			
1,2-Dichloroethane	9E13076		50	N/A	NR	ug/kg wet	54.7	109	77-122			
1,2-Dichloroethene, Total	9E13076		100	N/A	NR	ug/kg wet	111	111	82-120			
1,2-Dichloropropane	9E13076		50	N/A	NR	ug/kg wet	53.0	106	75-124			
1,3,5-Trimethylbenzene	9E13076		50	N/A	NR	ug/kg wet	53.8	108	74-120			
1,3-Dichlorobenzene	9E13076		50	N/A	NR	ug/kg wet	52.9	106	74-120			
1,3-Dichloropropane	9E13076		50	N/A	NR	ug/kg wet	51.2	102	72-127			
1,4-Dichlorobenzene	9E13076		50	N/A	NR	ug/kg wet	52.6	105	73-120			
2-Butanone (MEK)	9E13076		250	N/A	NR	ug/kg wet	253	101	70-134			
2-Hexanone	9E13076		250	N/A	NR	ug/kg wet	239	96	59-130			
4-Isopropyltoluene	9E13076		50	N/A	NR	ug/kg wet	51.8	104	74-120			
4-Methyl-2-pentanone (MIBK)	9E13076		250	N/A	NR	ug/kg wet	244	97	65-133			
Acetone	9E13076		250	N/A	NR	ug/kg wet	282	113	61-137			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
LCS Analyzed: 05/13/09 (9E13076-BS1)												
Acrylonitrile	9E13076		250	N/A	NR	ug/kg wet	227	91	65-134			
Benzene	9E13076		50	N/A	NR	ug/kg wet	54.3	109	79-127			
Bromochloromethane	9E13076		50	N/A	NR	ug/kg wet	54.3	109	75-134			
Bromodichloromethane	9E13076		50	N/A	NR	ug/kg wet	52.0	104	80-122			
Bromoform	9E13076		50	N/A	NR	ug/kg wet	53.8	108	68-126			
Bromomethane	9E13076		50	N/A	NR	ug/kg wet	50.3	101	37-149			
Carbon disulfide	9E13076		50	N/A	NR	ug/kg wet	49.9	100	64-131			
Carbon Tetrachloride	9E13076		50	N/A	NR	ug/kg wet	56.9	114	75-135			
Chlorobenzene	9E13076		50	N/A	NR	ug/kg wet	52.8	106	76-124			
Chlorodibromomethane	9E13076		50	N/A	NR	ug/kg wet	53.5	107	76-125			
Chloroethane	9E13076		50	N/A	NR	ug/kg wet	49.1	98	69-135			
Chloroform	9E13076		50	N/A	NR	ug/kg wet	54.6	109	80-118			
Chloromethane	9E13076		50	N/A	NR	ug/kg wet	39.4	79	63-127			
cis-1,2-Dichloroethene	9E13076		50	N/A	NR	ug/kg wet	55.2	110	81-117			
cis-1,3-Dichloropropene	9E13076		50	N/A	NR	ug/kg wet	53.1	106	82-120			
Cyclohexane	9E13076		50	N/A	NR	ug/kg wet	50.4	101	70-130			
Dibromomethane	9E13076		50	N/A	NR	ug/kg wet	53.8	108	73-130			
Dichlorodifluoromethane	9E13076		50	N/A	NR	ug/kg wet	34.5	69	57-142			
Ethylbenzene	9E13076		50	N/A	NR	ug/kg wet	53.8	108	80-120			
Iodomethane	9E13076		50	N/A	NR	ug/kg wet	45.3	91	59-149			
Isopropylbenzene	9E13076		50	N/A	NR	ug/kg wet	54.7	109	72-120			
Methyl Acetate	9E13076		50	N/A	NR	ug/kg wet	46.1	92	60-140			
Methyl tert-Butyl Ether	9E13076		50	N/A	NR	ug/kg wet	51.7	103	63-125			
Methylcyclohexane	9E13076		50	N/A	NR	ug/kg wet	49.2	98	60-140			
Methylene Chloride	9E13076		50	N/A	NR	ug/kg wet	53.0	106	61-127			
m-Xylene & p-Xylene	9E13076		100	N/A	NR	ug/kg wet	106	106	70-130			
Naphthalene	9E13076		50	N/A	NR	ug/kg wet	49.0	98	38-137			
n-Butylbenzene	9E13076		50	N/A	NR	ug/kg wet	52.9	106	70-120			
n-Propylbenzene	9E13076		50	N/A	NR	ug/kg wet	53.0	106	70-130			
o-Xylene	9E13076		50	N/A	NR	ug/kg wet	52.1	104	70-130			
sec-Butylbenzene	9E13076		50	N/A	NR	ug/kg wet	57.6	115	74-120			
Styrene	9E13076		50	N/A	NR	ug/kg wet	56.7	113	80-120			
tert-Butylbenzene	9E13076		50	N/A	NR	ug/kg wet	53.1	106	73-120			
Tetrachloroethene	9E13076		50	N/A	NR	ug/kg wet	54.8	110	74-122			
Toluene	9E13076		50	N/A	NR	ug/kg wet	53.1	106	74-128			B
trans-1,2-Dichloroethene	9E13076		50	N/A	NR	ug/kg wet	56.0	112	78-126			
trans-1,3-Dichloropropene	9E13076		50	N/A	NR	ug/kg wet	50.8	102	73-123			
trans-1,4-Dichloro-2-butene	9E13076		250	N/A	NR	ug/kg wet	163	65	38-155			
Trichloroethene	9E13076		50	N/A	NR	ug/kg wet	54.9	110	77-129			
Trichlorofluoromethane	9E13076		50	N/A	NR	ug/kg wet	48.2	96	65-146			
Vinyl acetate	9E13076		250	N/A	NR	ug/kg wet	246	98	53-134			
Vinyl chloride	9E13076		50	N/A	NR	ug/kg wet	44.8	90	61-133			
Xylenes, total	9E13076		150	N/A	NR	ug/kg wet	158	106	80-120			
Surrogate: 1,2-Dichloroethane-d4						ug/kg wet		*101*	*64-126*			
Surrogate: 4-Bromofluorobenzene						ug/kg wet		*110*	*72-126*			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0369

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/11/09
Reported: 05/28/09 17:38

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
LCS Analyzed: 05/13/09 (9E13076-BS1)												
Surrogate: Toluene-d8						ug/kg wet		*105*	*71-125*			

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Benchmark	Brian Hann	5-8-09	111052
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 2
726 Exchange St	716-225-3314		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Buffalo / NY / 14210	Brock Greene	Brian Fisher	
Project Name and Location (State)	**Carrier/Waybill Number**		
Tecumseh BPA2-RR			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	TCL+STARS 8260	TCL SVOCs	TAL Metals	Cyanide	PCBs	Special Instructions/ Conditions of Receipt
RR-TP-40	5-6-09	945					1						X	X	X	X	X	X						
RR-TP-38	6	1045					1						X	X	X	X	X	X						
RR-TP-36	6	1115					1						X	X	X	X	X	X						
RR-TP-34	6	1315					1						X	X	X	X	X	X						
RR-TP-32	5-6-09	1430					1						X	X	X	X	X	X						
RR-TP-30	5-7-09	~~1015~~ 945					2						X	X	X	X	X	X					X	
BPA2-TP-34	5-6-09	1630					1						X	X	X	X	X	X						
RR-TP-28	5-7-09	915					1						X	X	X	X	X	X						
BPA2-TP-30	5-7-09	1015					4												X	X	X	X	X	
RR-TP-26	7	1140					1						X	X	X	X	X	X						
~~BPA2-TP-24~~	~~7~~	~~1350~~											X	X	X	X	X	X						
RR-TP-52	7	1415					1						X	X	X	X	X	X						

see page 2

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.		5-11-09	800		05-11-09	11:45
2.						
3.						

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Benchmark	Bryan Hann	5-8-09	111053
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
726 Exchange St	(716) 225-3314		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Buffalo / NY / 14210	Brock Greene	Brian Fisher	
Project Name and Location (State)	**Carrier/Waybill Number**		
Tecumseh BPA 2-RR			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	BN SVOCs	TCL+STARS 8260	SVOCs			Special Instructions/ Conditions of Receipt
RR-TP-50	5-7-09	1515				X	1						X	X	X	X	X	X						
RR-TP-49	5-7-09	1545				X	2						X	X	X	X	X	X	X	X				No metals - BG.
RR-TP-10	5-8-09	915				X	1						X	X	X	X	X	X						
RR-TP-8	5-8-09	1115				X	1						X	X	X	X	X	X						
~~RR-TP-7~~	~~5-8-09~~												X	X	X	X	X	X						No Sample BG
RR-TP-6	5-8-09	1340				X	1						X	X	X	X	X	X						
BPA 2-TP-24	5-7-09	1350				X	2						X	X	X	X	X	X	X					
Blind 1	5-7-09	800				X	2						X	X	X	X	X	X	X					
RR-TP-12	5-8-09	1340				X	1						X	X	X	X	X	X						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	5-11-09	800	1. Received By	05-11-09	11:45
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Analytical Report

Work Order: RSE0535

Project Description
TURNKEY - TECUMSEH REDEVELOPMENT SITE

For:

Bryan Hann
Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210



Brian Fischer
Project Manager
Brian.Fischer@testamericainc.com

Monday, June 1, 2009

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to NELAP requirements are noted in this report. Persuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

TestAmerica Buffalo
Current Certifications

As of 1/27/2009

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA,CLP	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department of Energy	DOECAP-STB
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parameters for which accre ditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Case Narrative

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

A pertinent document is appended to this report, 1 page, is included and is an integral part of this report.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

The requested project specific reporting limits listed below were less than lab standard quantitation limits but greater than or equal to the lab MDL. It must be noted that results reported below lab standard quantitation limits (PQL) may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

SpecificMethod	Analyte	Units	Client RL	Lab PQL
8270C	4-Methylphenol	ug/kg dry	170	6700

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
D02	Dilution required due to sample matrix effects
D08	Dilution required due to high concentration of target analyte(s)
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
QSU	Sulfur (EPA 3660) clean-up performed on extract.
R2	The RPD exceeded the acceptance limit.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-01 (RR-TP-4 - Solid)					**Sampled: 05/11/09 08:30**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	89		0.010	NR	%	1.00	05/15/09 20:31	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	143		10.0	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Barium	86.6		1.00	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Cadmium	0.649		0.500	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Chromium	106		2.00	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Lead	154		5.0	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Mercury	0.110		0.0230	NR	mg/kg dry	1.00	05/22/09 15:36	MM	9E22034	7471A
Sample ID: RSE0535-02 (RR-TP-2 - Solid)					**Sampled: 05/11/09 10:45**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	93		0.010	NR	%	1.00	05/15/09 20:33	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	75.0		10.0	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Barium	158		1.00	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Cadmium	3.05		0.500	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Chromium	140		2.00	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Lead	321		5.0	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Mercury	0.399		0.0230	NR	mg/kg dry	1.00	05/22/09 15:37	MM	9E22034	7471A
Sample ID: RSE0535-05 (RR-TP-16 - Solid)					**Sampled: 05/11/09 15:15**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	89		0.010	NR	%	1.00	05/15/09 20:35	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	13.5		10.0	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Barium	49.7		1.00	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Chromium	45.4		2.00	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Lead	119		5.0	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Mercury	0.0679		0.0221	NR	mg/kg dry	1.00	05/22/09 15:44	MM	9E22034	7471A
Sample ID: RSE0535-06 (RR-TP-18 - Solid)					**Sampled: 05/12/09 10:15**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	93		0.010	NR	%	1.00	05/15/09 20:37	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Barium	125		1.00	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Chromium	27.2		2.00	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Lead	31.6		5.0	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Mercury	0.0662		0.0220	NR	mg/kg dry	1.00	05/22/09 15:46	MM	9E22034	7471A
Sample ID: RSE0535-07 (RR-TP-20 - Solid)					**Sampled: 05/12/09 10:45**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	88		0.010	NR	%	1.00	05/15/09 20:39	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	66.6		10.0	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Barium	84.5		1.00	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Cadmium	0.531		0.500	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Chromium	76.2		2.00	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Lead	99.2		5.0	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Mercury	0.153		0.0212	NR	mg/kg dry	1.00	05/22/09 15:47	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-08 (RR-TP-22 - Solid)					**Sampled: 05/12/09 11:15**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	87		0.010	NR	%	1.00	05/15/09 20:41	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	13.8		10.0	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Barium	93.2		1.00	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Cadmium	0.646		0.500	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Chromium	96.4		2.00	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Lead	189		5.0	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Mercury	0.155		0.0219	NR	mg/kg dry	1.00	05/22/09 15:48	MM	9E22034	7471A
Sample ID: RSE0535-11 (RR-TP-46 - Solid)					**Sampled: 05/13/09 10:15**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	91		0.010	NR	%	1.00	05/15/09 20:43	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	16.8		10.0	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Barium	116		1.00	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Cadmium	1.66		0.500	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Chromium	325		2.00	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Lead	280		5.0	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Mercury	0.209		0.0227	NR	mg/kg dry	1.00	05/22/09 15:58	MM	9E22034	7471A
Sample ID: RSE0535-12 (RR-TP-42 - Solid)					**Sampled: 05/13/09 15:00**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	92		0.010	NR	%	1.00	05/15/09 20:45	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	149		10.0	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Barium	142		1.00	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Cadmium	1.31		0.500	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Chromium	74.6		2.00	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Lead	207		5.0	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Mercury	2.38	D08	0.102	NR	mg/kg dry	5.00	05/22/09 17:17	MM	9E22034	7471A
Sample ID: RSE0535-13 (BLIND 2 - Solid)					**Sampled: 05/12/09 08:00**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	87		0.010	NR	%	1.00	05/15/09 20:47	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	137		10.0	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Barium	82.8		1.00	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Cadmium	1.55		0.500	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Chromium	141		2.00	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Lead	273		5.0	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Mercury	2.84	D08	0.110	NR	mg/kg dry	5.00	05/22/09 17:19	MM	9E22034	7471A
Sample ID: RSE0535-14 (RR-TP-44 - Solid)					**Sampled: 05/13/09 12:00**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	93		0.010	NR	%	1.00	05/15/09 20:49	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	65.3		10.0	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Barium	91.3		1.00	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Cadmium	7.01		0.500	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Chromium	227		2.00	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-14 (RR-TP-44 - Solid) - cont.					**Sampled: 05/13/09 12:00**		**Recvd: 05/14/09 14:00**			
Total Metals by SW 846 Series Methods - cont.										
Lead	1030		5.0	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Mercury	0.475		0.0203	NR	mg/kg dry	1.00	05/22/09 16:03	MM	9E22034	7471A
Sample ID: RSE0535-15 (BPA 2-TP-92 - Solid)					**Sampled: 05/13/09 14:15**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	92		0.010	NR	%	1.00	05/15/09 20:51	EKD	9E15086	Dry Weight
Semivolatile Organics by GC/MS										
Acenaphthylene	150	D02,J	3700	30	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(a)anthracene	700	D02,J, B	3700	63	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(a)pyrene	830	D02,L1, J	3700	88	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(b)fluoranthene	920	D02,J, B	3700	71	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(ghi)perylene	690	D02,J	3700	44	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(k)fluoranthene	880	D02,J	3700	40	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Chrysene	1000	D02,J, B	3700	36	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Dibenzo(a,h)anthracene	270	D02,J	3700	43	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Fluoranthene	910	D02,J, B	3700	53	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Indeno(1,2,3-cd)pyrene	480	D02,J	3700	100	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Phenanthrene	350	D02,J, B	3700	77	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Pyrene	930	D02,J	3700	24	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Total Metals by SW 846 Series Methods										
Arsenic	26.7		10.0	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Barium	10.4		1.00	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Cadmium	0.914		0.500	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Chromium	26.3		2.00	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Lead	543		5.0	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Mercury	0.0350		0.0224	NR	mg/kg dry	1.00	05/22/09 16:04	MM	9E22034	7471A
Sample ID: RSE0535-16 (BPA 2-TP-74 - Solid)					**Sampled: 05/13/09 11:00**		**Recvd: 05/14/09 14:00**			
General Chemistry Parameters										
Percent Solids	99		0.010	NR	%	1.00	05/15/09 20:53	EKD	9E15086	Dry Weight
Semivolatile Organics by GC/MS										
Acenaphthylene	1200	D02,J	3400	28	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Anthracene	810	D02,J	3400	87	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(a)anthracene	5000	D02,B	3400	59	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(a)pyrene	4600	D02,L1	3400	82	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(b)fluoranthene	6000	D02,B	3400	66	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(ghi)perylene	3400	D02,J	3400	41	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(k)fluoranthene	2800	D02,J	3400	38	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Chrysene	4600	D02,B	3400	34	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Dibenzo(a,h)anthracene	860	D02,J	3400	40	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Fluoranthene	8600	D02,B	3400	50	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Indeno(1,2,3-cd)pyrene	2800	D02,J	3400	95	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Phenanthrene	2800	D02,J, B	3400	72	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Pyrene	7400	D02	3400	22	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Total Metals by SW 846 Series Methods										
Aluminum	7760		10.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Arsenic	47.4		2.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Barium	88.8		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Beryllium	0.970		0.200	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-16 (BPA 2-TP-74 - Solid) - cont.					**Sampled: 05/13/09 11:00**		**Recvd: 05/14/09 14:00**			
Total Metals by SW 846 Series Methods - cont.										
Cadmium	**1.87**		0.200	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Calcium	**52900**		50.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Chromium	**91.4**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Cobalt	**4.51**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Copper	**120**		1.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Iron	**45100**		10.0	NR	mg/kg dry	1.00	05/19/09 17:13	LMH	9E15068	6010B
Lead	**290**		1.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Magnesium	**9020**		20.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Manganese	**3770**	D08	1.0	NR	mg/kg dry	5.00	05/19/09 17:09	LMH	9E15068	6010B
Nickel	**20.0**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Potassium	**900**		30.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Silver	**0.508**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Sodium	**234**		140	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Vanadium	**39.7**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Zinc	**380**		2.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Mercury	**0.116**		0.0217	NR	mg/kg dry	1.00	05/22/09 16:06	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Sample Summary

SAMPLE IDENTIFICATION	LAB NUMBER	Client Matrix	Date/Time Sampled	Date/Time Received
RR-TP-4	RSE0535-01	Solid	05/11/09 08:30	05/14/09 14:00
RR-TP-2	RSE0535-02	Solid	05/11/09 10:45	05/14/09 14:00
RR-TP-16	RSE0535-05	Solid	05/11/09 15:15	05/14/09 14:00
RR-TP-18	RSE0535-06	Solid	05/12/09 10:15	05/14/09 14:00
RR-TP-20	RSE0535-07	Solid	05/12/09 10:45	05/14/09 14:00
RR-TP-22	RSE0535-08	Solid	05/12/09 11:15	05/14/09 14:00
RR-TP-46	RSE0535-11	Solid	05/13/09 10:15	05/14/09 14:00
RR-TP-42	RSE0535-12	Solid	05/13/09 15:00	05/14/09 14:00
BLIND 2	RSE0535-13	Solid	05/12/09 08:00	05/14/09 14:00
RR-TP-44	RSE0535-14	Solid	05/13/09 12:00	05/14/09 14:00
BPA 2-TP-92	RSE0535-15	Solid	05/13/09 14:15	05/14/09 14:00
BPA 2-TP-74	RSE0535-16	Solid	05/13/09 11:00	05/14/09 14:00

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-01 (RR-TP-4 - Solid)						**Sampled: 05/11/09 08:30**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**89**		0.010	NR	%	1.00	05/15/09 20:31	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**143**		10.0	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Barium	**86.6**		1.00	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Cadmium	**0.649**		0.500	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Chromium	**106**		2.00	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Lead	**154**		5.0	NR	mg/kg dry	1.00	05/19/09 02:18	LMH	9E15068	6010B
Mercury	**0.110**		0.0230	NR	mg/kg dry	1.00	05/22/09 15:36	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-02 (RR-TP-2 - Solid)						**Sampled: 05/11/09 10:45**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	05/15/09 20:33	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**75.0**		10.0	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Barium	**158**		1.00	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Cadmium	**3.05**		0.500	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Chromium	**140**		2.00	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Lead	**321**		5.0	NR	mg/kg dry	1.00	05/19/09 02:36	LMH	9E15068	6010B
Mercury	**0.399**		0.0230	NR	mg/kg dry	1.00	05/22/09 15:37	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-05 (RR-TP-16 - Solid)						**Sampled: 05/11/09 15:15**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**89**		0.010	NR	%	1.00	05/15/09 20:35	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**13.5**		10.0	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Barium	**49.7**		1.00	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Chromium	**45.4**		2.00	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Lead	**119**		5.0	NR	mg/kg dry	1.00	05/19/09 03:01	LMH	9E15068	6010B
Mercury	**0.0679**		0.0221	NR	mg/kg dry	1.00	05/22/09 15:44	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-06 (RR-TP-18 - Solid)						**Sampled: 05/12/09 10:15**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	05/15/09 20:37	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	ND		10.0	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Barium	**125**		1.00	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Cadmium	ND		0.500	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Chromium	**27.2**		2.00	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Lead	**31.6**		5.0	NR	mg/kg dry	1.00	05/19/09 03:06	LMH	9E15068	6010B
Mercury	**0.0662**		0.0220	NR	mg/kg dry	1.00	05/22/09 15:46	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-07 (RR-TP-20 - Solid)					**Sampled: 05/12/09 10:45**			**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**88**		0.010	NR	%	1.00	05/15/09 20:39	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**66.6**		10.0	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Barium	**84.5**		1.00	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Cadmium	**0.531**		0.500	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Chromium	**76.2**		2.00	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Lead	**99.2**		5.0	NR	mg/kg dry	1.00	05/19/09 03:11	LMH	9E15068	6010B
Mercury	**0.153**		0.0212	NR	mg/kg dry	1.00	05/22/09 15:47	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-08 (RR-TP-22 - Solid)						**Sampled: 05/12/09 11:15**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**87**		0.010	NR	%	1.00	05/15/09 20:41	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**13.8**		10.0	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Barium	**93.2**		1.00	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Cadmium	**0.646**		0.500	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Chromium	**96.4**		2.00	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Lead	**189**		5.0	NR	mg/kg dry	1.00	05/19/09 03:16	LMH	9E15068	6010B
Mercury	**0.155**		0.0219	NR	mg/kg dry	1.00	05/22/09 15:48	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-11 (RR-TP-46 - Solid)						**Sampled: 05/13/09 10:15**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	05/15/09 20:43	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**16.8**		10.0	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Barium	**116**		1.00	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Cadmium	**1.66**		0.500	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Chromium	**325**		2.00	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Lead	**280**		5.0	NR	mg/kg dry	1.00	05/19/09 03:44	LMH	9E15068	6010B
Mercury	**0.209**		0.0227	NR	mg/kg dry	1.00	05/22/09 15:58	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-12 (RR-TP-42 - Solid)					**Sampled: 05/13/09 15:00**			**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	05/15/09 20:45	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**149**		10.0	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Barium	**142**		1.00	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Cadmium	**1.31**		0.500	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Chromium	**74.6**		2.00	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Lead	**207**		5.0	NR	mg/kg dry	1.00	05/19/09 03:49	LMH	9E15068	6010B
Mercury	**2.38**	D08	0.102	NR	mg/kg dry	5.00	05/22/09 17:17	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-13 (BLIND 2 - Solid)						**Sampled: 05/12/09 08:00**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**87**		0.010	NR	%	1.00	05/15/09 20:47	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**137**		10.0	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Barium	**82.8**		1.00	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Cadmium	**1.55**		0.500	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Chromium	**141**		2.00	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Lead	**273**		5.0	NR	mg/kg dry	1.00	05/19/09 03:54	LMH	9E15068	6010B
Mercury	**2.84**	D08	0.110	NR	mg/kg dry	5.00	05/22/09 17:19	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-14 (RR-TP-44 - Solid)						**Sampled: 05/13/09 12:00**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	05/15/09 20:49	EKD	9E15086	Dry Weight
Total Metals by SW 846 Series Methods										
Arsenic	**65.3**		10.0	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Barium	**91.3**		1.00	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Cadmium	**7.01**		0.500	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Chromium	**227**		2.00	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Lead	**1030**		5.0	NR	mg/kg dry	1.00	05/19/09 03:59	LMH	9E15068	6010B
Mercury	**0.475**		0.0203	NR	mg/kg dry	1.00	05/22/09 16:03	MM	9E22034	7471A

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-15 (BPA 2-TP-92 - Solid)						**Sampled: 05/13/09 14:15**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	92		0.010	NR	%	1.00	05/15/09 20:51	EKD	9E15086	Dry Weight
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND		18	3.5	ug/kg dry	1.00	05/21/09 09:56	JM	9E19130	8082
Aroclor 1221	ND		18	3.5	ug/kg dry	1.00	05/21/09 09:56	JM	9E19130	8082
Aroclor 1232	ND		18	3.5	ug/kg dry	1.00	05/21/09 09:56	JM	9E19130	8082
Aroclor 1242	ND		18	3.9	ug/kg dry	1.00	05/21/09 09:56	JM	9E19130	8082
Aroclor 1248	ND		18	3.6	ug/kg dry	1.00	05/21/09 09:56	JM	9E19130	8082
Aroclor 1254	ND		18	3.8	ug/kg dry	1.00	05/21/09 09:56	JM	9E19130	8082
Aroclor 1260	ND		18	3.8	ug/kg dry	1.00	05/21/09 09:56	JM	9E19130	8082
Surr: Decachlorobiphenyl (34-148%)	*120 %*						05/21/09 09:56	JM	9E19130	8082
Surr: Tetrachloro-m-xylene (35-134%)	*103 %*						05/21/09 09:56	JM	9E19130	8082
Semivolatile Organics by GC/MS										
2,4,5-Trichlorophenol	ND	D02	3700	800	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2,4,6-Trichlorophenol	ND	D02	3700	240	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2,4-Dichlorophenol	ND	D02	3700	190	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2,4-Dimethylphenol	ND	D02	3700	990	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2,4-Dinitrophenol	ND	D02	7100	1300	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2,4-Dinitrotoluene	ND	D02	3700	570	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2,6-Dinitrotoluene	ND	D02	3700	890	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2-Chloronaphthalene	ND	D02	3700	240	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2-Chlorophenol	ND	D02	3700	190	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2-Methylnaphthalene	ND	D02	3700	44	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2-Methylphenol	ND	D02	3700	110	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2-Nitroaniline	ND	D02	7100	1200	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2-Nitrophenol	ND	D02	3700	170	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
3,3'-Dichlorobenzidine	ND	D02	3700	3200	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
3-Nitroaniline	ND	D02	7100	840	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4,6-Dinitro-2-methylphenol	ND	D02	7100	1300	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4-Bromophenyl phenyl ether	ND	D02	3700	1200	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4-Chloro-3-methylphenol	ND	D02	3700	150	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4-Chloroaniline	ND	D02	3700	1100	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4-Chlorophenyl phenyl ether	ND	D02	3700	78	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4-Methylphenol	ND	D02	3700	200	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4-Nitroaniline	ND	D02	7100	410	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
4-Nitrophenol	ND	D02	7100	880	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Acenaphthene	ND	D02	3700	43	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Acenaphthylene	**150**	D02,J	3700	30	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Acetophenone	ND	D02	3700	190	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Anthracene	ND	D02	3700	93	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Atrazine TIC	ND	D02	3700	160	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzaldehyde	ND	D02	3700	400	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(a)anthracene	**700**	D02,J, B	3700	63	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(a)pyrene	**830**	D02,L1, J	3700	88	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(b)fluoranthene	**920**	D02,J, B	3700	71	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(ghi)perylene	**690**	D02,J	3700	44	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Benzo(k)fluoranthene	**880**	D02,J	3700	40	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Biphenyl	ND	D02	3700	230	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Bis(2-chloroethoxy)methane	ND	D02	3700	200	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-15 (BPA 2-TP-92 - Solid) - cont.						**Sampled: 05/13/09 14:15**		**Recvd: 05/14/09 14:00**		
Semivolatile Organics by GC/MS - cont.										
Bis(2-chloroethyl)ether	ND	D02	3700	320	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
2,2'-Oxybis(1-Chloropropane)	ND	D02	3700	380	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Bis(2-ethylhexyl) phthalate	ND	D02	3700	1200	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Butyl benzyl phthalate	ND	D02	3700	980	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Caprolactam	ND	D02	3700	1600	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Carbazole	ND	D02	3700	42	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Chrysene	**1000**	D02,J, B	3700	36	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Dibenzo(a,h)anthracene	**270**	D02,J	3700	43	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Dibenzofuran	ND	D02	3700	38	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Diethyl phthalate	ND	D02	3700	110	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Dimethyl phthalate	ND	D02	3700	95	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Di-n-butyl phthalate	ND	D02	3700	1300	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Di-n-octyl phthalate	ND	D02	3700	85	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Fluoranthene	**910**	D02,J, B	3700	53	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Fluorene	ND	D02	3700	84	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Hexachlorobenzene	ND	D02	3700	180	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Hexachlorobutadiene	ND	D02	3700	190	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Hexachlorocyclopentadiene	ND	D02	3700	1100	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Hexachloroethane	ND	D02	3700	280	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Indeno(1,2,3-cd)pyrene	**480**	D02,J	3700	100	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Isophorone	ND	D02	3700	180	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Naphthalene	ND	D02	3700	61	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Nitrobenzene	ND	D02	3700	160	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
N-Nitrosodi-n-propylamine	ND	D02	3700	290	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
N-Nitrosodiphenylamine	ND	D02,L	3700	200	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Pentachlorophenol	ND	D02	7100	1300	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Phenanthrene	**350**	D02,J, B	3700	77	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Phenol	ND	D02	3700	380	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Pyrene	**930**	D02,J	3700	24	ug/kg dry	20.0	05/26/09 13:36	JLG	9E20089	8270C
Surr: 2,4,6-Tribromophenol (39-146%)	*82 %*	*D02*					05/26/09 13:36	JLG	9E20089	8270C
Surr: 2-Fluorobiphenyl (37-120%)	*99 %*	*D02*					05/26/09 13:36	JLG	9E20089	8270C
Surr: 2-Fluorophenol (18-120%)	*63 %*	*D02*					05/26/09 13:36	JLG	9E20089	8270C
Surr: Phenol-d5 (11-120%)	*64 %*	*D02*					05/26/09 13:36	JLG	9E20089	8270C
Total Metals by SW 846 Series Methods										
Arsenic	**26.7**		10.0	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Barium	**10.4**		1.00	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Cadmium	**0.914**		0.500	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Chromium	**26.3**		2.00	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Lead	**543**		5.0	NR	mg/kg dry	1.00	05/19/09 04:04	LMH	9E15068	6010B
Mercury	**0.0350**		0.0224	NR	mg/kg dry	1.00	05/22/09 16:04	MM	9E22034	7471A
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	ND		5.3	0.38	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,1,2,2-Tetrachloroethane	ND		5.3	0.86	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,1,2-Trichloroethane	ND		5.3	0.27	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.3	0.56	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,1-Dichloroethane	ND		5.3	0.26	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-15 (BPA 2-TP-92 - Solid) - cont.						**Sampled: 05/13/09 14:15**		**Recvd: 05/14/09 14:00**		
Volatile Organic Compounds by EPA 8260B - cont.										
1,1-Dichloroethene	ND		5.3	0.65	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,2,4-Trichlorobenzene	ND		5.3	0.32	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,2,4-Trimethylbenzene	ND		5.3	0.38	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,2-Dibromo-3-chloropropane	ND		5.3	1.1	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,2-Dibromoethane	ND		5.3	0.20	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,2-Dichlorobenzene	ND		5.3	0.79	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,2-Dichloroethane	ND		5.3	0.27	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,2-Dichloropropane	ND		5.3	0.27	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,3,5-Trimethylbenzene	ND		5.3	0.34	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,3-Dichlorobenzene	ND		5.3	0.75	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
1,4-Dichlorobenzene	ND		5.3	0.74	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
2-Butanone	ND		26	7.2	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
2-Hexanone	ND		26	1.8	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
p-Cymene	ND		5.3	0.42	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
4-Methyl-2-pentanone	ND		26	1.7	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Acetone	ND		26	1.2	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Benzene	ND		5.3	0.26	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Bromodichloromethane	ND		5.3	0.27	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Bromoform	ND		5.3	0.49	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Bromomethane	ND		5.3	0.48	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Carbon disulfide	ND		5.3	0.45	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Carbon Tetrachloride	ND		5.3	0.19	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Chlorobenzene	ND		5.3	0.23	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Dibromochloromethane	ND		5.3	0.29	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Chloroethane	ND		5.3	0.85	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Chloroform	ND		5.3	0.33	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Chloromethane	ND		5.3	0.32	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
cis-1,2-Dichloroethene	ND		5.3	0.26	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
cis-1,3-Dichloropropene	ND		5.3	0.30	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Cyclohexane	ND		5.3	0.24	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Dichlorodifluoromethane	ND		5.3	0.44	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Ethylbenzene	ND		5.3	0.36	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Isopropylbenzene	ND		5.3	0.35	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Methyl Acetate	ND		5.3	0.29	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Methyl-t-Butyl Ether (MTBE)	ND		5.3	0.52	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Methylcyclohexane	ND		5.3	0.34	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Methylene Chloride	ND		5.3	0.37	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
m-Xylene & p-Xylene	ND		11	0.89	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
n-Butylbenzene	ND		5.3	0.46	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
n-Propylbenzene	ND		5.3	0.40	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
o-Xylene	ND		5.3	0.26	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
sec-Butylbenzene	ND		5.3	0.46	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Styrene	ND		5.3	0.26	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
tert-Butylbenzene	ND		5.3	0.55	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Tetrachloroethene	ND		5.3	0.71	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Toluene	ND		5.3	0.90	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
trans-1,2-Dichloroethene	ND		5.3	0.54	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
trans-1,3-Dichloropropene	ND		5.3	0.26	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Trichloroethene	ND		5.3	0.36	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Trichlorofluoromethane	ND		5.3	1.7	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Vinyl chloride	ND		11	0.22	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-15 (BPA 2-TP-92 - Solid) - cont.						**Sampled: 05/13/09 14:15**		**Recvd: 05/14/09 14:00**		
Volatile Organic Compounds by EPA 8260B - cont.										
Xylenes, total	ND		11	0.89	ug/kg dry	1.00	05/19/09 19:29	PQ	9E19088	8260B
Surr: 1,2-Dichloroethane-d4 (64-126%)	*101 %*						05/19/09 19:29	PQ	9E19088	8260B
Surr: 4-Bromofluorobenzene (72-126%)	*114 %*						05/19/09 19:29	PQ	9E19088	8260B
Surr: Toluene-d8 (71-125%)	*108 %*						05/19/09 19:29	PQ	9E19088	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-16 (BPA 2-TP-74 - Solid)						**Sampled: 05/13/09 11:00**		**Recvd: 05/14/09 14:00**		
General Chemistry Parameters										
Percent Solids	**99**		0.010	NR	%	1.00	05/15/09 20:53	EKD	9E15086	Dry Weight
Total Cyanide	ND		1.0	0.9	mg/kg dry	1.00	05/22/09 09:07	jmm	9E21006	9012A
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND		17	3.3	ug/kg dry	1.00	05/21/09 10:11	JM	9E19130	8082
Aroclor 1221	ND		17	3.3	ug/kg dry	1.00	05/21/09 10:11	JM	9E19130	8082
Aroclor 1232	ND		17	3.3	ug/kg dry	1.00	05/21/09 10:11	JM	9E19130	8082
Aroclor 1242	ND		17	3.6	ug/kg dry	1.00	05/21/09 10:11	JM	9E19130	8082
Aroclor 1248	ND		17	3.3	ug/kg dry	1.00	05/21/09 10:11	JM	9E19130	8082
Aroclor 1254	ND		17	3.5	ug/kg dry	1.00	05/21/09 10:11	JM	9E19130	8082
Aroclor 1260	ND		17	3.5	ug/kg dry	1.00	05/21/09 10:11	JM	9E19130	8082
Surr: Decachlorobiphenyl (34-148%)	*130 %*						05/21/09 10:11	JM	9E19130	8082
Surr: Tetrachloro-m-xylene (35-134%)	*94 %*						05/21/09 10:11	JM	9E19130	8082
Semivolatile Organics by GC/MS										
2,4,5-Trichlorophenol	ND	D02	3400	750	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2,4,6-Trichlorophenol	ND	D02	3400	230	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2,4-Dichlorophenol	ND	D02	3400	180	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2,4-Dimethylphenol	ND	D02	3400	920	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2,4-Dinitrophenol	ND	D02	6700	1200	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2,4-Dinitrotoluene	ND	D02	3400	530	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2,6-Dinitrotoluene	ND	D02	3400	840	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2-Chloronaphthalene	ND	D02	3400	230	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2-Chlorophenol	ND	D02	3400	170	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2-Methylnaphthalene	ND	D02	3400	41	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2-Methylphenol	ND	D02	3400	110	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2-Nitroaniline	ND	D02	6700	1100	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2-Nitrophenol	ND	D02	3400	160	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
3,3'-Dichlorobenzidine	ND	D02	3400	3000	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
3-Nitroaniline	ND	D02	6700	790	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4,6-Dinitro-2-methylphenol	ND	D02	6700	1200	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4-Bromophenyl phenyl ether	ND	D02	3400	1100	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4-Chloro-3-methylphenol	ND	D02	3400	140	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4-Chloroaniline	ND	D02	3400	1000	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4-Chlorophenyl phenyl ether	ND	D02	3400	73	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4-Methylphenol	ND	D02	3400	190	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4-Nitroaniline	ND	D02	6700	380	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
4-Nitrophenol	ND	D02	6700	830	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Acenaphthene	ND	D02	3400	40	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Acenaphthylene	**1200**	D02,J	3400	28	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Acetophenone	ND	D02	3400	180	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Anthracene	**810**	D02,J	3400	87	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Atrazine TIC	ND	D02	3400	150	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzaldehyde	ND	D02	3400	370	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(a)anthracene	**5000**	D02,B	3400	59	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(a)pyrene	**4600**	D02,L1	3400	82	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(b)fluoranthene	**6000**	D02,B	3400	66	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(ghi)perylene	**3400**	D02,J	3400	41	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Benzo(k)fluoranthene	**2800**	D02,J	3400	38	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Biphenyl	ND	D02	3400	210	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535
Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-16 (BPA 2-TP-74 - Solid) - cont.						**Sampled: 05/13/09 11:00**		**Recvd: 05/14/09 14:00**		
Semivolatile Organics by GC/MS - cont.										
Bis(2-chloroethoxy)methane	ND	D02	3400	190	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Bis(2-chloroethyl)ether	ND	D02	3400	300	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
2,2'-Oxybis(1-Chloropropane)	ND	D02	3400	360	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Bis(2-ethylhexyl) phthalate	ND	D02	3400	1100	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Butyl benzyl phthalate	ND	D02	3400	920	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Caprolactam	ND	D02	3400	1500	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Carbazole	ND	D02	3400	40	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Chrysene	**4600**	D02,B	3400	34	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Dibenzo(a,h)anthracene	**860**	D02,J	3400	40	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Dibenzofuran	ND	D02	3400	36	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Diethyl phthalate	ND	D02	3400	100	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Dimethyl phthalate	ND	D02	3400	89	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Di-n-butyl phthalate	ND	D02	3400	1200	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Di-n-octyl phthalate	ND	D02	3400	80	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Fluoranthene	**8600**	D02,B	3400	50	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Fluorene	ND	D02	3400	79	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Hexachlorobenzene	ND	D02	3400	170	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Hexachlorobutadiene	ND	D02	3400	170	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Hexachlorocyclopentadiene	ND	D02	3400	1000	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Hexachloroethane	ND	D02	3400	260	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Indeno(1,2,3-cd)pyrene	**2800**	D02,J	3400	95	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Isophorone	ND	D02	3400	170	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Naphthalene	ND	D02	3400	57	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Nitrobenzene	ND	D02	3400	150	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
N-Nitrosodi-n-propylamine	ND	D02	3400	270	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
N-Nitrosodiphenylamine	ND	D02,L	3400	190	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Pentachlorophenol	ND	D02	6700	1200	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Phenanthrene	**2800**	D02,J, B	3400	72	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Phenol	ND	D02	3400	360	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Pyrene	**7400**	D02	3400	22	ug/kg dry	20.0	05/26/09 13:59	JLG	9E20089	8270C
Surr: 2,4,6-Tribromophenol (39-146%)	*80 %*	*D02*					05/26/09 13:59	JLG	9E20089	8270C
Surr: 2-Fluorobiphenyl (37-120%)	*86 %*	*D02*					05/26/09 13:59	JLG	9E20089	8270C
Surr: 2-Fluorophenol (18-120%)	*48 %*	*D02*					05/26/09 13:59	JLG	9E20089	8270C
Surr: Phenol-d5 (11-120%)	*63 %*	*D02*					05/26/09 13:59	JLG	9E20089	8270C
Total Metals by SW 846 Series Methods										
Aluminum	**7760**		10.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Antimony	ND		15.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Arsenic	**47.4**		2.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Barium	**88.8**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Beryllium	**0.970**		0.200	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Cadmium	**1.87**		0.200	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Calcium	**52900**		50.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Chromium	**91.4**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Cobalt	**4.51**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Copper	**120**		1.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Iron	**45100**		10.0	NR	mg/kg dry	1.00	05/19/09 17:13	LMH	9E15068	6010B
Lead	**290**		1.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-16 (BPA 2-TP-74 - Solid) - cont.						**Sampled: 05/13/09 11:00**		**Recvd: 05/14/09 14:00**		
Total Metals by SW 846 Series Methods - cont.										
Magnesium	**9020**		20.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Manganese	**3770**	D08	1.0	NR	mg/kg dry	5.00	05/19/09 17:09	LMH	9E15068	6010B
Nickel	**20.0**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Potassium	**900**		30.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Selenium	ND		4.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Silver	**0.508**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Sodium	**234**		140	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Thallium	ND		6.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Vanadium	**39.7**		0.500	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Zinc	**380**		2.0	NR	mg/kg dry	1.00	05/19/09 04:09	LMH	9E15068	6010B
Mercury	**0.116**		0.0217	NR	mg/kg dry	1.00	05/22/09 16:06	MM	9E22034	7471A
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	ND		4.7	0.34	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,1,2,2-Tetrachloroethane	ND		4.7	0.77	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,1,2-Trichloroethane	ND		4.7	0.24	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.7	0.50	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,1-Dichloroethane	ND		4.7	0.23	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,1-Dichloroethene	ND		4.7	0.58	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,2,4-Trichlorobenzene	ND		4.7	0.29	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,2,4-Trimethylbenzene	ND		4.7	0.34	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,2-Dibromo-3-chloropropane	ND		4.7	0.94	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,2-Dibromoethane	ND		4.7	0.18	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,2-Dichlorobenzene	ND		4.7	0.71	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,2-Dichloroethane	ND		4.7	0.24	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,2-Dichloropropane	ND		4.7	0.24	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,3,5-Trimethylbenzene	ND		4.7	0.30	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,3-Dichlorobenzene	ND		4.7	0.67	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
1,4-Dichlorobenzene	ND		4.7	0.66	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
2-Butanone	ND		24	6.4	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
2-Hexanone	ND		24	1.6	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
p-Cymene	ND		4.7	0.38	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
4-Methyl-2-pentanone	ND		24	1.5	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Acetone	ND		24	1.0	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Benzene	ND		4.7	0.23	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Bromodichloromethane	ND		4.7	0.24	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Bromoform	ND		4.7	0.44	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Bromomethane	ND		4.7	0.43	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Carbon disulfide	ND		4.7	0.40	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Carbon Tetrachloride	ND		4.7	0.17	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Chlorobenzene	ND		4.7	0.21	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Dibromochloromethane	ND		4.7	0.26	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Chloroethane	ND		4.7	0.76	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Chloroform	ND		4.7	0.29	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Chloromethane	ND		4.7	0.29	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
cis-1,2-Dichloroethene	ND		4.7	0.23	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
cis-1,3-Dichloropropene	ND		4.7	0.27	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Cyclohexane	ND		4.7	0.22	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Dichlorodifluoromethane	ND		4.7	0.39	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSE0535-16 (BPA 2-TP-74 - Solid) - cont.						**Sampled: 05/13/09 11:00**		**Recvd: 05/14/09 14:00**		
Volatile Organic Compounds by EPA 8260B - cont.										
Ethylbenzene	ND		4.7	0.33	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Isopropylbenzene	ND		4.7	0.31	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Methyl Acetate	ND		4.7	0.26	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Methyl-t-Butyl Ether (MTBE)	ND		4.7	0.46	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Methylcyclohexane	ND		4.7	0.31	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Methylene Chloride	ND		4.7	0.33	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
m-Xylene & p-Xylene	ND		9.4	0.79	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
n-Butylbenzene	ND		4.7	0.41	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
n-Propylbenzene	ND		4.7	0.36	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
o-Xylene	ND		4.7	0.24	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
sec-Butylbenzene	ND		4.7	0.41	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Styrene	ND		4.7	0.24	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
tert-Butylbenzene	ND		4.7	0.49	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Tetrachloroethene	ND		4.7	0.63	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Toluene	ND		4.7	0.80	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
trans-1,2-Dichloroethene	ND		4.7	0.49	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
trans-1,3-Dichloropropene	ND		4.7	0.23	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Trichloroethene	ND		4.7	0.33	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Trichlorofluoromethane	ND		4.7	1.5	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Vinyl chloride	ND		9.4	0.19	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Xylenes, total	ND		9.4	0.79	ug/kg dry	1.00	05/19/09 19:54	PQ	9E19088	8260B
Surr: 1,2-Dichloroethane-d4 (64-126%)	*103 %*						05/19/09 19:54	PQ	9E19088	8260B
Surr: 4-Bromofluorobenzene (72-126%)	*113 %*						05/19/09 19:54	PQ	9E19088	8260B
Surr: Toluene-d8 (71-125%)	*109 %*						05/19/09 19:54	PQ	9E19088	8260B

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Units	Extract Volume	Units	Date	Analyst	Extraction Method
General Chemistry Parameters									
9012A	9E21006	RSE0535-16	0.50	g	50.00	mL	05/20/09 17:20	JME	Cn Digestion
Dry Weight	9E15086	RSE0535-01	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-02	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-05	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-06	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-07	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-08	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-11	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-12	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-13	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-14	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-15	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Dry Weight	9E15086	RSE0535-16	10.00	g	10.00	g	05/15/09 13:27	EKD	Dry Weight
Polychlorinated Biphenyls by EPA Method 8082									
8082	9E19130	RSE0535-15	30.11	g	10.00	mL	05/20/09 07:00	JB	3550B GC
8082	9E19130	RSE0535-16	30.45	g	10.00	mL	05/20/09 07:00	JB	3550B GC
Semivolatile Organics by GC/MS									
8270C	9E20089	RSE0535-16	30.07	g	1.00	mL	05/21/09 08:00	BL	3550B MB
8270C	9E20089	RSE0535-15	30.29	g	1.00	mL	05/21/09 08:00	BL	3550B MB
Total Metals by SW 846 Series Methods									
6010B	9E15068	RSE0535-11	0.48	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-01	0.49	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-15	0.50	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-14	0.50	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-16	0.51	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-07	0.51	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-08	0.51	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-13	0.51	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-05	0.51	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-06	0.54	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-02	0.54	g	50.00	mL	05/18/09 12:15	DAN	3050B
6010B	9E15068	RSE0535-12	0.55	g	50.00	mL	05/18/09 12:15	DAN	3050B
7471A	9E22034	RSE0535-16	0.56	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-02	0.56	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-11	0.58	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-15	0.58	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-06	0.59	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-01	0.59	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-05	0.61	g	50.00	mL	05/22/09 14:00	MM	7471A_

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Units	Extract Volume	Units	Date	Analyst	Extraction Method
7471A	9E22034	RSE0535-08	0.63	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-13	0.63	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-14	0.64	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-12	0.64	g	50.00	mL	05/22/09 14:00	MM	7471A_
7471A	9E22034	RSE0535-07	0.64	g	50.00	mL	05/22/09 14:00	MM	7471A_
Volatile Organic Compounds by EPA 8260B									
8260B	9E19088	RSE0535-15	5.17	g	5.00	mL	05/19/09 13:19	PJQ	5030B MS
8260B	9E19088	RSE0535-16	5.37	g	5.00	mL	05/19/09 13:19	PJQ	5030B MS

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
General Chemistry Parameters												
Blank Analyzed: 05/22/09 (9E21006-BLK1)												
Cyanide	9E21006			1.0	0.9	mg/kg wet	ND					
LCS Analyzed: 05/22/09 (9E21006-BS1)												
Cyanide	9E21006		34.4	0.9	0.8	mg/kg wet	22.5	66	40-160			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Polychlorinated Biphenyls by EPA Method 8082												
Blank Analyzed: 05/21/09 (9E19130-BLK1)												
Aroclor 1016	9E19130			16	3.2	ug/kg wet	ND					QSU
Aroclor 1221	9E19130			16	3.2	ug/kg wet	ND					QSU
Aroclor 1232	9E19130			16	3.2	ug/kg wet	ND					QSU
Aroclor 1242	9E19130			16	3.6	ug/kg wet	ND					QSU
Aroclor 1248	9E19130			16	3.2	ug/kg wet	ND					QSU
Aroclor 1254	9E19130			16	3.5	ug/kg wet	ND					QSU
Aroclor 1260	9E19130			16	3.5	ug/kg wet	ND					QSU
Surrogate: Decachlorobiphenyl						ug/kg wet		*97*	*34-148*			QSU
Surrogate: Tetrachloro-m-xylene						ug/kg wet		*95*	*35-134*			QSU
LCS Analyzed: 05/21/09 (9E19130-BS1)												
Aroclor 1016	9E19130		160	16	3.2	ug/kg wet	142	87	59-154			QSU
Aroclor 1221	9E19130			16	3.2	ug/kg wet	ND		0-200			QSU
Aroclor 1232	9E19130			16	3.2	ug/kg wet	ND		0-200			QSU
Aroclor 1242	9E19130			16	3.5	ug/kg wet	ND		0-200			QSU
Aroclor 1248	9E19130			16	3.2	ug/kg wet	ND		0-200			QSU
Aroclor 1254	9E19130			16	3.5	ug/kg wet	ND		0-200			QSU
Aroclor 1260	9E19130		160	16	3.5	ug/kg wet	165	101	51-179			QSU
Surrogate: Decachlorobiphenyl						ug/kg wet		*96*	*34-148*			QSU
Surrogate: Tetrachloro-m-xylene						ug/kg wet		*92*	*35-134*			QSU
LCS Dup Analyzed: 05/21/09 (9E19130-BSD1)												
Aroclor 1016	9E19130		170	17	3.3	ug/kg wet	150	90	59-154	5	50	QSU
Aroclor 1221	9E19130			17	3.3	ug/kg wet	ND		0-200		200	QSU
Aroclor 1232	9E19130			17	3.3	ug/kg wet	ND		0-200		200	QSU
Aroclor 1242	9E19130			17	3.6	ug/kg wet	ND		0-200		200	QSU
Aroclor 1248	9E19130			17	3.3	ug/kg wet	ND		0-200		200	QSU
Aroclor 1254	9E19130			17	3.5	ug/kg wet	ND		0-200		200	QSU
Aroclor 1260	9E19130		170	17	3.5	ug/kg wet	168	101	51-179	2	50	QSU
Surrogate: Decachlorobiphenyl						ug/kg wet		*97*	*34-148*			QSU
Surrogate: Tetrachloro-m-xylene						ug/kg wet		*100*	*35-134*			QSU

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
Blank Analyzed: 05/26/09 (9E20089-BLK1)												
2,4,5-Trichlorophenol	9E20089			170	36	ug/kg wet	ND					
2,4,6-Trichlorophenol	9E20089			170	11	ug/kg wet	ND					
2,4-Dichlorophenol	9E20089			170	8.7	ug/kg wet	ND					
2,4-Dimethylphenol	9E20089			170	45	ug/kg wet	ND					
2,4-Dinitrophenol	9E20089			320	58	ug/kg wet	ND					
2,4-Dinitrotoluene	9E20089			170	26	ug/kg wet	ND					
2,6-Dinitrotoluene	9E20089			170	41	ug/kg wet	ND					
2-Chloronaphthalene	9E20089			170	11	ug/kg wet	ND					
2-Chlorophenol	9E20089			170	8.5	ug/kg wet	ND					
2-Methylnaphthalene	9E20089			170	2.0	ug/kg wet	ND					
2-Methylphenol	9E20089			170	5.1	ug/kg wet	ND					
2-Nitroaniline	9E20089			320	53	ug/kg wet	ND					
2-Nitrophenol	9E20089			170	7.6	ug/kg wet	ND					
3,3'-Dichlorobenzidine	9E20089			170	150	ug/kg wet	ND					
3-Nitroaniline	9E20089			320	38	ug/kg wet	ND					
4,6-Dinitro-2-methylphenol	9E20089			320	57	ug/kg wet	ND					
4-Bromophenyl phenyl ether	9E20089			170	53	ug/kg wet	ND					
4-Chloro-3-methylphenol	9E20089			170	6.8	ug/kg wet	ND					
4-Chloroaniline	9E20089			170	49	ug/kg wet	ND					
4-Chlorophenyl phenyl ether	9E20089			170	3.5	ug/kg wet	ND					
4-Methylphenol	9E20089			320	9.3	ug/kg wet	ND					
4-Nitroaniline	9E20089			320	19	ug/kg wet	ND					
4-Nitrophenol	9E20089			320	40	ug/kg wet	ND					
Acenaphthene	9E20089			170	2.0	ug/kg wet	ND					
Acenaphthylene	9E20089			170	1.4	ug/kg wet	ND					
Acetophenone	9E20089			170	8.5	ug/kg wet	ND					
Anthracene	9E20089			170	4.3	ug/kg wet	ND					
Atrazine TIC	9E20089			170	7.4	ug/kg wet	ND					
Benzaldehyde	9E20089			170	18	ug/kg wet	ND					
Benzidine	9E20089			4900	2100	ug/kg wet	ND					
Benzo[a]anthracene	9E20089			170	2.9	ug/kg wet	14					J
Benzo[a]pyrene	9E20089			170	4.0	ug/kg wet	ND					
Benzo[b]fluoranthene	9E20089			170	3.2	ug/kg wet	7.2					J
Benzo[g,h,i]perylene	9E20089			170	2.0	ug/kg wet	ND					
Benzo[k]fluoranthene	9E20089			170	1.8	ug/kg wet	ND					
Biphenyl	9E20089			170	10	ug/kg wet	ND					
Bis(2-chloroethoxy)methane	9E20089			170	9.0	ug/kg wet	ND					
Bis(2-chloroethyl)ether	9E20089			170	14	ug/kg wet	ND					
Bis(2-chloroisopropyl) ether	9E20089			170	17	ug/kg wet	ND					
Bis(2-ethylhexyl) phthalate	9E20089			170	54	ug/kg wet	ND					
Butyl benzyl phthalate	9E20089			170	45	ug/kg wet	ND					
Caprolactam	9E20089			170	72	ug/kg wet	ND					
Carbazole	9E20089			170	1.9	ug/kg wet	ND					
Chrysene	9E20089			170	1.7	ug/kg wet	15					J
Dibenz[a,h]anthracene	9E20089			170	2.0	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
Blank Analyzed: 05/26/09 (9E20089-BLK1)												
Dibenzofuran	9E20089			170	1.7	ug/kg wet	ND					
Diethyl phthalate	9E20089			170	5.0	ug/kg wet	ND					
Dimethyl phthalate	9E20089			170	4.3	ug/kg wet	ND					
Di-n-butyl phthalate	9E20089			170	57	ug/kg wet	ND					
Di-n-octyl phthalate	9E20089			170	3.9	ug/kg wet	ND					
Fluoranthene	9E20089			170	2.4	ug/kg wet	11					J
Fluorene	9E20089			170	3.8	ug/kg wet	ND					
Hexachlorobenzene	9E20089			170	8.3	ug/kg wet	ND					
Hexachlorobutadiene	9E20089			170	8.5	ug/kg wet	ND					
Hexachlorocyclopentadiene	9E20089			170	50	ug/kg wet	ND					
Hexachloroethane	9E20089			170	13	ug/kg wet	ND					
Indeno[1,2,3-cd]pyrene	9E20089			170	4.6	ug/kg wet	ND					
Isophorone	9E20089			170	8.3	ug/kg wet	ND					
Naphthalene	9E20089			170	2.8	ug/kg wet	ND					
Nitrobenzene	9E20089			170	7.4	ug/kg wet	ND					
N-Nitrosodi-n-propylamine	9E20089			170	13	ug/kg wet	ND					
N-Nitrosodiphenylamine	9E20089			170	9.1	ug/kg wet	ND					
Pentachlorophenol	9E20089			320	57	ug/kg wet	ND					
Phenanthrene	9E20089			170	3.5	ug/kg wet	11					J
Phenol	9E20089			170	17	ug/kg wet	ND					
Pyrene	9E20089			170	1.1	ug/kg wet	ND					
Surrogate: 2,4,6-Tribromophenol						ug/kg wet		*80*	*39-146*			
Surrogate: 2-Fluorobiphenyl						ug/kg wet		*85*	*37-120*			
Surrogate: 2-Fluorophenol						ug/kg wet		*68*	*18-120*			
Surrogate: Nitrobenzene-d5						ug/kg wet		*85*	*34-132*			
Surrogate: Phenol-d5						ug/kg wet		*72*	*11-120*			
Surrogate: p-Terphenyl-d14						ug/kg wet		*92*	*58-147*			
LCS Analyzed: 05/26/09 (9E20089-BS1)												
2,4,5-Trichlorophenol	9E20089		3300	170	37	ug/kg wet	3410	103	59-126			
2,4,6-Trichlorophenol	9E20089		3300	170	11	ug/kg wet	3380	102	59-123			
2,4-Dichlorophenol	9E20089		3300	170	8.8	ug/kg wet	3030	91	52-120			
2,4-Dimethylphenol	9E20089		3300	170	45	ug/kg wet	3200	96	36-120			
2,4-Dinitrophenol	9E20089		3300	330	59	ug/kg wet	2840	85	35-146			
2,4-Dinitrotoluene	9E20089		3300	170	26	ug/kg wet	3690	111	55-125			
2,6-Dinitrotoluene	9E20089		3300	170	41	ug/kg wet	3310	100	66-128			
2-Chloronaphthalene	9E20089		3300	170	11	ug/kg wet	3170	96	57-120			
2-Chlorophenol	9E20089		3300	170	8.6	ug/kg wet	2570	77	38-120			
2-Methylnaphthalene	9E20089		3300	170	2.0	ug/kg wet	3200	96	47-120			
2-Methylphenol	9E20089		3300	170	5.2	ug/kg wet	2940	89	48-120			
2-Nitroaniline	9E20089		3300	330	54	ug/kg wet	3630	109	61-130			
2-Nitrophenol	9E20089		3300	170	7.7	ug/kg wet	2900	87	50-120			
3,3'-Dichlorobenzidine	9E20089		3300	170	150	ug/kg wet	2210	67	48-126			
3-Nitroaniline	9E20089		3300	330	39	ug/kg wet	2600	78	61-127			
4,6-Dinitro-2-methylphenol	9E20089		3300	330	58	ug/kg wet	3810	115	49-155			
4-Bromophenyl phenyl ether	9E20089		3300	170	53	ug/kg wet	3490	105	58-131			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Analyzed: 05/26/09 (9E20089-BS1)												
4-Chloro-3-methylphenol	9E20089		3300	170	6.9	ug/kg wet	3410	103	49-125			
4-Chloroaniline	9E20089		3300	170	49	ug/kg wet	2440	74	49-120			
4-Chlorophenyl phenyl ether	9E20089		3300	170	3.6	ug/kg wet	3280	99	63-124			
4-Methylphenol	9E20089		3300	330	9.4	ug/kg wet	2930	88	50-119			
4-Nitroaniline	9E20089		3300	330	19	ug/kg wet	3220	97	63-128			
4-Nitrophenol	9E20089		3300	330	41	ug/kg wet	4020	121	43-137			
Acenaphthene	9E20089		3300	170	2.0	ug/kg wet	3350	101	53-120			
Acenaphthylene	9E20089		3300	170	1.4	ug/kg wet	3450	104	58-121			
Acetophenone	9E20089		3300	170	8.6	ug/kg wet	2700	81	66-120			
Anthracene	9E20089		3300	170	4.3	ug/kg wet	3480	105	62-129			
Atrazine TIC	9E20089		3300	170	7.5	ug/kg wet	3180	96	73-133			
Benzaldehyde	9E20089		3300	170	18	ug/kg wet	2740	82	21-120			
Benzidine	9E20089		3300	5000	2100	ug/kg wet	ND		20-120			
Benzo[a]anthracene	9E20089		3300	170	2.9	ug/kg wet	3760	113	65-133			B
Benzo[a]pyrene	9E20089		3300	170	4.1	ug/kg wet	3910	118	64-127			
Benzo[b]fluoranthene	9E20089		3300	170	3.3	ug/kg wet	3780	114	64-135			B
Benzo[g,h,i]perylene	9E20089		3300	170	2.0	ug/kg wet	3370	101	50-152			
Benzo[k]fluoranthene	9E20089		3300	170	1.9	ug/kg wet	3830	115	58-138			
Biphenyl	9E20089		3300	170	10	ug/kg wet	2810	85	71-120			
Bis(2-chloroethoxy)methane	9E20089		3300	170	9.1	ug/kg wet	2200	66	61-133			
Bis(2-chloroethyl)ether	9E20089		3300	170	15	ug/kg wet	2440	74	45-120			
Bis(2-chloroisopropyl) ether	9E20089		3300	170	18	ug/kg wet	2550	77	44-120			
Bis(2-ethylhexyl) phthalate	9E20089		3300	170	54	ug/kg wet	3480	105	61-133			
Butyl benzyl phthalate	9E20089		3300	170	45	ug/kg wet	3390	102	61-129			
Caprolactam	9E20089		3300	170	73	ug/kg wet	3150	95	54-133			
Carbazole	9E20089		3300	170	1.9	ug/kg wet	3410	103	59-129			
Chrysene	9E20089		3300	170	1.7	ug/kg wet	3630	109	64-131			B
Dibenz[a,h]anthracene	9E20089		3300	170	2.0	ug/kg wet	3590	108	54-148			
Dibenzofuran	9E20089		3300	170	1.7	ug/kg wet	3490	105	56-120			
Diethyl phthalate	9E20089		3300	170	5.1	ug/kg wet	3560	107	66-126			
Dimethyl phthalate	9E20089		3300	170	4.4	ug/kg wet	3430	103	65-124			
Di-n-butyl phthalate	9E20089		3300	170	58	ug/kg wet	3590	108	58-130			
Di-n-octyl phthalate	9E20089		3300	170	3.9	ug/kg wet	3540	107	62-133			
Fluoranthene	9E20089		3300	170	2.4	ug/kg wet	3760	113	62-131			B
Fluorene	9E20089		3300	170	3.9	ug/kg wet	3600	109	63-126			
Hexachlorobenzene	9E20089		3300	170	8.3	ug/kg wet	3290	99	60-132			
Hexachlorobutadiene	9E20089		3300	170	8.6	ug/kg wet	3110	94	45-120			
Hexachlorocyclopentadiene	9E20089		3300	170	51	ug/kg wet	3330	100	31-120			
Hexachloroethane	9E20089		3300	170	13	ug/kg wet	2760	83	41-120			
Indeno[1,2,3-cd]pyrene	9E20089		3300	170	4.6	ug/kg wet	3620	109	56-149			
Isophorone	9E20089		3300	170	8.4	ug/kg wet	2830	85	56-120			
Naphthalene	9E20089		3300	170	2.8	ug/kg wet	3050	92	46-120			
Nitrobenzene	9E20089		3300	170	7.5	ug/kg wet	3130	94	49-120			
N-Nitrosodi-n-propylamine	9E20089		3300	170	13	ug/kg wet	2870	86	46-120			
N-Nitrosodiphenylamine	9E20089		3300	170	9.2	ug/kg wet	4110	124	20-119			L1

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Analyzed: 05/26/09 (9E20089-BS1)												
Pentachlorophenol	9E20089		3300	330	58	ug/kg wet	3030	91	33-136			
Phenanthrene	9E20089		3300	170	3.5	ug/kg wet	3550	107	60-130			B
Phenol	9E20089		3300	170	18	ug/kg wet	2710	82	36-120			
Pyrene	9E20089		3300	170	1.1	ug/kg wet	3530	106	51-133			
Surrogate: 2,4,6-Tribromophenol						ug/kg wet		*97*	*39-146*			
Surrogate: 2-Fluorobiphenyl						ug/kg wet		*95*	*37-120*			
Surrogate: 2-Fluorophenol						ug/kg wet		*74*	*18-120*			
Surrogate: Nitrobenzene-d5						ug/kg wet		*96*	*34-132*			
Surrogate: Phenol-d5						ug/kg wet		*81*	*11-120*			
Surrogate: p-Terphenyl-d14						ug/kg wet		*87*	*58-147*			
LCS Dup Analyzed: 05/26/09 (9E20089-BSD1)												
2,4,5-Trichlorophenol	9E20089		3300	170	36	ug/kg wet	3570	109	59-126	5	18	
2,4,6-Trichlorophenol	9E20089		3300	170	11	ug/kg wet	3480	107	59-123	3	19	
2,4-Dichlorophenol	9E20089		3300	170	8.7	ug/kg wet	3140	96	52-120	4	19	
2,4-Dimethylphenol	9E20089		3300	170	45	ug/kg wet	3330	102	36-120	4	42	
2,4-Dinitrophenol	9E20089		3300	320	58	ug/kg wet	3100	95	35-146	9	22	
2,4-Dinitrotoluene	9E20089		3300	170	26	ug/kg wet	3850	118	55-125	4	20	
2,6-Dinitrotoluene	9E20089		3300	170	40	ug/kg wet	3460	106	66-128	4	15	
2-Chloronaphthalene	9E20089		3300	170	11	ug/kg wet	3290	101	57-120	4	21	
2-Chlorophenol	9E20089		3300	170	8.4	ug/kg wet	2710	83	38-120	6	25	
2-Methylnaphthalene	9E20089		3300	170	2.0	ug/kg wet	3290	101	47-120	3	21	
2-Methylphenol	9E20089		3300	170	5.1	ug/kg wet	3010	92	48-120	2	27	
2-Nitroaniline	9E20089		3300	320	53	ug/kg wet	3830	117	61-130	5	15	
2-Nitrophenol	9E20089		3300	170	7.6	ug/kg wet	3100	95	50-120	7	18	
3,3'-Dichlorobenzidine	9E20089		3300	170	150	ug/kg wet	2790	86	48-126	23	25	
3-Nitroaniline	9E20089		3300	320	38	ug/kg wet	3240	99	61-127	22	19	R2
4,6-Dinitro-2-methylphenol	9E20089		3300	320	57	ug/kg wet	3830	117	49-155	1	15	
4-Bromophenyl phenyl ether	9E20089		3300	170	53	ug/kg wet	3540	109	58-131	2	15	
4-Chloro-3-methylphenol	9E20089		3300	170	6.8	ug/kg wet	3410	104	49-125	0	27	
4-Chloroaniline	9E20089		3300	170	49	ug/kg wet	3050	94	49-120	22	22	R2
4-Chlorophenyl phenyl ether	9E20089		3300	170	3.5	ug/kg wet	3380	103	63-124	3	16	
4-Methylphenol	9E20089		3300	320	9.2	ug/kg wet	2870	88	50-119	2	24	
4-Nitroaniline	9E20089		3300	320	18	ug/kg wet	3250	100	63-128	1	24	
4-Nitrophenol	9E20089		3300	320	40	ug/kg wet	3910	120	43-137	3	25	
Acenaphthene	9E20089		3300	170	1.9	ug/kg wet	3440	105	53-120	3	35	
Acenaphthylene	9E20089		3300	170	1.4	ug/kg wet	3530	108	58-121	2	18	
Acetophenone	9E20089		3300	170	8.5	ug/kg wet	2770	85	66-120	3	20	
Anthracene	9E20089		3300	170	4.2	ug/kg wet	3590	110	62-129	3	15	
Atrazine TIC	9E20089		3300	170	7.4	ug/kg wet	3730	114	73-133	16	20	
Benzaldehyde	9E20089		3300	170	18	ug/kg wet	3000	92	21-120	9	20	
Benzidine	9E20089		3300	4900	2100	ug/kg wet	2370	72	20-120		15	J
Benzo[a]anthracene	9E20089		3300	170	2.9	ug/kg wet	3910	120	65-133	4	15	B
Benzo[a]pyrene	9E20089		3300	170	4.0	ug/kg wet	4240	130	64-127	8	15	L1
Benzo[b]fluoranthene	9E20089		3300	170	3.2	ug/kg wet	4050	124	64-135	7	15	B
Benzo[g,h,i]perylene	9E20089		3300	170	2.0	ug/kg wet	3740	114	50-152	10	15	

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Semivolatile Organics by GC/MS												
LCS Dup Analyzed: 05/26/09 (9E20089-BSD1)												
Benzo[k]fluoranthene	9E20089		3300	170	1.8	ug/kg wet	4030	123	58-138	5	22	
Biphenyl	9E20089		3300	170	10	ug/kg wet	2960	91	71-120	5	20	
Bis(2-chloroethoxy)methane	9E20089		3300	170	9.0	ug/kg wet	2290	70	61-133	4	17	
Bis(2-chloroethyl)ether	9E20089		3300	170	14	ug/kg wet	2550	78	45-120	4	21	
Bis(2-chloroisopropyl) ether	9E20089		3300	170	17	ug/kg wet	2610	80	44-120	2	24	
Bis(2-ethylhexyl) phthalate	9E20089		3300	170	53	ug/kg wet	3620	111	61-133	4	15	
Butyl benzyl phthalate	9E20089		3300	170	44	ug/kg wet	3510	107	61-129	4	16	
Caprolactam	9E20089		3300	170	72	ug/kg wet	3140	96	54-133	0	20	
Carbazole	9E20089		3300	170	1.9	ug/kg wet	3480	107	59-129	2	20	
Chrysene	9E20089		3300	170	1.7	ug/kg wet	3850	118	64-131	6	15	B
Dibenz[a,h]anthracene	9E20089		3300	170	1.9	ug/kg wet	3870	119	54-148	7	15	
Dibenzofuran	9E20089		3300	170	1.7	ug/kg wet	3520	108	56-120	1	15	
Diethyl phthalate	9E20089		3300	170	5.0	ug/kg wet	3650	112	66-126	3	15	
Dimethyl phthalate	9E20089		3300	170	4.3	ug/kg wet	3600	110	65-124	5	15	
Di-n-butyl phthalate	9E20089		3300	170	57	ug/kg wet	3650	112	58-130	2	15	
Di-n-octyl phthalate	9E20089		3300	170	3.9	ug/kg wet	3720	114	62-133	5	16	
Fluoranthene	9E20089		3300	170	2.4	ug/kg wet	3750	115	62-131	0	15	B
Fluorene	9E20089		3300	170	3.8	ug/kg wet	3700	113	63-126	3	15	
Hexachlorobenzene	9E20089		3300	170	8.2	ug/kg wet	3510	108	60-132	7	15	
Hexachlorobutadiene	9E20089		3300	170	8.5	ug/kg wet	3330	102	45-120	7	44	
Hexachlorocyclopentadiene	9E20089		3300	170	50	ug/kg wet	3560	109	31-120	7	49	
Hexachloroethane	9E20089		3300	170	13	ug/kg wet	2840	87	41-120	3	46	
Indeno[1,2,3-cd]pyrene	9E20089		3300	170	4.6	ug/kg wet	3970	122	56-149	9	15	
Isophorone	9E20089		3300	170	8.3	ug/kg wet	2960	91	56-120	5	17	
Naphthalene	9E20089		3300	170	2.8	ug/kg wet	3140	96	46-120	3	29	
Nitrobenzene	9E20089		3300	170	7.3	ug/kg wet	3280	100	49-120	5	24	
N-Nitrosodi-n-propylamine	9E20089		3300	170	13	ug/kg wet	2840	87	46-120	1	31	
N-Nitrosodiphenylamine	9E20089		3300	170	9.0	ug/kg wet	4360	134	20-119	6	15	L1
Pentachlorophenol	9E20089		3300	320	57	ug/kg wet	2980	91	33-136	2	35	
Phenanthrene	9E20089		3300	170	3.5	ug/kg wet	3730	114	60-130	5	15	B
Phenol	9E20089		3300	170	17	ug/kg wet	2670	82	36-120	1	35	
Pyrene	9E20089		3300	170	1.1	ug/kg wet	3680	113	51-133	4	35	
Surrogate: 2,4,6-Tribromophenol						ug/kg wet		*105*	*39-146*			
Surrogate: 2-Fluorobiphenyl						ug/kg wet		*102*	*37-120*			
Surrogate: 2-Fluorophenol						ug/kg wet		*82*	*18-120*			
Surrogate: Nitrobenzene-d5						ug/kg wet		*103*	*34-132*			
Surrogate: Phenol-d5						ug/kg wet		*84*	*11-120*			
Surrogate: p-Terphenyl-d14						ug/kg wet		*94*	*58-147*			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Total Metals by SW 846 Series Methods												
Blank Analyzed: 05/19/09 (9E15068-BLK1)												
Aluminum	9E15068			10.0	NR	mg/kg wet	ND					B
Antimony	9E15068			15.0	NR	mg/kg wet	ND					
Arsenic	9E15068			2.0	NR	mg/kg wet	ND					
Barium	9E15068			0.500	NR	mg/kg wet	ND					
Beryllium	9E15068			5.00	NR	mg/kg wet	ND					B
Cadmium	9E15068			0.200	NR	mg/kg wet	ND					
Calcium	9E15068			50.0	NR	mg/kg wet	ND					
Chromium	9E15068			0.500	NR	mg/kg wet	ND					
Cobalt	9E15068			5.00	NR	mg/kg wet	ND					
Copper	9E15068			5.0	NR	mg/kg wet	ND					B
Iron	9E15068			10.0	NR	mg/kg wet	ND					B
Lead	9E15068			1.0	NR	mg/kg wet	ND					
Magnesium	9E15068			20.0	NR	mg/kg wet	ND					
Manganese	9E15068			5.0	NR	mg/kg wet	ND					B
Nickel	9E15068			5.00	NR	mg/kg wet	ND					
Potassium	9E15068			30.0	NR	mg/kg wet	ND					B
Selenium	9E15068			5.0	NR	mg/kg wet	ND					
Silver	9E15068			5.00	NR	mg/kg wet	ND					
Sodium	9E15068			140	NR	mg/kg wet	ND					B
Thallium	9E15068			6.0	NR	mg/kg wet	ND					
Vanadium	9E15068			5.00	NR	mg/kg wet	ND					B
Zinc	9E15068			5.0	NR	mg/kg wet	ND					
Matrix Spike Analyzed: 05/19/09 (9E15068-MS1)												
QC Source Sample: RSE0535-02												
Aluminum	9E15068	5070	2220	11.1	NR	mg/kg dry	6400	60	75-125			M1
Antimony	9E15068	4.62	44.3	16.6	NR	mg/kg dry	34.3	67	75-125			M1
Arsenic	9E15068	75.0	44.3	2.2	NR	mg/kg dry	96.8	49	75-125			M1
Barium	9E15068	158	44.3	0.554	NR	mg/kg dry	117	-94	75-125			M1
Beryllium	9E15068	0.527	44.3	5.00	NR	mg/kg dry	40.3	90	75-125			
Cadmium	9E15068	3.05	44.3	0.222	NR	mg/kg dry	40.3	84	75-125			
Calcium	9E15068	23300	2220	55.4	NR	mg/kg dry	32600	420	75-125			MHA
Chromium	9E15068	140	44.3	0.554	NR	mg/kg dry	242	230	75-125			M1
Cobalt	9E15068	8.91	44.3	5.00	NR	mg/kg dry	48.3	89	75-125			
Copper	9E15068	317	44.3	5.0	NR	mg/kg dry	262	-125	75-125			MHA
Iron	9E15068	99800	2220	111	NR	mg/kg dry	127000	1210	75-125			D08,MHA
Lead	9E15068	321	44.3	1.1	NR	mg/kg dry	179	-321	75-125			MHA
Magnesium	9E15068	3750	2220	22.2	NR	mg/kg dry	8250	203	75-125			M1
Manganese	9E15068	4170	44.3	5.0	NR	mg/kg dry	8500	9770	75-125			D08,MHA
Nickel	9E15068	101	44.3	5.00	NR	mg/kg dry	67.8	-74	75-125			M1
Potassium	9E15068	657	2220	33.2	NR	mg/kg dry	2930	102	75-125			
Selenium	9E15068	0.946	44.3	5.0	NR	mg/kg dry	31.1	68	75-125			M1
Silver	9E15068	0.340	11.1	5.00	NR	mg/kg dry	9.79	85	75-125			
Sodium	9E15068	189	2220	155	NR	mg/kg dry	2190	90	75-125			
Thallium	9E15068	ND	44.3	6.6	NR	mg/kg dry	37.6	85	75-125			
Vanadium	9E15068	45.8	44.3	5.00	NR	mg/kg dry	118	163	75-125			M1

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Total Metals by SW 846 Series Methods

Matrix Spike Analyzed: 05/19/09 (9E15068-MS1)												
QC Source Sample: RSE0535-02												
Zinc	9E15068	458	44.3	5.0	NR	mg/kg dry	259	-450	75-125			MHA
Matrix Spike Analyzed: 05/19/09 (9E15068-MS2)												
QC Source Sample: RSE0535-08												
Aluminum	9E15068	9400	2270	11.4	NR	mg/kg dry	18700	408	75-125			MHA
Antimony	9E15068	1.59	45.4	17.0	NR	mg/kg dry	23.2	48	75-125			M1
Arsenic	9E15068	13.8	45.4	2.3	NR	mg/kg dry	87.4	162	75-125			M1
Barium	9E15068	93.2	45.4	0.568	NR	mg/kg dry	190	214	75-125			M1
Beryllium	9E15068	1.85	45.4	5.00	NR	mg/kg dry	41.5	87	75-125			
Cadmium	9E15068	0.646	45.4	0.227	NR	mg/kg dry	37.3	81	75-125			
Calcium	9E15068	75600	2270	284	NR	mg/kg dry	129000	2350	75-125			D08,MHA
Chromium	9E15068	96.4	45.4	0.568	NR	mg/kg dry	138	91	75-125			
Cobalt	9E15068	6.10	45.4	5.00	NR	mg/kg dry	44.9	85	75-125			
Copper	9E15068	132	45.4	5.0	NR	mg/kg dry	149	37	75-125			M1
Iron	9E15068	103000	2270	56.8	NR	mg/kg dry	90700	-558	75-125			D08,MHA
Lead	9E15068	189	45.4	1.1	NR	mg/kg dry	265	169	75-125			MHA
Magnesium	9E15068	11200	2270	22.7	NR	mg/kg dry	20100	392	75-125			MHA
Manganese	9E15068	4290	45.4	5.0	NR	mg/kg dry	5430	2490	75-125			D08,MHA
Nickel	9E15068	46.0	45.4	5.00	NR	mg/kg dry	67.4	47	75-125			M1
Potassium	9E15068	711	2270	34.1	NR	mg/kg dry	3550	125	75-125			
Selenium	9E15068	ND	45.4	5.0	NR	mg/kg dry	29.0	64	75-125			M1
Silver	9E15068	0.167	11.4	5.00	NR	mg/kg dry	9.45	82	75-125			
Sodium	9E15068	377	2270	159	NR	mg/kg dry	2670	101	75-125			
Thallium	9E15068	ND	45.4	6.8	NR	mg/kg dry	34.6	76	75-125			
Vanadium	9E15068	52.3	45.4	5.00	NR	mg/kg dry	83.7	69	75-125			M1
Zinc	9E15068	335	45.4	5.0	NR	mg/kg dry	444	240	75-125			MHA
Matrix Spike Dup Analyzed: 05/19/09 (9E15068-MSD1)												
QC Source Sample: RSE0535-02												
Aluminum	9E15068	5070	1980	9.9	NR	mg/kg dry	5540	24	75-125	14	20	M1
Antimony	9E15068	4.62	39.7	14.9	NR	mg/kg dry	32.6	71	75-125	5	20	M1
Arsenic	9E15068	75.0	39.7	2.0	NR	mg/kg dry	97.1	56	75-125	0	20	M1
Barium	9E15068	158	39.7	0.496	NR	mg/kg dry	153	-14	75-125	27	20	M1,R2
Beryllium	9E15068	0.527	39.7	5.00	NR	mg/kg dry	36.9	92	75-125	9	20	
Cadmium	9E15068	3.05	39.7	0.198	NR	mg/kg dry	49.4	117	75-125	20	20	
Calcium	9E15068	23300	1980	49.6	NR	mg/kg dry	22000	-65	75-125	39	20	MHA,R2
Chromium	9E15068	140	39.7	0.496	NR	mg/kg dry	141	3	75-125	53	20	M1,R2
Cobalt	9E15068	8.91	39.7	5.00	NR	mg/kg dry	44.1	89	75-125	9	20	
Copper	9E15068	317	39.7	5.0	NR	mg/kg dry	212	-264	75-125	21	20	MHA,R2
Iron	9E15068	99800	1980	99.2	NR	mg/kg dry	87200	-634	75-125	37	20	D08,MHA,R2
Lead	9E15068	321	39.7	1.0	NR	mg/kg dry	270	-127	75-125	41	20	MHA,R2
Magnesium	9E15068	3750	1980	19.8	NR	mg/kg dry	5910	109	75-125	33	20	R2
Manganese	9E15068	4170	39.7	5.0	NR	mg/kg dry	3890	-717	75-125	74	20	D08,MHA,R2
Nickel	9E15068	101	39.7	5.00	NR	mg/kg dry	77.8	-58	75-125	14	20	M1
Potassium	9E15068	657	1980	29.8	NR	mg/kg dry	2300	83	75-125	24	20	R2
Selenium	9E15068	0.946	39.7	5.0	NR	mg/kg dry	29.6	72	75-125	5	20	M1
Silver	9E15068	0.340	9.92	5.00	NR	mg/kg dry	8.89	86	75-125	10	20	
Sodium	9E15068	189	1980	139	NR	mg/kg dry	2170	100	75-125	1	20	
Thallium	9E15068	ND	39.7	6.0	NR	mg/kg dry	34.8	88	75-125	8	20	
Vanadium	9E15068	45.8	39.7	5.00	NR	mg/kg dry	93.2	119	75-125	23	20	R2

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Total Metals by SW 846 Series Methods

Matrix Spike Dup Analyzed: 05/19/09 (9E15068-MSD1)

QC Source Sample: RSE0535-02

Zinc	9E15068	458	39.7	19.8	NR	mg/kg dry	4360	9840	75-125	178	20	D08,MHA,R2

Matrix Spike Dup Analyzed: 05/19/09 (9E15068-MSD2)

QC Source Sample: RSE0535-08

Aluminum	9E15068	9400	2310	11.6	NR	mg/kg dry	16200	293	75-125	14	20	MHA
Antimony	9E15068	1.59	46.2	17.3	NR	mg/kg dry	25.6	52	75-125	10	20	M1
Arsenic	9E15068	13.8	46.2	2.3	NR	mg/kg dry	85.6	155	75-125	2	20	M1
Barium	9E15068	93.2	46.2	0.578	NR	mg/kg dry	174	175	75-125	9	20	M1
Beryllium	9E15068	1.85	46.2	5.00	NR	mg/kg dry	42.2	87	75-125	2	20	
Cadmium	9E15068	0.646	46.2	0.231	NR	mg/kg dry	39.0	83	75-125	4	20	
Calcium	9E15068	75600	2310	289	NR	mg/kg dry	104000	1220	75-125	22	20	D08,MHA,R2
Chromium	9E15068	96.4	46.2	0.578	NR	mg/kg dry	127	67	75-125	8	20	M1
Cobalt	9E15068	6.10	46.2	5.00	NR	mg/kg dry	45.9	86	75-125	2	20	
Copper	9E15068	132	46.2	5.0	NR	mg/kg dry	129	-8	75-125	15	20	M1
Iron	9E15068	103000	2310	57.8	NR	mg/kg dry	72900	-1320	75-125	22	20	D08,MHA,R2
Lead	9E15068	189	46.2	1.2	NR	mg/kg dry	202	28	75-125	27	20	MHA,R2
Magnesium	9E15068	11200	2310	23.1	NR	mg/kg dry	15300	180	75-125	27	20	MHA,R2
Manganese	9E15068	4290	46.2	5.0	NR	mg/kg dry	5340	2270	75-125	2	20	D08,MHA
Nickel	9E15068	46.0	46.2	5.00	NR	mg/kg dry	87.0	89	75-125	25	20	R2
Potassium	9E15068	711	2310	34.7	NR	mg/kg dry	3090	103	75-125	14	20	
Selenium	9E15068	ND	46.2	5.0	NR	mg/kg dry	33.5	72	75-125	14	20	M1
Silver	9E15068	0.167	11.6	5.00	NR	mg/kg dry	9.79	83	75-125	4	20	
Sodium	9E15068	377	2310	162	NR	mg/kg dry	2600	96	75-125	3	20	
Thallium	9E15068	ND	46.2	6.9	NR	mg/kg dry	37.4	81	75-125	8	20	
Vanadium	9E15068	52.3	46.2	5.00	NR	mg/kg dry	82.9	66	75-125	1	20	M1
Zinc	9E15068	335	46.2	5.0	NR	mg/kg dry	385	107	75-125	14	20	

Reference Analyzed: 05/19/09 (9E15068-SRM1)

Aluminum	9E15068	10100	10.0	NR	mg/kg wet	8070	80	52.1-147.5
Antimony	9E15068	138	15.0	NR	mg/kg wet	80.7	58	0-233.3
Arsenic	9E15068	123	2.0	NR	mg/kg wet	111	90	82.9-117.1
Barium	9E15068	256	0.500	NR	mg/kg wet	233	91	80.5-119.5
Beryllium	9E15068	75.9	5.00	NR	mg/kg wet	69.9	92	82.7-117.4
Cadmium	9E15068	258	0.200	NR	mg/kg wet	230	89	83.7-116.7
Calcium	9E15068	9830	50.0	NR	mg/kg wet	9140	93	81.2-119
Chromium	9E15068	138	0.500	NR	mg/kg wet	131	95	81.9-118.1
Cobalt	9E15068	216	5.00	NR	mg/kg wet	195	90	83.8-116.7
Copper	9E15068	122	5.0	NR	mg/kg wet	110	90	83.6-115.6
Iron	9E15068	17600	10.0	NR	mg/kg wet	14100	80	50.5-149.4
Lead	9E15068	136	1.0	NR	mg/kg wet	156	115	80.9-119.9
Magnesium	9E15068	4210	20.0	NR	mg/kg wet	3920	93	77.2-122.8
Manganese	9E15068	570	10.0	NR	mg/kg wet	519	91	82.5-117.5
Nickel	9E15068	111	10.0	NR	mg/kg wet	102	92	83.8-117.1
Potassium	9E15068	4480	30.0	NR	mg/kg wet	4170	93	72.1-127.7
Selenium	9E15068	199	10.0	NR	mg/kg wet	183	92	79.9-119.6
Silver	9E15068	62.4	10.0	NR	mg/kg wet	61.2	98	66.2-133.7
Sodium	9E15068	869	140	NR	mg/kg wet	841	97	70.2-130
Thallium	9E15068	297	10.0	NR	mg/kg wet	281	94	81.1-118.9
Vanadium	9E15068	158	10.0	NR	mg/kg wet	141	89	79.7-120.3
Zinc	9E15068	314	10.0	NR	mg/kg wet	284	91	82.2-118.2

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

Total Metals by SW 846 Series Methods

Blank Analyzed: 05/22/09 (9E22034-BLK1)												
Mercury	9E22034			0.0204	NR	mg/kg wet	ND					
Matrix Spike Analyzed: 05/22/09 (9E22034-MS1)												
QC Source Sample: RSE0535-02												
Mercury	9E22034	0.399	0.362	0.0217	NR	mg/kg dry	0.743	95	75-125			
Matrix Spike Analyzed: 05/22/09 (9E22034-MS2)												
QC Source Sample: RSE0535-08												
Mercury	9E22034	0.155	0.384	0.0230	NR	mg/kg dry	0.542	101	75-125			
Matrix Spike Dup Analyzed: 05/22/09 (9E22034-MSD1)												
QC Source Sample: RSE0535-02												
Mercury	9E22034	0.399	0.360	0.0216	NR	mg/kg dry	0.851	126	75-125	14	20	M1
Matrix Spike Dup Analyzed: 05/22/09 (9E22034-MSD2)												
QC Source Sample: RSE0535-08												
Mercury	9E22034	0.155	0.377	0.0226	NR	mg/kg dry	0.528	99	75-125	3	20	
Reference Analyzed: 05/22/09 (9E22034-SRM1)												
Mercury	9E22034		1.77	0.106	NR	mg/kg wet	1.77	100	68.4-132.2			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
Blank Analyzed: 05/19/09 (9E19088-BLK1)												
1,1,1,2-Tetrachloroethane	9E19088			5.0	0.31	ug/kg wet	ND					
1,1,1-Trichloroethane	9E19088			5.0	0.36	ug/kg wet	ND					
1,1,2,2-Tetrachloroethane	9E19088			5.0	0.81	ug/kg wet	ND					
1,1,2-Trichloroethane	9E19088			5.0	0.25	ug/kg wet	ND					
1,1,2-Trichlorotrifluoroethane	9E19088			5.0	0.53	ug/kg wet	ND					
1,1-Dichloroethane	9E19088			5.0	0.25	ug/kg wet	ND					
1,1-Dichloroethene	9E19088			5.0	0.61	ug/kg wet	ND					
1,1-Dichloropropene	9E19088			5.0	0.29	ug/kg wet	ND					
1,1-Dimethoxyethane	9E19088			25	2.0	ug/kg wet	ND					
1,2,3-Trichlorobenzene	9E19088			5.0	0.53	ug/kg wet	ND					
1,2,3-Trichloropropane	9E19088			5.0	0.51	ug/kg wet	ND					
1,2,3-Trimethylbenzene	9E19088			5.0	0.27	ug/kg wet	ND					
1,2,4-Trichlorobenzene	9E19088			5.0	0.30	ug/kg wet	ND					
1,2,4-Trimethylbenzene	9E19088			5.0	0.36	ug/kg wet	ND					
1,2-Dibromo-3-chloropropane	9E19088			5.0	1.0	ug/kg wet	ND					
1,2-Dibromoethane (EDB)	9E19088			5.0	0.19	ug/kg wet	ND					
1,2-Dichlorobenzene	9E19088			5.0	0.75	ug/kg wet	ND					
1,2-Dichloroethane	9E19088			5.0	0.25	ug/kg wet	ND					
1,2-Dichloroethene, Total	9E19088			10	2.6	ug/kg wet	ND					
1,2-Dichloropropane	9E19088			5.0	0.26	ug/kg wet	ND					
1,3,5-Trimethylbenzene	9E19088			5.0	0.32	ug/kg wet	ND					
1,3-Dichlorobenzene	9E19088			5.0	0.71	ug/kg wet	ND					
1,3-Dichloropropane	9E19088			5.0	0.30	ug/kg wet	ND					
1,4-Dichlorobenzene	9E19088			5.0	0.70	ug/kg wet	ND					
1,4-Dioxane	9E19088			200	53	ug/kg wet	ND					
2,2-Dichloropropane	9E19088			5.0	0.34	ug/kg wet	ND					
2-Butanone (MEK)	9E19088			25	6.8	ug/kg wet	ND					
2-Chloroethyl vinyl ether	9E19088			25	1.6	ug/kg wet	ND					
2-Chlorotoluene	9E19088			5.0	0.78	ug/kg wet	ND					
2-Hexanone	9E19088			25	1.7	ug/kg wet	ND					
3-Chlorotoluene	9E19088			5.0	0.29	ug/kg wet	ND					
4-Chlorotoluene	9E19088			5.0	0.75	ug/kg wet	ND					
4-Isopropyltoluene	9E19088			5.0	0.40	ug/kg wet	ND					
4-Methyl-2-pentanone (MIBK)	9E19088			25	1.6	ug/kg wet	ND					
Acetone	9E19088			25	1.1	ug/kg wet	ND					
Acetonitrile	9E19088			200	12	ug/kg wet	ND					
Acrolein	9E19088			100	5.9	ug/kg wet	ND					
Acrylonitrile	9E19088			100	2.1	ug/kg wet	ND					
Allyl chloride	9E19088			5.0	0.42	ug/kg wet	ND					
Benzene	9E19088			5.0	0.24	ug/kg wet	ND					
Bromobenzene	9E19088			5.0	0.78	ug/kg wet	ND					
Bromochloromethane	9E19088			5.0	0.36	ug/kg wet	ND					
Bromodichloromethane	9E19088			5.0	0.26	ug/kg wet	ND					
Bromoform	9E19088			5.0	0.46	ug/kg wet	ND					
Bromomethane	9E19088			5.0	0.46	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
Blank Analyzed: 05/19/09 (9E19088-BLK1)												
Carbon disulfide	9E19088			5.0	0.43	ug/kg wet	ND					
Carbon Tetrachloride	9E19088			5.0	0.18	ug/kg wet	ND					
Chlorobenzene	9E19088			5.0	0.22	ug/kg wet	ND					
Chlorodibromomethane	9E19088			5.0	0.28	ug/kg wet	ND					
Chloroethane	9E19088			5.0	0.81	ug/kg wet	ND					
Chloroform	9E19088			5.0	0.31	ug/kg wet	ND					
Chloromethane	9E19088			5.0	0.30	ug/kg wet	ND					
Chloroprene	9E19088			5.0	0.33	ug/kg wet	ND					
cis-1,2-Dichloroethene	9E19088			5.0	0.25	ug/kg wet	ND					
cis-1,3-Dichloropropene	9E19088			5.0	0.29	ug/kg wet	ND					
Cyclohexane	9E19088			5.0	0.23	ug/kg wet	ND					
Cyclohexanone	9E19088			50	3.8	ug/kg wet	ND					
Dibromomethane	9E19088			5.0	0.52	ug/kg wet	ND					
Dichlorodifluoromethane	9E19088			5.0	0.41	ug/kg wet	ND					
Dicyclopentadiene	9E19088			5.0	0.26	ug/kg wet	ND					
Diethyl ether	9E19088			25	0.55	ug/kg wet	ND					
Epichlorohydrin	9E19088			100	1.8	ug/kg wet	ND					
Ethyl Acetate	9E19088			5.0	1.9	ug/kg wet	ND					
Ethyl Methacrylate	9E19088			5.0	0.27	ug/kg wet	ND					
Ethyl tert-Butyl Ether	9E19088			5.0	0.20	ug/kg wet	ND					
Ethylbenzene	9E19088			5.0	0.35	ug/kg wet	ND					
Heptane	9E19088			100	0.60	ug/kg wet	ND					
Hexachlorobutadiene	9E19088			5.0	0.59	ug/kg wet	ND					
Hexane	9E19088			50	0.50	ug/kg wet	ND					
Iodomethane	9E19088			5.0	0.24	ug/kg wet	ND					
Isobutanol	9E19088			200	8.8	ug/kg wet	ND					
Isopropyl ether	9E19088			5.0	0.28	ug/kg wet	ND					
Isopropylbenzene	9E19088			5.0	0.33	ug/kg wet	ND					
Methacrylonitrile	9E19088			25	0.30	ug/kg wet	ND					
Methyl Acetate	9E19088			5.0	0.27	ug/kg wet	ND					
Methyl Methacrylate	9E19088			5.0	0.54	ug/kg wet	ND					
Methyl tert-Butyl Ether	9E19088			5.0	0.49	ug/kg wet	ND					
Methylcyclohexane	9E19088			5.0	0.32	ug/kg wet	ND					
Methylene Chloride	9E19088			5.0	0.35	ug/kg wet	ND					
m-Xylene & p-Xylene	9E19088			10	0.84	ug/kg wet	ND					
Naphthalene	9E19088			5.0	0.68	ug/kg wet	ND					
n-Butanol	9E19088			200	12	ug/kg wet	ND					
n-Butylbenzene	9E19088			5.0	0.43	ug/kg wet	ND					
n-Propylbenzene	9E19088			5.0	0.38	ug/kg wet	ND					
o-Xylene	9E19088			5.0	0.25	ug/kg wet	ND					
Propionitrile	9E19088			50	2.6	ug/kg wet	ND					
Propylene Oxide	9E19088			25	1.7	ug/kg wet	ND					
sec-Butylbenzene	9E19088			5.0	0.43	ug/kg wet	ND					
Styrene	9E19088			5.0	0.25	ug/kg wet	ND					
t-Butanol	9E19088			100	13	ug/kg wet	ND					

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
Blank Analyzed: 05/19/09 (9E19088-BLK1)												
Tert-Amyl Methyl Ether	9E19088			5.0	0.15	ug/kg wet	ND					
tert-Butylbenzene	9E19088			5.0	0.52	ug/kg wet	ND					
Tetrachloroethene	9E19088			5.0	0.67	ug/kg wet	ND					
Tetrahydrofuran	9E19088			25	1.5	ug/kg wet	ND					
Toluene	9E19088			5.0	0.85	ug/kg wet	1.1					B,J
trans-1,2-Dichloroethene	9E19088			5.0	0.52	ug/kg wet	ND					
trans-1,3-Dichloropropene	9E19088			5.0	0.24	ug/kg wet	ND					
trans-1,4-Dichloro-2-butene	9E19088			25	1.4	ug/kg wet	ND					
Trichloroethene	9E19088			5.0	0.35	ug/kg wet	ND					
Trichlorofluoromethane	9E19088			5.0	1.6	ug/kg wet	ND					
Vinyl acetate	9E19088			25	1.0	ug/kg wet	ND					
Vinyl chloride	9E19088			10	0.20	ug/kg wet	ND					
Xylenes, total	9E19088			10	0.84	ug/kg wet	ND					
2-Nitropropane	9E19088			25	2.7	ug/kg wet	ND					
Surrogate: 1,2-Dichloroethane-d4						ug/kg wet		*100*	*64-126*			
Surrogate: 4-Bromofluorobenzene						ug/kg wet		*117*	*72-126*			
Surrogate: Toluene-d8						ug/kg wet		*110*	*71-125*			
LCS Analyzed: 05/19/09 (9E19088-BS1)												
1,1,1,2-Tetrachloroethane	9E19088			5.0	0.31	ug/kg wet	ND		74-127			
1,1,1-Trichloroethane	9E19088			5.0	0.36	ug/kg wet	ND		77-121			
1,1,2,2-Tetrachloroethane	9E19088			5.0	0.81	ug/kg wet	ND		80-120			
1,1,2-Trichloroethane	9E19088			5.0	0.25	ug/kg wet	ND		78-122			
1,1,2-Trichlorotrifluoroethane	9E19088			5.0	0.53	ug/kg wet	ND		60-140			
1,1-Dichloroethane	9E19088			5.0	0.25	ug/kg wet	ND		79-126			
1,1-Dichloroethene	9E19088		50	N/A	NR	ug/kg wet	66.6	133	65-153			
1,1-Dichloropropene	9E19088			5.0	0.29	ug/kg wet	ND		72-128			
1,2,3-Trichlorobenzene	9E19088			5.0	0.53	ug/kg wet	ND		60-120			
1,2,3-Trichloropropane	9E19088			5.0	0.51	ug/kg wet	ND		73-128			
1,2,4-Trichlorobenzene	9E19088			5.0	0.30	ug/kg wet	ND		64-120			
1,2,4-Trimethylbenzene	9E19088			5.0	0.36	ug/kg wet	ND		74-120			
1,2-Dibromo-3-chloropropane	9E19088			5.0	1.0	ug/kg wet	ND		63-124			
1,2-Dibromoethane (EDB)	9E19088			5.0	0.19	ug/kg wet	ND		78-120			
1,2-Dichlorobenzene	9E19088			5.0	0.75	ug/kg wet	ND		75-120			
1,2-Dichloroethane	9E19088			5.0	0.25	ug/kg wet	ND		77-122			
1,2-Dichloroethene, Total	9E19088			10	2.6	ug/kg wet	ND		82-120			
1,2-Dichloropropane	9E19088			5.0	0.26	ug/kg wet	ND		75-124			
1,3,5-Trimethylbenzene	9E19088			5.0	0.32	ug/kg wet	ND		74-120			
1,3-Dichlorobenzene	9E19088			5.0	0.71	ug/kg wet	ND		74-120			
1,3-Dichloropropane	9E19088			5.0	0.30	ug/kg wet	ND		72-127			
1,4-Dichlorobenzene	9E19088			5.0	0.70	ug/kg wet	ND		73-120			
2-Butanone (MEK)	9E19088			25	6.8	ug/kg wet	ND		70-134			
2-Hexanone	9E19088			25	1.7	ug/kg wet	ND		59-130			
4-Isopropyltoluene	9E19088			5.0	0.40	ug/kg wet	ND		74-120			
4-Methyl-2-pentanone (MIBK)	9E19088			25	1.6	ug/kg wet	ND		65-133			
Acetone	9E19088			25	1.1	ug/kg wet	ND		61-137			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
LCS Analyzed: 05/19/09 (9E19088-BS1)												
Acrylonitrile	9E19088			100	2.1	ug/kg wet	ND		65-134			
Benzene	9E19088		50	N/A	NR	ug/kg wet	51.4	103	79-127			
Bromochloromethane	9E19088			5.0	0.36	ug/kg wet	ND		75-134			
Bromodichloromethane	9E19088			5.0	0.26	ug/kg wet	ND		80-122			
Bromoform	9E19088			5.0	0.46	ug/kg wet	ND		68-126			
Bromomethane	9E19088			5.0	0.46	ug/kg wet	ND		37-149			
Carbon disulfide	9E19088			5.0	0.43	ug/kg wet	ND		64-131			
Carbon Tetrachloride	9E19088			5.0	0.18	ug/kg wet	ND		75-135			
Chlorobenzene	9E19088		50	N/A	NR	ug/kg wet	47.4	95	76-124			
Chlorodibromomethane	9E19088			5.0	0.28	ug/kg wet	ND		76-125			
Chloroethane	9E19088			5.0	0.81	ug/kg wet	ND		69-135			
Chloroform	9E19088			5.0	0.31	ug/kg wet	ND		80-118			
Chloromethane	9E19088			5.0	0.30	ug/kg wet	ND		63-127			
cis-1,2-Dichloroethene	9E19088			5.0	0.25	ug/kg wet	ND		81-117			
cis-1,3-Dichloropropene	9E19088			5.0	0.29	ug/kg wet	ND		82-120			
Cyclohexane	9E19088			5.0	0.23	ug/kg wet	ND		70-130			
Dibromomethane	9E19088			5.0	0.52	ug/kg wet	ND		73-130			
Dichlorodifluoromethane	9E19088			5.0	0.41	ug/kg wet	ND		57-142			
Ethylbenzene	9E19088			5.0	0.35	ug/kg wet	ND		80-120			
Iodomethane	9E19088			5.0	0.24	ug/kg wet	ND		59-149			
Isopropylbenzene	9E19088			5.0	0.33	ug/kg wet	ND		72-120			
Methyl Acetate	9E19088			5.0	0.27	ug/kg wet	ND		60-140			
Methyl tert-Butyl Ether	9E19088			5.0	0.49	ug/kg wet	ND		63-125			
Methylcyclohexane	9E19088			5.0	0.32	ug/kg wet	ND		60-140			
Methylene Chloride	9E19088			5.0	0.35	ug/kg wet	ND		61-127			
m-Xylene & p-Xylene	9E19088			10	0.84	ug/kg wet	ND		70-130			
Naphthalene	9E19088			5.0	0.68	ug/kg wet	ND		38-137			
n-Butylbenzene	9E19088			5.0	0.43	ug/kg wet	ND		70-120			
n-Propylbenzene	9E19088			5.0	0.38	ug/kg wet	ND		70-130			
o-Xylene	9E19088			5.0	0.25	ug/kg wet	ND		70-130			
sec-Butylbenzene	9E19088			5.0	0.43	ug/kg wet	ND		74-120			
Styrene	9E19088			5.0	0.25	ug/kg wet	ND		80-120			
tert-Butylbenzene	9E19088			5.0	0.52	ug/kg wet	ND		73-120			
Tetrachloroethene	9E19088			5.0	0.67	ug/kg wet	ND		74-122			
Toluene	9E19088		50	N/A	NR	ug/kg wet	46.6	93	74-128			B
trans-1,2-Dichloroethene	9E19088			5.0	0.52	ug/kg wet	ND		78-126			
trans-1,3-Dichloropropene	9E19088			5.0	0.24	ug/kg wet	ND		73-123			
trans-1,4-Dichloro-2-butene	9E19088			25	1.4	ug/kg wet	ND		38-155			
Trichloroethene	9E19088		50	N/A	NR	ug/kg wet	50.0	100	77-129			
Trichlorofluoromethane	9E19088			5.0	1.6	ug/kg wet	ND		65-146			
Vinyl acetate	9E19088			25	1.0	ug/kg wet	ND		53-134			
Vinyl chloride	9E19088			10	0.20	ug/kg wet	ND		61-133			
Xylenes, total	9E19088			10	0.84	ug/kg wet	ND		80-120			
Surrogate: 1,2-Dichloroethane-d4						ug/kg wet		*97*	*64-126*			
Surrogate: 4-Bromofluorobenzene						ug/kg wet		*106*	*72-126*			

Turnkey/Benchmark
726 Exchange Street, Suite 624
Buffalo, NY 14210

Work Order: RSE0535

Project: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Project Number: TURN-0009

Received: 05/14/09
Reported: 06/01/09 16:58

LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds by EPA 8260B												
LCS Analyzed: 05/19/09 (9E19088-BS1)												
Surrogate: Toluene-d8						ug/kg wet		*101*	*71-125*			

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☐

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: Benchmark	Project Manager: Bryan Hann	Date: 5-14-09	Chain of Custody Number: 099306
Address: 726 Exchange St	Telephone Number (Area Code)/Fax Number: 716-225-3314	Lab Number	Page 1 of 1
City: Buffalo / State: NY / Zip Code: 14210	Site Contact: Brock	Lab Contact: Brian Fisher	Analysis (Attach list if more space is needed)
Project Name and Location (State): Tecumseh	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	TCL + STARS	TCL 8270	TAL Metals	Cyanide	PCBs	Special Instructions/ Conditions of Receipt
RR-TP-4	5-11-09	830				X	1						X	X	X	X	X	X						
RR-TP-2 (MS+MSD)	5-11-09	1045				X	3						X	X	X	X	X	X						
RR-TP-16	5-11-09	1515				X	1						X	X	X	X	X	X						
RR-TP-18	5-12-09	1015				X	1						X	X	X	X	X	X						
RR-TP-20	5-12-09	1045				X	1						X	X	X	X	X	X						
RR-TP-22 (MS+MSD)	5-12-09	1115				X	3						X	X	X	X	X	X						
RR-TP-46	5-13-09	1015				X	1						X	X	X	X	X	X						
BPA 2-TP-74	5-13-09	1100				X	4												X	X	X	X	X	
BPA 2-TP-92	5-13-09	1415				X	4						X	X	X	X	X	X	X	X			X	
RR-TP-42	5-13-09	1500				X	1						X	X	X	X	X	X						
Blind 2	5-12-09	800				X	1						X	X	X	X	X	X						
RR-TP-44	5-13-09	1200				X	1						X	X	X	X	X	X						

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

Catt B deliverables

	Date	Time		Date	Time
1. Relinquished By	5-14-09	1200	1. Received By	5-14-09	14:00
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

2.0°c

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

ANALYTICAL REPORT

Job#: A08-A460

Project#: NY3A9073
SDG#: A460
Site Name: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Task: Phase III Business Park

Mr. Tom Forbes
Turnkey/Benchmark
726 Exchange St., Suite 624
Buffalo, NY 14210

TestAmerica Laboratories Inc.



Brian J. Fischer
Project Manager

09/23/2008

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

TURNKEY ENVIRONMENTAL RESTORATION, LLC
TURNKEY - TECUMSEH REDEVELOPMENT SITE
METHOD 8260 - TCL VOLATILE ORGANICS+STARS
ANALYSIS DATA SHEET

Client No.

TP-54 (0-2)

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: A460

Matrix: (soil/water) SOIL Lab Sample ID: A8A46001

Sample wt/vol: 5.19 (g/mL) G Lab File ID: F4173.RR

Level: (low/med) LOW Date Samp/Recv: 08/26/2008 08/27/2008

% Moisture: not dec. 14 Heated Purge: Y Date Analyzed: 08/28/2008

GC Column: ZB-624 ID: 0.20 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
67-64-1	Acetone	8	BJ
71-43-2	Benzene	6	U
75-27-4	Bromodichloromethane	6	U
75-25-2	Bromoform	6	U
74-83-9	Bromomethane	6	U
78-93-3	2-Butanone	28	U
75-15-0	Carbon Disulfide	2	J
56-23-5	Carbon Tetrachloride	6	U
108-90-7	Chlorobenzene	6	U
75-00-3	Chloroethane	6	U
67-66-3	Chloroform	6	U
74-87-3	Chloromethane	6	U
110-82-7	Cyclohexane	6	U
106-93-4	1,2-Dibromoethane	6	U
124-48-1	Dibromochloromethane	6	U
96-12-8	1,2-Dibromo-3-chloropropane	6	U
95-50-1	1,2-Dichlorobenzene	6	U
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
75-71-8	Dichlorodifluoromethane	6	U
75-34-3	1,1-Dichloroethane	6	U
107-06-2	1,2-Dichloroethane	6	U
75-35-4	1,1-Dichloroethene	6	U
156-59-2	cis-1,2-Dichloroethene	6	U
156-60-5	trans-1,2-Dichloroethene	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
100-41-4	Ethylbenzene	6	U
591-78-6	2-Hexanone	28	U
98-82-8	Isopropylbenzene	6	U
79-20-9	Methyl acetate	6	U
108-87-2	Methylcyclohexane	6	U
75-09-2	Methylene chloride	15	B

TURNKEY ENVIRONMENTAL RESTORATION, LLC
TURNKEY - TECUMSEH REDEVELOPMENT SITE
METHOD 8260 - TCL VOLATILE ORGANICS+STARS
ANALYSIS DATA SHEET

Client No.

TP-54(0-2)

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: A460

Matrix: (soil/water) SOIL Lab Sample ID: A8A46001

Sample wt/vol: 5.19 (g/mL) G Lab File ID: F4173.RR

Level: (low/med) LOW Date Samp/Recv: 08/26/2008 08/27/2008

% Moisture: not dec. 14 Heated Purge: Y Date Analyzed: 08/28/2008

GC Column: ZB-624 ID: 0.20 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-10-1	4-Methyl-2-pentanone	28	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	6	U
100-42-5	Styrene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
127-18-4	Tetrachloroethene	6	U
108-88-3	Toluene	6	U
120-82-1	1,2,4-Trichlorobenzene	6	U
71-55-6	1,1,1-Trichloroethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6	U
75-69-4	Trichlorofluoromethane	6	U
79-01-6	Trichloroethene	6	U
75-01-4	Vinyl chloride	11	U
1330-20-7	Total Xylenes	17	U
95-47-6	o-Xylene	6	U
----------	m/p-Xylenes	11	U
103-65-1	n-Propylbenzene	6	U
99-87-6	p-Cymene	6	U
95-63-6	1,2,4-Trimethylbenzene	6	U
108-67-8	1,3,5-Trimethylbenzene	6	U
104-51-8	n-Butylbenzene	6	U
135-98-8	sec-Butylbenzene	6	U
98-06-6	tert-Butylbenzene	6	U

ANALYTICAL REPORT

Job#: A08-A304,A08-A305,A08-A399

Project#: NY3A9073
SDG#: A304
Site Name: TURNKEY - TECUMSEH REDEVELOPMENT SITE
Task: Phase III Business Park

Mr. Tom Forbes
Turnkey/Benchmark
726 Exchange St., Suite 624
Buffalo, NY 14210

TestAmerica Laboratories Inc.

Brian J. Fischer
Project Manager

09/23/2008

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

TURNKEY ENVIRONMENTAL RESTORATION, LLC
TURNKEY - TECUMSEH REDEVELOPMENT SITE
METHOD 8270 - TCL BASE NEUTRAL COMPOUNDS
ANALYSIS DATA SHEET

Client No.

TP-81 (0-2)

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: A304

Matrix: (soil/water) SOIL Lab Sample ID: A8A30404

Sample wt/vol: 30.21 (g/mL) G Lab File ID: W26097.RR

Level: (low/med) LOW Date Samp/Recv: 08/22/2008 08/22/2008

% Moisture: 12 decanted: (Y/N) N Date Extracted: 08/28/2008

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/03/2008

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octyl phthalate	960	U
206-44-0	Fluoranthene	7200	
86-73-7	Fluorene	190	J
118-74-1	Hexachlorobenzene	960	U
87-68-3	Hexachlorobutadiene	960	U
77-47-4	Hexachlorocyclopentadiene	960	U
67-72-1	Hexachloroethane	960	U
193-39-5	Indeno(1,2,3-cd)pyrene	2300	
78-59-1	Isophorone	960	U
91-57-6	2-Methylnaphthalene	76	J
91-20-3	Naphthalene	92	J
88-74-4	2-Nitroaniline	1900	U
99-09-2	3-Nitroaniline	1900	U
100-01-6	4-Nitroaniline	1900	U
98-95-3	Nitrobenzene	960	U
86-30-6	N-nitrosodiphenylamine	960	U
621-64-7	N-Nitroso-Di-n-propylamine	960	U
85-01-8	Phenanthrene	2600	
129-00-0	Pyrene	5400	

TURNKEY ENVIRONMENTAL RESTORATION, LLC
TURNKEY - TECUMSEH REDEVELOPMENT SITE
METHOD 8270 - TCL BASE NEUTRAL COMPOUNDS
ANALYSIS DATA SHEET

Client No.

TP-81 (0-2)

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: A304

Matrix: (soil/water) SOIL Lab Sample ID: A8A30404

Sample wt/vol: 30.21 (g/mL) G Lab File ID: W26097.RR

Level: (low/med) LOW Date Samp/Recv: 08/22/2008 08/22/2008

% Moisture: 12 decanted: (Y/N) N Date Extracted: 08/28/2008

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/03/2008

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	92	J
208-96-8	Acenaphthylene	980	
98-86-2	Acetophenone	960	U
120-12-7	Anthracene	610	J
1912-24-9	Atrazine	960	U
100-52-7	Benzaldehyde	960	U
56-55-3	Benzo(a)anthracene	3900	
205-99-2	Benzo(b)fluoranthene	5600	
207-08-9	Benzo(k)fluoranthene	1600	
191-24-2	Benzo(ghi)perylene	2200	
50-32-8	Benzo(a)pyrene	4100	
100-51-6	Benzyl alcohol	1900	U
92-52-4	Biphenyl	960	U
111-91-1	Bis(2-chloroethoxy) methane	960	U
111-44-4	Bis(2-chloroethyl) ether	960	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	960	U
117-81-7	Bis(2-ethylhexyl) phthalate	960	U
101-55-3	4-Bromophenyl phenyl ether	960	U
85-68-7	Butyl benzyl phthalate	960	U
105-60-2	Caprolactam	960	U
106-47-8	4-Chloroaniline	960	U
91-58-7	2-Chloronaphthalene	960	U
7005-72-3	4-Chlorophenyl phenyl ether	960	U
218-01-9	Chrysene	3800	B
53-70-3	Dibenzo(a,h)anthracene	680	J
132-64-9	Dibenzofuran	100	J
84-74-2	Di-n-butyl phthalate	960	U
91-94-1	3,3'-Dichlorobenzidine	960	U
84-66-2	Diethyl phthalate	960	U
131-11-3	Dimethyl phthalate	960	U
121-14-2	2,4-Dinitrotoluene	960	U
606-20-2	2,6-Dinitrotoluene	960	U

APPENDIX C

2010 SUPPLEMENTAL INVESTIGATION ANALYTICAL DATA PACKAGES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Analytical Report

Work Order: RTH1168

Project Description

Tecumseh - Railroad Corridor
Tecumseh - Railroad Corridor

For:

Tom Forbes

Turnkey/Benchmark

2558 Hamburg Turnpike, Suite 300

Lackawanna, NY 14218



Brian Fischer

Project Manager

Brian.Fischer@testamericainc.com

Thursday, September 2, 2010

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to NELAP requirements are noted in this report. Persuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

TestAmerica Buffalo
Current Certifications

As of 08/16/2010

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA	10026
North Dakota	CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Oregon*	CWA,RCRA	NY200003
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parame ters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

CASE NARRATIVE

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

There are pertinent documents appended to this report, 2 pages, are included and are an integral part of this report.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method / calibration blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
B9	The analyte was detected in the Method / Calibration Blank at a level above the reporting limit. The sample was non-detect for this analyte, therefore, no corrective action was necessary.
BT	Analyte detected in the TCLP Extractor Blank. Analyte at least five times less than the TCLP Regulatory limit.
D08	Dilution required due to high concentration of target analyte(s)
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
QSU	Sulfur (EPA 3660) clean-up performed on extract.
Z5	Due to sample matrix effects, the surrogate recovery was outside acceptance limits. Secondary surrogate recovery was within the acceptance limits.
NR	Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168
Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-01 (RR-TP42-N - Solid)					**Sampled: 08/19/10 10:00**			**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**114**		2.0	NR	mg/kg dry	1.00	08/28/10 19:38	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**97**		0.010	NR	%	1.00	08/23/10 12:50	JRR	10H1541	Dry Weight
Sample ID: RTH1168-02 (RR-TP42-S - Solid)					**Sampled: 08/19/10 10:00**			**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**136**		2.0	NR	mg/kg dry	1.00	08/28/10 19:43	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**97**		0.010	NR	%	1.00	08/23/10 12:52	JRR	10H1541	Dry Weight
Sample ID: RTH1168-03 (RR-TP42-E - Solid)					**Sampled: 08/19/10 10:00**			**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**147**		2.1	NR	mg/kg dry	1.00	08/28/10 19:48	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 12:54	JRR	10H1541	Dry Weight
Sample ID: RTH1168-04 (RR-TP42-W - Solid)					**Sampled: 08/19/10 10:00**			**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**35.6**		2.2	NR	mg/kg dry	1.00	08/28/10 20:02	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**94**		0.010	NR	%	1.00	08/23/10 12:56	JRR	10H1541	Dry Weight
Sample ID: RTH1168-05 (RR-TP42-BOTTOM COMP - Solid)					**Sampled: 08/19/10 10:00**			**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**37.1**		2.3	NR	mg/kg dry	1.00	08/28/10 20:07	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**88**		0.010	NR	%	1.00	08/23/10 12:58	JRR	10H1541	Dry Weight
Sample ID: RTH1168-06 (RR-TP42-TCLP COMP - Solid)					**Sampled: 08/19/10 10:00**			**Recvd: 08/20/10 12:40**		
TCLP Metals										
Arsenic	**0.0168**		0.0100	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Barium	**0.487**	B1, B	0.0020	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Cadmium	**0.0069**		0.0010	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Lead	**0.0749**		0.0050	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
General Chemistry Parameters										
Percent Solids	**97**		0.010	NR	%	1.00	08/23/10 13:00	JRR	10H1541	Dry Weight
Sample ID: RTH1168-07 (RR-TP30-N - Solid)					**Sampled: 08/19/10 11:30**			**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168
Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-07 (RR-TP30-N - Solid) - cont.						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082 - cont.										
Aroclor 1254	**46**	QSU	18	3.8	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Aroclor 1260	**110**	QSU	18	8.5	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
General Chemistry Parameters										
Percent Solids	**90**		0.010	NR	%	1.00	08/23/10 13:02	JRR	10H1541	Dry Weight
Sample ID: RTH1168-08 (RR-TP30-S - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1260	**120**	QSU	18	8.2	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	08/23/10 13:04	JRR	10H1541	Dry Weight
Sample ID: RTH1168-09 (RR-TP30-E - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1260	**47**	QSU	18	8.3	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	08/23/10 13:06	JRR	10H1541	Dry Weight
Sample ID: RTH1168-10 (RR-TP30-W - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1254	**510**	D08, QSU	89	19	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
General Chemistry Parameters										
Percent Solids	**94**		0.010	NR	%	1.00	08/23/10 13:08	JRR	10H1541	Dry Weight
Sample ID: RTH1168-11 (RR-TP30-BOTTOM COMP - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1260	**260**	D08, QSU	90	42	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 13:10	JRR	10H1541	Dry Weight
Sample ID: RTH1168-12 (RR-TP30-TCLP COMP - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
TCLP Metals										
Barium	**0.537**	B, B1	0.0020	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Cadmium	**0.0023**		0.0010	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Lead	**0.0229**		0.0050	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
General Chemistry Parameters										
Percent Solids	**100**		0.010	NR	%	1.00	08/23/10 13:12	JRR	10H1541	Dry Weight
Sample ID: RTH1169-01 (RR-TP04-N - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**47.0**		2.3	NR	mg/kg dry	1.00	08/28/10 20:12	DAN	10H1731	6010B

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-01 (RR-TP04-N - Solid) - cont.						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
General Chemistry Parameters										
Percent Solids	**89**		0.010	NR	%	1.00	08/23/10 13:14	JRR	10H1541	Dry Weight
Sample ID: RTH1169-02 (RR-TP04-S - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**43.9**		2.2	NR	mg/kg dry	1.00	08/28/10 20:36	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 13:16	JRR	10H1541	Dry Weight
Sample ID: RTH1169-03 (RR-TP04-E - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**48.3**		2.1	NR	mg/kg dry	1.00	08/28/10 20:41	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 13:18	JRR	10H1541	Dry Weight
Sample ID: RTH1169-04 (RR-TP04-W - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**112**		2.1	NR	mg/kg dry	1.00	08/28/10 20:46	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**90**		0.010	NR	%	1.00	08/23/10 13:20	JRR	10H1541	Dry Weight
Sample ID: RTH1169-05 (RR-TP04-BOTTOM COMP - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**40.2**		2.3	NR	mg/kg dry	1.00	08/28/10 21:00	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:22	JRR	10H1541	Dry Weight
Sample ID: RTH1169-06 (RR-TP04-TCLP COMP - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
TCLP Metals										
Arsenic	**0.0131**		0.0100	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Barium	**0.397**	B, BT	0.0020	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Cadmium	**0.0039**		0.0010	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Chromium	**0.0086**	B, BT	0.0040	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Lead	**0.0431**		0.0050	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
General Chemistry Parameters										
Percent Solids	**77**		0.010	NR	%	1.00	08/25/10 13:40	JRR	10H1740	Dry Weight
Sample ID: RTH1169-07 (RR-TP12-N - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**126**		2.0	NR	mg/kg dry	1.00	08/28/10 21:05	DAN	10H1731	6010B

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-07 (RR-TP12-N - Solid) - cont.						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	08/23/10 13:24	JRR	10H1541	Dry Weight
Sample ID: RTH1169-08 (RR-TP12-S - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**83.0**		2.2	NR	mg/kg dry	1.00	08/28/10 21:10	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:26	JRR	10H1541	Dry Weight
Sample ID: RTH1169-09 (RR-TP12-E - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**49.1**		2.0	NR	mg/kg dry	1.00	08/28/10 21:15	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:28	JRR	10H1541	Dry Weight
Sample ID: RTH1169-10 (RR-TP12-W - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**157**		2.2	NR	mg/kg dry	1.00	08/28/10 21:19	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:30	JRR	10H1541	Dry Weight
Sample ID: RTH1169-11 (RR-TP12-BOTTOM COMP - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**39.4**		2.2	NR	mg/kg dry	1.00	08/28/10 21:24	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:32	JRR	10H1541	Dry Weight
Sample ID: RTH1169-12 (RR-TP12-TCLP COMP - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
TCLP Metals										
Arsenic	**0.0104**		0.0100	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Barium	**0.306**	B, BT	0.0020	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Cadmium	**0.0158**		0.0010	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Lead	**0.0200**		0.0050	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
General Chemistry Parameters										
Percent Solids	**77**		0.010	NR	%	1.00	08/25/10 13:42	JRR	10H1740	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
RR-TP42-N	RTH1168-01	Solid	08/19/10 10:00	08/20/10 12:40	
RR-TP42-S	RTH1168-02	Solid	08/19/10 10:00	08/20/10 12:40	
RR-TP42-E	RTH1168-03	Solid	08/19/10 10:00	08/20/10 12:40	
RR-TP42-W	RTH1168-04	Solid	08/19/10 10:00	08/20/10 12:40	
RR-TP42-BOTTOM COMP	RTH1168-05	Solid	08/19/10 10:00	08/20/10 12:40	
RR-TP42-TCLP COMP	RTH1168-06	Solid	08/19/10 10:00	08/20/10 12:40	
RR-TP30-N	RTH1168-07	Solid	08/19/10 11:30	08/20/10 12:40	
RR-TP30-S	RTH1168-08	Solid	08/19/10 11:30	08/20/10 12:40	
RR-TP30-E	RTH1168-09	Solid	08/19/10 11:30	08/20/10 12:40	
RR-TP30-W	RTH1168-10	Solid	08/19/10 11:30	08/20/10 12:40	
RR-TP30-BOTTOM COMP	RTH1168-11	Solid	08/19/10 11:30	08/20/10 12:40	
RR-TP30-TCLP COMP	RTH1168-12	Solid	08/19/10 11:30	08/20/10 12:40	

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
RR-TP04-N	RTH1169-01	Solid	08/19/10 14:00	08/20/10 12:40	
RR-TP04-S	RTH1169-02	Solid	08/19/10 14:00	08/20/10 12:40	
RR-TP04-E	RTH1169-03	Solid	08/19/10 14:00	08/20/10 12:40	
RR-TP04-W	RTH1169-04	Solid	08/19/10 14:00	08/20/10 12:40	
RR-TP04-BOTTOM COMP	RTH1169-05	Solid	08/19/10 14:00	08/20/10 12:40	
RR-TP04-TCLP COMP	RTH1169-06	Solid	08/19/10 14:00	08/20/10 12:40	
RR-TP12-N	RTH1169-07	Solid	08/19/10 15:15	08/20/10 12:40	
RR-TP12-S	RTH1169-08	Solid	08/19/10 15:15	08/20/10 12:40	
RR-TP12-E	RTH1169-09	Solid	08/19/10 15:15	08/20/10 12:40	
RR-TP12-W	RTH1169-10	Solid	08/19/10 15:15	08/20/10 12:40	
RR-TP12-BOTTOM COMP	RTH1169-11	Solid	08/19/10 15:15	08/20/10 12:40	
RR-TP12-TCLP COMP	RTH1169-12	Solid	08/19/10 15:15	08/20/10 12:40	

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-01 (RR-TP42-N - Solid)						**Sampled: 08/19/10 10:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**114**		2.0	NR	mg/kg dry	1.00	08/28/10 19:38	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**97**		0.010	NR	%	1.00	08/23/10 12:50	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-02 (RR-TP42-S - Solid)						**Sampled: 08/19/10 10:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**136**		2.0	NR	mg/kg dry	1.00	08/28/10 19:43	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**97**		0.010	NR	%	1.00	08/23/10 12:52	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-03 (RR-TP42-E - Solid)						**Sampled: 08/19/10 10:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**147**		2.1	NR	mg/kg dry	1.00	08/28/10 19:48	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 12:54	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-04 (RR-TP42-W - Solid)						**Sampled: 08/19/10 10:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**35.6**		2.2	NR	mg/kg dry	1.00	08/28/10 20:02	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**94**		0.010	NR	%	1.00	08/23/10 12:56	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-05 (RR-TP42-BOTTOM COMP - Solid)						**Sampled: 08/19/10 10:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**37.1**		2.3	NR	mg/kg dry	1.00	08/28/10 20:07	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**88**		0.010	NR	%	1.00	08/23/10 12:58	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-06 (RR-TP42-TCLP COMP - Solid)						**Sampled: 08/19/10 10:00**		**Recvd: 08/20/10 12:40**		
TCLP Metals										
Arsenic	**0.0168**		0.0100	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Barium	**0.487**	B1, B	0.0020	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Cadmium	**0.0069**		0.0010	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Chromium	ND	B9	0.0040	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Lead	**0.0749**		0.0050	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Selenium	ND		0.0150	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Silver	ND		0.0030	NR	mg/L	1.00	09/01/10 00:13	DAN	10H1873	6010B TCLP
Mercury	ND		0.0002	NR	mg/L	1.00	08/27/10 15:28	MxM	10H1920	7470A TCLP
General Chemistry Parameters										
Percent Solids	**97**		0.010	NR	%	1.00	08/23/10 13:00	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-07 (RR-TP30-N - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND	QSU	18	3.6	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Aroclor 1221	ND	QSU	18	3.6	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Aroclor 1232	ND	QSU	18	3.6	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Aroclor 1242	ND	QSU	18	4.0	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Aroclor 1248	ND	QSU	18	3.6	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Aroclor 1254	**46**	QSU	18	3.8	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Aroclor 1260	**110**	QSU	18	8.5	ug/kg dry	1.00	08/30/10 09:22	JxM	10H1973	8082
Decachlorobiphenyl	*108 %*	*QSU*	*Surr Limits: (34-148%)*				*08/30/10 09:22*	*JxM*	*10H1973*	*8082*
Tetrachloro-m-xylene	*80 %*	*QSU*	*Surr Limits: (35-134%)*				*08/30/10 09:22*	*JxM*	*10H1973*	*8082*
General Chemistry Parameters										
Percent Solids	**90**		0.010	NR	%	1.00	08/23/10 13:02	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-08 (RR-TP30-S - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND	QSU	18	3.4	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
Aroclor 1221	ND	QSU	18	3.4	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
Aroclor 1232	ND	QSU	18	3.4	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
Aroclor 1242	ND	QSU	18	3.8	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
Aroclor 1248	ND	QSU	18	3.5	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
Aroclor 1254	ND	QSU	18	3.7	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
Aroclor 1260	**120**	QSU	18	8.2	ug/kg dry	1.00	08/30/10 09:40	JxM	10H1973	8082
Decachlorobiphenyl	*180 %*	*QSU,Z5*	*Surr Limits: (34-148%)*				*08/30/10 09:40*	*JxM*	*10H1973*	*8082*
Tetrachloro-m-xylene	*78 %*	*QSU*	*Surr Limits: (35-134%)*				*08/30/10 09:40*	*JxM*	*10H1973*	*8082*
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	08/23/10 13:04	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-09 (RR-TP30-E - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND	QSU	18	3.5	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
Aroclor 1221	ND	QSU	18	3.5	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
Aroclor 1232	ND	QSU	18	3.5	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
Aroclor 1242	ND	QSU	18	3.8	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
Aroclor 1248	ND	QSU	18	3.5	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
Aroclor 1254	ND	QSU	18	3.7	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
Aroclor 1260	**47**	QSU	18	8.3	ug/kg dry	1.00	08/30/10 09:59	JxM	10H1973	8082
Decachlorobiphenyl	*99 %*	*QSU*	*Surr Limits: (34-148%)*				*08/30/10 09:59*	*JxM*	*10H1973*	*8082*
Tetrachloro-m-xylene	*80 %*	*QSU*	*Surr Limits: (35-134%)*				*08/30/10 09:59*	*JxM*	*10H1973*	*8082*
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	08/23/10 13:06	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-10 (RR-TP30-W - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND	D08, QSU	89	17	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
Aroclor 1221	ND	D08, QSU	89	17	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
Aroclor 1232	ND	D08, QSU	89	17	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
Aroclor 1242	ND	D08, QSU	89	19	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
Aroclor 1248	ND	D08, QSU	89	17	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
Aroclor 1254	**510**	D08, QSU	89	19	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
Aroclor 1260	ND	D08, QSU	89	41	ug/kg dry	5.00	08/30/10 10:17	JxM	10H1973	8082
Decachlorobiphenyl	*118 %*	*D08, QSU*	*Surr Limits: (34-148%)*				*08/30/10 10:17*	*JxM*	*10H1973*	*8082*
Tetrachloro-m-xylene	*83 %*	*D08, QSU*	*Surr Limits: (35-134%)*				*08/30/10 10:17*	*JxM*	*10H1973*	*8082*
General Chemistry Parameters										
Percent Solids	**94**		0.010	NR	%	1.00	08/23/10 13:08	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-11 (RR-TP30-BOTTOM COMP - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
Polychlorinated Biphenyls by EPA Method 8082										
Aroclor 1016	ND	D08, QSU	90	18	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
Aroclor 1221	ND	D08, QSU	90	18	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
Aroclor 1232	ND	D08, QSU	90	18	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
Aroclor 1242	ND	D08, QSU	90	19	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
Aroclor 1248	ND	D08, QSU	90	18	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
Aroclor 1254	ND	D08, QSU	90	19	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
Aroclor 1260	**260**	D08, QSU	90	42	ug/kg dry	5.00	08/30/10 10:35	JxM	10H1973	8082
Decachlorobiphenyl	*113 %*	*D08, QSU*	*Surr Limits: (34-148%)*				*08/30/10 10:35*	*JxM*	*10H1973*	*8082*
Tetrachloro-m-xylene	*88 %*	*D08, QSU*	*Surr Limits: (35-134%)*				*08/30/10 10:35*	*JxM*	*10H1973*	*8082*
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 13:10	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1168-12 (RR-TP30-TCLP COMP - Solid)						**Sampled: 08/19/10 11:30**		**Recvd: 08/20/10 12:40**		
TCLP Metals										
Arsenic	ND		0.0100	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Barium	**0.537**	B, B1	0.0020	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Cadmium	**0.0023**		0.0010	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Chromium	ND	B9	0.0040	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Lead	**0.0229**		0.0050	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Selenium	ND		0.0150	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Silver	ND		0.0030	NR	mg/L	1.00	09/01/10 00:18	DAN	10H1873	6010B TCLP
Mercury	ND		0.0002	NR	mg/L	1.00	08/27/10 15:30	MxM	10H1920	7470A TCLP
General Chemistry Parameters										
Percent Solids	**100**		0.010	NR	%	1.00	08/23/10 13:12	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-01 (RR-TP04-N - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**47.0**		2.3	NR	mg/kg dry	1.00	08/28/10 20:12	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**89**		0.010	NR	%	1.00	08/23/10 13:14	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-02 (RR-TP04-S - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**43.9**		2.2	NR	mg/kg dry	1.00	08/28/10 20:36	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 13:16	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-03 (RR-TP04-E - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**48.3**		2.1	NR	mg/kg dry	1.00	08/28/10 20:41	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	08/23/10 13:18	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-04 (RR-TP04-W - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**112**		2.1	NR	mg/kg dry	1.00	08/28/10 20:46	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**90**		0.010	NR	%	1.00	08/23/10 13:20	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-05 (RR-TP04-BOTTOM COMP - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**40.2**		2.3	NR	mg/kg dry	1.00	08/28/10 21:00	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:22	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-06 (RR-TP04-TCLP COMP - Solid)						**Sampled: 08/19/10 14:00**		**Recvd: 08/20/10 12:40**		
TCLP Metals										
Arsenic	**0.0131**		0.0100	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Barium	**0.397**	B, BT	0.0020	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Cadmium	**0.0039**		0.0010	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Chromium	**0.0086**	B, BT	0.0040	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Lead	**0.0431**		0.0050	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Selenium	ND		0.0150	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Silver	ND		0.0030	NR	mg/L	1.00	08/27/10 14:04	DAN	10H1723	6010B TCLP
Mercury	ND		0.0002	NR	mg/L	1.00	08/25/10 18:57	MxM	10H1818	7470A TCLP
General Chemistry Parameters										
Percent Solids	**77**		0.010	NR	%	1.00	08/25/10 13:40	JRR	10H1740	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-07 (RR-TP12-N - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**126**		2.0	NR	mg/kg dry	1.00	08/28/10 21:05	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**93**		0.010	NR	%	1.00	08/23/10 13:24	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-08 (RR-TP12-S - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**83.0**		2.2	NR	mg/kg dry	1.00	08/28/10 21:10	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:26	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-09 (RR-TP12-E - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**49.1**		2.0	NR	mg/kg dry	1.00	08/28/10 21:15	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:28	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-10 (RR-TP12-W - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**157**		2.2	NR	mg/kg dry	1.00	08/28/10 21:19	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:30	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-11 (RR-TP12-BOTTOM COMP - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
Total Metals by SW 846 Series Methods										
Arsenic	**39.4**		2.2	NR	mg/kg dry	1.00	08/28/10 21:24	DAN	10H1731	6010B
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	08/23/10 13:32	JRR	10H1541	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTH1169-12 (RR-TP12-TCLP COMP - Solid)						**Sampled: 08/19/10 15:15**		**Recvd: 08/20/10 12:40**		
TCLP Metals										
Arsenic	**0.0104**		0.0100	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Barium	**0.306**	B, BT	0.0020	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Cadmium	**0.0158**		0.0010	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Chromium	ND	BT	0.0040	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Lead	**0.0200**		0.0050	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Selenium	ND		0.0150	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Silver	ND		0.0030	NR	mg/L	1.00	08/27/10 14:09	DAN	10H1723	6010B TCLP
Mercury	ND		0.0002	NR	mg/L	1.00	08/25/10 18:59	MxM	10H1818	7470A TCLP
General Chemistry Parameters										
Percent Solids	**77**		0.010	NR	%	1.00	08/25/10 13:42	JRR	10H1740	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
General Chemistry Parameters									
Dry Weight	10H1541	RTH1168-01	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-02	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-03	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-04	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-05	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-06	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-07	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-08	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-09	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-10	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-11	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1168-12	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Polychlorinated Biphenyls by EPA Method 8082									
8082	10H1973	RTH1168-10	30.03	g	10.00	mL	08/27/10 17:14	LTT	3550B GC
8082	10H1973	RTH1168-11	30.35	g	10.00	mL	08/27/10 17:14	LTT	3550B GC
8082	10H1973	RTH1168-08	30.36	g	10.00	mL	08/27/10 17:14	LTT	3550B GC
8082	10H1973	RTH1168-09	30.52	g	10.00	mL	08/27/10 17:14	LTT	3550B GC
8082	10H1973	RTH1168-07	30.61	g	10.00	mL	08/27/10 17:14	LTT	3550B GC
TCLP Metals									
6010B TCLP	10H1873	RTH1168-06	50.00	mL	50.00	mL	08/26/10 13:35	JRK	3010A
6010B TCLP	10H1873	RTH1168-12	50.00	mL	50.00	mL	08/26/10 13:35	JRK	3010A
7470A TCLP	10H1920	RTH1168-06	30.00	mL	50.00	mL	08/27/10 13:00	MXM	7470A
7470A TCLP	10H1920	RTH1168-12	30.00	mL	50.00	mL	08/27/10 13:00	MXM	7470A
Total Metals by SW 846 Series Methods									
6010B	10H1731	RTH1168-04	0.49	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1168-05	0.50	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1168-02	0.51	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1168-03	0.51	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1168-01	0.52	g	50.00	mL	08/25/10 14:00	JRK	3050B

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
General Chemistry Parameters									
Dry Weight	10H1541	RTH1169-01	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-02	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-03	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
Dry Weight	10H1541	RTH1169-04	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-05	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-07	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-08	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-09	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-10	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1541	RTH1169-11	10.00	g	10.00	g	08/23/10 08:02	JRR	Dry Weight
Dry Weight	10H1740	RTH1169-06	10.00	g	10.00	g	08/25/10 10:09	JRR	Dry Weight
Dry Weight	10H1740	RTH1169-12	10.00	g	10.00	g	08/25/10 10:09	JRR	Dry Weight
TCLP Metals									
6010B TCLP	10H1723	RTH1169-06	50.00	mL	50.00	mL	08/25/10 07:20	JRK	3010A
6010B TCLP	10H1723	RTH1169-12	50.00	mL	50.00	mL	08/25/10 07:20	JRK	3010A
7470A TCLP	10H1818	RTH1169-06	30.00	mL	50.00	mL	08/25/10 17:00	MXM	7470A
7470A TCLP	10H1818	RTH1169-12	30.00	mL	50.00	mL	08/25/10 17:00	MXM	7470A
Total Metals by SW 846 Series Methods									
6010B	10H1731	RTH1169-02	0.48	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-05	0.48	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-08	0.49	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-01	0.49	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-10	0.50	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-11	0.50	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-03	0.51	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-04	0.52	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-09	0.54	g	50.00	mL	08/25/10 14:00	JRK	3050B
6010B	10H1731	RTH1169-07	0.54	g	50.00	mL	08/25/10 14:00	JRK	3050B

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Polychlorinated Biphenyls by EPA Method 8082											
Blank Analyzed: 08/30/10 (Lab Number:10H1973-BLK1, Batch: 10H1973)											
Aroclor 1016			16	3.2	ug/kg wet	ND					QSU
Aroclor 1016 [2C]			16	3.2	ug/kg wet	ND					QSU
Aroclor 1221			16	3.2	ug/kg wet	ND					QSU
Aroclor 1221 [2C]			16	3.2	ug/kg wet	ND					QSU
Aroclor 1232			16	3.2	ug/kg wet	ND					QSU
Aroclor 1232 [2C]			16	3.2	ug/kg wet	ND					QSU
Aroclor 1242			16	3.5	ug/kg wet	ND					QSU
Aroclor 1242 [2C]			16	3.5	ug/kg wet	ND					QSU
Aroclor 1248			16	3.2	ug/kg wet	ND					QSU
Aroclor 1248 [2C]			16	3.2	ug/kg wet	ND					QSU
Aroclor 1254			16	3.4	ug/kg wet	ND					QSU
Aroclor 1254 [2C]			16	3.4	ug/kg wet	ND					QSU
Aroclor 1260			16	7.6	ug/kg wet	ND					QSU
Aroclor 1260 [2C]			16	7.6	ug/kg wet	ND					QSU
Surrogate: Decachlorobiphenyl					*ug/kg wet*		*111*	*34-148*			*QSU*
Surrogate: Decachlorobiphenyl [2C]					*ug/kg wet*		*102*	*34-148*			*QSU*
Surrogate: Tetrachloro-m-xylene					*ug/kg wet*		*89*	*35-134*			*QSU*
Surrogate: Tetrachloro-m-xylene					*ug/kg wet*		*94*	*35-134*			*QSU*
LCS Analyzed: 08/30/10 (Lab Number:10H1973-BS1, Batch: 10H1973)											
Aroclor 1016		163	16	3.2	ug/kg wet	163	100	59-154			QSU
Aroclor 1016 [2C]		163	16	3.2	ug/kg wet	145	89	59-154			QSU
Aroclor 1221			16	3.2	ug/kg wet	ND					QSU
Aroclor 1221 [2C]			16	3.2	ug/kg wet	ND					QSU
Aroclor 1232			16	3.2	ug/kg wet	ND					QSU
Aroclor 1232 [2C]			16	3.2	ug/kg wet	ND					QSU
Aroclor 1242			16	3.5	ug/kg wet	ND					QSU
Aroclor 1242 [2C]			16	3.5	ug/kg wet	ND					QSU
Aroclor 1248			16	3.2	ug/kg wet	ND					QSU
Aroclor 1248 [2C]			16	3.2	ug/kg wet	ND					QSU
Aroclor 1254			16	3.4	ug/kg wet	ND					QSU
Aroclor 1254 [2C]			16	3.4	ug/kg wet	ND					QSU
Aroclor 1260		163	16	7.6	ug/kg wet	164	100	51-179			QSU
Aroclor 1260 [2C]		163	16	7.6	ug/kg wet	146	90	51-179			QSU
Surrogate: Decachlorobiphenyl					*ug/kg wet*		*114*	*34-148*			*QSU*

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Polychlorinated Biphenyls by EPA Method 8082											
LCS Analyzed: 08/30/10 (Lab Number:10H1973-BS1, Batch: 10H1973)											
Surrogate: Decachlorobiphenyl [2C]					*ug/kg wet*		*104*	*34-148*			*QSU*
Surrogate: Tetrachloro-m-xylene					*ug/kg wet*		*92*	*35-134*			*QSU*
Surrogate: Tetrachloro-m-xylene					*ug/kg wet*		*92*	*35-134*			*QSU*

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Total Metals by SW 846 Series Methods											
Blank Analyzed: 08/28/10 (Lab Number:10H1731-BLK1, Batch: 10H1731)											
Arsenic			1.8	NR	mg/kg wet	ND					
Matrix Spike Analyzed: 08/28/10 (Lab Number:10H1731-MS1, Batch: 10H1731)											
QC Source Sample: RTH1169-01											
Arsenic	47.0	43.2	2.2	NR	mg/kg dry	115	158	75-125			M1
Matrix Spike Dup Analyzed: 08/28/10 (Lab Number:10H1731-MSD1, Batch: 10H1731)											
QC Source Sample: RTH1169-01											
Arsenic	47.0	46.0	2.3	NR	mg/kg dry	116	149	75-125	0.6	20	M1
Reference Analyzed: 08/28/10 (Lab Number:10H1731-SRM1, Batch: 10H1731)											
Arsenic		138	2.0	NR	mg/kg wet	124	90	70.4-129.7			

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
TCLP Metals											
Blank Analyzed: 08/27/10 (Lab Number:10H1723-BLK1, Batch: 10H1723)											
Arsenic			0.0100	NR	mg/L	ND					
Barium			0.0020	NR	mg/L	0.0204					B
Cadmium			0.0010	NR	mg/L	ND					
Chromium			0.0040	NR	mg/L	0.0060					B
Lead			0.0050	NR	mg/L	ND					
Selenium			0.0150	NR	mg/L	ND					
Silver			0.0030	NR	mg/L	ND					
Blank Analyzed: 08/27/10 (Lab Number:10H1723-BLK2, Batch: 10H1723)											
Arsenic			0.0100	NR	mg/L	ND					
Barium			0.0020	NR	mg/L	ND					
Cadmium			0.0010	NR	mg/L	ND					
Chromium			0.0040	NR	mg/L	ND					
Lead			0.0050	NR	mg/L	ND					
Selenium			0.0150	NR	mg/L	ND					
Silver			0.0030	NR	mg/L	ND					
LCS Analyzed: 08/27/10 (Lab Number:10H1723-BS1, Batch: 10H1723)											
Arsenic		1.00	5.00	NR	mg/L	1.07	107	80-120			
Barium		1.00	100	NR	mg/L	1.03	103	80-120			B
Cadmium		1.00	1.00	NR	mg/L	1.06	106	80-120			
Chromium		1.00	5.00	NR	mg/L	1.03	103	80-120			B
Lead		1.00	5.00	NR	mg/L	1.05	105	80-120			
Selenium		1.00	1.00	NR	mg/L	1.09	109	80-120			
Silver		1.00	5.00	NR	mg/L	1.04	104	80-120			
TCLP Metals											
Blank Analyzed: 08/25/10 (Lab Number:10H1818-BLK1, Batch: 10H1818)											
Mercury			0.0002	NR	mg/L	ND					
Blank Analyzed: 08/25/10 (Lab Number:10H1818-BLK2, Batch: 10H1818)											
Mercury			0.0002	NR	mg/L	ND					
LCS Analyzed: 08/25/10 (Lab Number:10H1818-BS1, Batch: 10H1818)											
Mercury		0.00670	0.200	NR	mg/L	0.00635	95	80-120			
TCLP Metals											
Blank Analyzed: 08/31/10 (Lab Number:10H1873-BLK1, Batch: 10H1873)											
Arsenic			0.0100	NR	mg/L	ND					

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTH1168

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 08/20/10
Reported: 09/02/10 11:10

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
TCLP Metals											
Blank Analyzed: 08/31/10 (Lab Number:10H1873-BLK1, Batch: 10H1873)											
Barium			0.0020	NR	mg/L	0.0089					B
Cadmium			0.0010	NR	mg/L	ND					
Chromium			0.0040	NR	mg/L	0.0065					B
Lead			0.0050	NR	mg/L	ND					
Selenium			0.0150	NR	mg/L	ND					
Silver			0.0030	NR	mg/L	ND					
Blank Analyzed: 08/31/10 (Lab Number:10H1873-BLK2, Batch: 10H1873)											
Arsenic			0.0100	NR	mg/L	ND					
Barium			0.0020	NR	mg/L	ND					
Cadmium			0.0010	NR	mg/L	ND					
Chromium			0.0040	NR	mg/L	ND					
Lead			0.0050	NR	mg/L	ND					
Selenium			0.0150	NR	mg/L	ND					
Silver			0.0030	NR	mg/L	ND					
LCS Analyzed: 08/31/10 (Lab Number:10H1873-BS1, Batch: 10H1873)											
Arsenic		1.00	0.0100	NR	mg/L	1.08	108	80-120			
Barium		1.00	0.0020	NR	mg/L	1.00	100	80-120			B
Cadmium		1.00	0.0010	NR	mg/L	1.05	105	80-120			
Chromium		1.00	0.0040	NR	mg/L	1.01	101	80-120			B
Lead		1.00	0.0050	NR	mg/L	1.04	104	80-120			
Selenium		1.00	0.0150	NR	mg/L	1.07	107	80-120			
Silver		1.00	0.0030	NR	mg/L	1.03	103	80-120			
TCLP Metals											
Blank Analyzed: 08/27/10 (Lab Number:10H1920-BLK1, Batch: 10H1920)											
Mercury			0.0002	NR	mg/L	ND					
Blank Analyzed: 08/27/10 (Lab Number:10H1920-BLK2, Batch: 10H1920)											
Mercury			0.0002	NR	mg/L	ND					
LCS Analyzed: 08/27/10 (Lab Number:10H1920-BS1, Batch: 10H1920)											
Mercury		0.00670	0.0002	NR	mg/L	0.00730	109	80-120			

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☑

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Tonawanda Env Redevelopment, LLC	Tom Forbes	8/20/10	179552

Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page
2338 Hamburg Turnpike	716-710-0559/0183		Page 1 of 2

City	State	Zip Code	Site Contact	Lab Contact
Buffalo	NY	14218	R Ross	B. Fischer

Project Name and Location (State)
Tonawanda - Railroad corridor

Carrier/Waybill Number

Contract/Purchase Order/Quote No.
071-007-610

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc NaOH	Analysis (Attach list if more space is needed): TOTAL As	Pb	TCLP Pb	Special Instructions/ Conditions of Receipt
RR-TP42-N	8/19/10	1000				X	X						X			
RR-TP42-S		1000											X			
RR TP42-E		1000											X			
RR-TP42-W		1000											X			
RR-TP42-Bottom comp		1000											X			
RR-TP42-TCLP comp		1000													✓	
RR-TP-30-N		1130												✓		
RR-TP 30-S		1130												✓		
RR TP 30 E		1130												✓		
RR TP-30 W		1130												✓		
RR TP-30 Bottom comp		1130												✓		
RR TP-30 TCLP comp		1130													✓	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal
☐ Return To Client ☑ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☑ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	8/20/10	0700	1. Received By	08-20-10	10:15
2. Relinquished By	08-20-10	12:40	2. Received By	8.20.10	12:40
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☑

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Tunkey Inv Restoration, LLC	Tom Forbes	8/20/10	179553
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 2 of 2
2559 Hamburg Turnpike	716-856-0599/0583		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Buffalo / NY / 14218	R Quist	Bfisher	
Project Name and Location (State)	**Carrier/Waybill Number**		
Tenison - Rail Road corridor			
Contract/Purchase Order/Quote No.			
0271-009-610			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	HNO3	H2SO4	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): RMA AS	Hg/Metals	Special Instructions/ Conditions of Receipt
RR TP-04-N	8/19/10	14:00				X	X						X		
RR TP04 S		14:00				X	X						X		
RR TP04 E		14:00				X	X						X		
RR TP04 W		14:00				X	X						X		
RR TP 04 Bottom comp		14:00				X	X						X		
RR TP 04 Tclp comp		14:00				X	X							X	
RR TP 12-N		1515				X	X						X		
RR TP 12-S		1515				X	X						X		
RR TP 12-E		1515				X	X						X		
RR TP 12-W		1515				X	X						X		
RR TP 12 Bottom comp		1515				X	X						X		
RR TP 12 Tclp comp		1515				X	X							X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal
☐ Return To Client ☑ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☑ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	8/20/10	0900	1. Received By	08-20-10	10:15
2. Relinquished By	08-20-10	12:40	2. Received By	8.20.10	1240
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report CANARY - Stays with the Sample; PINK - Field Copy

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Analytical Report

Work Order: RTJ0521

Project Description
Tecumseh - Railroad Corridor

For:

Tom Forbes
Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218



Brian Fischer
Project Manager
Brian.Fischer@testamericainc.com
Wednesday, October 6, 2010

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to NELAP requirements are noted in this report. Persuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

TestAmerica Buffalo
Current Certifications

As of 08/16/2010

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA	10026
North Dakota	CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Oregon*	CWA,RCRA	NY200003
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parame ters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

CASE NARRATIVE

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

A pertinent document is appended to this report, 1 page, is included and is an integral part of this report.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

DATA QUALIFIERS AND DEFINITIONS

MHA Due to high levels of analyte in the sample, the MS and /or MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).

NR Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ0521-01 (RR TP-12 NORTH 35' - Solid)					**Sampled: 09/30/10 10:00**			**Recvd: 10/01/10 12:30**	
Total Metals by SW 846 Series Methods									
Arsenic	**246**		2.7	mg/kg dry	1.00	10/05/10 15:24	DAN	10J0216	6010B
General Chemistry Parameters									
Percent Solids	**72**		0.010	%	1.00	10/04/10 14:36	RNH	10J0170	Dry Weight
Sample ID: RTJ0521-02 (RR TP-42 NORTH 35' - Solid)					**Sampled: 09/30/10 11:45**			**Recvd: 10/01/10 12:30**	
Total Metals by SW 846 Series Methods									
Arsenic	**84.6**		2.5	mg/kg dry	1.00	10/05/10 15:52	DAN	10J0216	6010B
General Chemistry Parameters									
Percent Solids	**80**		0.010	%	1.00	10/04/10 14:38	RNH	10J0170	Dry Weight
Sample ID: RTJ0521-03 (RR TP-42 SOUTH 35' - Solid)					**Sampled: 09/30/10 12:00**			**Recvd: 10/01/10 12:30**	
Total Metals by SW 846 Series Methods									
Arsenic	**372**		3.1	mg/kg dry	1.00	10/05/10 15:58	DAN	10J0216	6010B
General Chemistry Parameters									
Percent Solids	**64**		0.010	%	1.00	10/04/10 14:40	RNH	10J0170	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
RR TP-12 NORTH 35'	RTJ0521-01	Solid	09/30/10 10:00	10/01/10 12:30	
RR TP-42 NORTH 35'	RTJ0521-02	Solid	09/30/10 11:45	10/01/10 12:30	
RR TP-42 SOUTH 35'	RTJ0521-03	Solid	09/30/10 12:00	10/01/10 12:30	

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ0521-01 (RR TP-12 NORTH 35' - Solid)					**Sampled: 09/30/10 10:00**		**Recvd: 10/01/10 12:30**		
Total Metals by SW 846 Series Methods									
Arsenic	**246**		2.7	mg/kg dry	1.00	10/05/10 15:24	DAN	10J0216	6010B
General Chemistry Parameters									
Percent Solids	**72**		0.010	%	1.00	10/04/10 14:36	RNH	10J0170	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ0521-02 (RR TP-42 NORTH 35' - Solid)					**Sampled: 09/30/10 11:45**		**Recvd: 10/01/10 12:30**		
Total Metals by SW 846 Series Methods									
Arsenic	**84.6**		2.5	mg/kg dry	1.00	10/05/10 15:52	DAN	10J0216	6010B
General Chemistry Parameters									
Percent Solids	**80**		0.010	%	1.00	10/04/10 14:38	RNH	10J0170	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ0521-03 (RR TP-42 SOUTH 35' - Solid)					**Sampled: 09/30/10 12:00**		**Recvd: 10/01/10 12:30**		
Total Metals by SW 846 Series Methods									
Arsenic	**372**		3.1	mg/kg dry	1.00	10/05/10 15:58	DAN	10J0216	6010B
General Chemistry Parameters									
Percent Solids	**64**		0.010	%	1.00	10/04/10 14:40	RNH	10J0170	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
General Chemistry Parameters									
Dry Weight	10J0170	RTJ0521-01	10.00	g	10.00	g	10/04/10 09:25	JRR	Dry Weight
Dry Weight	10J0170	RTJ0521-02	10.00	g	10.00	g	10/04/10 09:25	JRR	Dry Weight
Dry Weight	10J0170	RTJ0521-03	10.00	g	10.00	g	10/04/10 09:25	JRR	Dry Weight
Total Metals by SW 846 Series Methods									
6010B	10J0216	RTJ0521-02	0.50	g	50.00	mL	10/04/10 16:35	MDM	3050B
6010B	10J0216	RTJ0521-03	0.51	g	50.00	mL	10/04/10 16:35	MDM	3050B
6010B	10J0216	RTJ0521-01	0.52	g	50.00	mL	10/04/10 16:35	MDM	3050B

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0521

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/01/10
Reported: 10/06/10 11:08

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Total Metals by SW 846 Series Methods										
Blank Analyzed: 10/05/10 (Lab Number:10J0216-BLK1, Batch: 10J0216)										
Arsenic			1.9	mg/kg wet	ND					
Matrix Spike Analyzed: 10/05/10 (Lab Number:10J0216-MS1, Batch: 10J0216)										
QC Source Sample: RTJ0521-01										
Arsenic	246	54.5	2.7	mg/kg dry	275	52	75-125			MHA
Matrix Spike Dup Analyzed: 10/05/10 (Lab Number:10J0216-MSD1, Batch: 10J0216)										
QC Source Sample: RTJ0521-01										
Arsenic	246	54.1	2.7	mg/kg dry	282	66	75-125	3	20	MHA
Reference Analyzed: 10/05/10 (Lab Number:10J0216-SRM1, Batch: 10J0216)										
Arsenic		138	2.0	mg/kg wet	126	91	70.4-129.7			

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☑

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: Turn Key Env Restoration LLC	Project Manager: Tom Forbes	Date: 9/30/10	Chain of Custody Number: 178238
Address: 2558 Thruway Turnpike	Telephone Number (Area Code)/Fax Number: 716-856-0599/0573	Lab Number:	Page 1 of 1
City: Buffalo / State: NY / Zip Code: 14218	Site Contact: R. Dolese	Lab Contact: B. Fischer	
Project Name and Location (State): Tecumseh RR ROW Corridor	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 0071-009-610			

Analysis (Attach list if more space is needed): TOTAL Arsenic

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Special Instructions/ Conditions of Receipt
RR TP-12 North 35'	9/30/10	1000				Y	Y						3-DAY TAT
* RR TP-12 North 50'		1030				Y	Y						*Hold Sample
RR TP-42 North 35'		1145				Y	Y						3 DAY TAT
* RR TP42 North 50'		1130				Y	Y						*Hold Sample
RR TP42 South 35'		1200				Y	Y						3DAY TAT
* RR TP-42 South 50'		1230				Y	Y						*Hold Sample

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other 30Day

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Louis M Seymour	10-1-10	11:45	1. Received By:	10-01-10	11:45
2. Relinquished By:	10-01-10	12:30	2. Received By:	10/1/10	1230
3. Relinquished By:	Date	Time	3. Received By:	Date	Time

Comments: * Hold Samples - Do not Analyze until further notice

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

4.20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

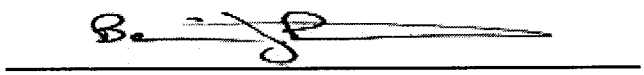
Analytical Report

Work Order: RTJ0840

Project Description
Tecumseh - Railroad Corridor

For:

Tom Forbes
Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218



Brian Fischer
Project Manager
Brian.Fischer@testamericainc.com
Monday, October 11, 2010

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to NELAP requirements are noted in this report. Persuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

TestAmerica Buffalo
Current Certifications

As of 08/16/2010

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA	10026
North Dakota	CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Oregon*	CWA,RCRA	NY200003
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parame ters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

CASE NARRATIVE

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

A pertinent document is appended to this report, 1 page, is included and is an integral part of this report.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

DATA QUALIFIERS AND DEFINITIONS

NR Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ0840-01 (RR-TP-12 NORTH 50' - Solid)					**Sampled: 09/30/10 10:30**		**Recvd: 10/06/10 17:42**		
Total Metals by SW 846 Series Methods									
Arsenic	**162**		2.1	mg/kg dry	1.00	10/11/10 10:43	DAN	10J0559	6010B
General Chemistry Parameters									
Percent Solids	**92**		0.010	%	1.00	10/08/10 09:16	RNH	10J0524	Dry Weight
Sample ID: RTJ0840-03 (RR-TP-42 SOUTH 50' - Solid)					**Sampled: 09/30/10 12:30**		**Recvd: 10/06/10 17:42**		
Total Metals by SW 846 Series Methods									
Arsenic	**127**		2.2	mg/kg dry	1.00	10/11/10 10:49	DAN	10J0559	6010B
General Chemistry Parameters									
Percent Solids	**88**		0.010	%	1.00	10/08/10 09:18	RNH	10J0524	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
RR-TP-12 NORTH 50'	RTJ0840-01	Solid	09/30/10 10:30	10/06/10 17:42	
RR-TP-42 SOUTH 50'	RTJ0840-03	Solid	09/30/10 12:30	10/06/10 17:42	

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ0840-01 (RR-TP-12 NORTH 50' - Solid)					**Sampled: 09/30/10 10:30**		**Recvd: 10/06/10 17:42**		
Total Metals by SW 846 Series Methods									
Arsenic	**162**		2.1	mg/kg dry	1.00	10/11/10 10:43	DAN	10J0559	6010B
General Chemistry Parameters									
Percent Solids	**92**		0.010	%	1.00	10/08/10 09:16	RNH	10J0524	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ0840-03 (RR-TP-42 SOUTH 50' - Solid)					**Sampled: 09/30/10 12:30**		**Recvd: 10/06/10 17:42**		
Total Metals by SW 846 Series Methods									
Arsenic	**127**		2.2	mg/kg dry	1.00	10/11/10 10:49	DAN	10J0559	6010B
General Chemistry Parameters									
Percent Solids	**88**		0.010	%	1.00	10/08/10 09:18	RNH	10J0524	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
General Chemistry Parameters									
Dry Weight	10J0524	RTJ0840-01	10.00	g	10.00	g	10/07/10 13:12	CXM	Dry Weight
Dry Weight	10J0524	RTJ0840-03	10.00	g	10.00	g	10/07/10 13:12	CXM	Dry Weight
Total Metals by SW 846 Series Methods									
6010B	10J0559	RTJ0840-03	0.51	g	50.00	mL	10/08/10 12:30	MDM	3050B
6010B	10J0559	RTJ0840-01	0.51	g	50.00	mL	10/08/10 12:30	MDM	3050B

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ0840

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/06/10
Reported: 10/11/10 12:25

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Total Metals by SW 846 Series Methods										
Blank Analyzed: 10/11/10 (Lab Number:10J0559-BLK1, Batch: 10J0559)										
Arsenic			2.0	mg/kg wet	ND					
Reference Analyzed: 10/11/10 (Lab Number:10J0559-SRM1, Batch: 10J0559)										
Arsenic		138	2.0	mg/kg wet	126	92	70.4-129.7			

Chain of Custody Record

Temperature on Receipt ____

Drinking Water? Yes ☐ No ☑

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: [redacted] Turnkey Env Restoration LLC
Project Manager: Tom Forbes
Date: 9/30/10
Chain of Custody Number: 178238
Address: 2558 Hamburg Turnpike
Telephone Number (Area Code)/Fax Number: 716-856-0599/0583
Lab Number:
Page 1 of 1
City: Buffalo
State: NY
Zip Code: 14218
Site Contact: R. Dakosz
Lab Contact: B. Fisher
Project Name and Location (State): Tonawanda RR Corridor
Carrier/Waybill Number:
Contract/Purchase Order/Quote No.: 0071-009-610

Analysis (Attach list if more space is needed): TOAL Arsenic

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	HNO3	HCl	NaOH	ZnAc/NaOH	Special Instructions/ Conditions of Receipt
RR TP-12 North 35'	9/30/10	1000				Y	Y					3-DAY TAT
* RR TP-12 North 50'		1030				Y	Y					* Hold Sample
RR TP-42 North 35'		1145				Y	Y					3 DAY TAT
* RR TP42 North 50'		1130				Y	Y					* Hold Sample
RR TP42 South 35'		1200				Y	Y					3 DAY TAT
* RR TP-42 South 50'		1230				Y	Y					* Hold Sample

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☑ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other 30 Day

QC Requirements (Specify)

		Date	Time
1. Relinquished By: Louis M Seymour	1. Received By:	10-1-10	11:45
2. Relinquished By:	2. Received By:	10-01-10	12:30
3. Relinquished By:	3. Received By:	10/1/10	1230

Comments: * Hold Samples - Do not Analyze until further notice

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

4.2°C

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

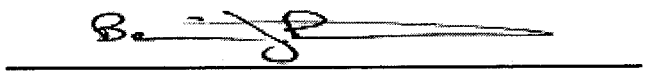
Analytical Report

Work Order: RTJ1379

Project Description
Tecumseh - Railroad Corridor

For:

Tom Forbes
Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218



Brian Fischer
Project Manager
Brian.Fischer@testamericainc.com
Monday, October 18, 2010

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to NELAP requirements are noted in this report. Persuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

TestAmerica Buffalo
Current Certifications

As of 08/16/2010

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA	10026
North Dakota	CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Oregon*	CWA,RCRA	NY200003
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parame ters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

CASE NARRATIVE

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

A pertinent document is appended to this report, 1 page, is included and is an integral part of this report.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

DATA QUALIFIERS AND DEFINITIONS

NR Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ1379-01 (RR-TP-12 75' NORTH - Solid)					**Sampled: 10/13/10 10:25**			**Recvd: 10/14/10 13:05**	
Total Metals by SW 846 Series Methods									
Arsenic	**87.9**		2.4	mg/kg dry	1.00	10/18/10 11:55	DAN	10J1289	6010B
General Chemistry Parameters									
Percent Solids	**80**		0.010	%	1.00	10/16/10 03:06	K.V	10J1285	Dry Weight
Sample ID: RTJ1379-02 (RR-TP-42 75' SOUTH - Solid)					**Sampled: 10/13/10 09:45**			**Recvd: 10/14/10 13:05**	
Total Metals by SW 846 Series Methods									
Arsenic	**71.8**		2.3	mg/kg dry	1.00	10/18/10 12:00	DAN	10J1289	6010B
General Chemistry Parameters									
Percent Solids	**87**		0.010	%	1.00	10/16/10 03:08	K.V	10J1285	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
RR-TP-12 75' NORTH	RTJ1379-01	Solid	10/13/10 10:25	10/14/10 13:05	
RR-TP-42 75' SOUTH	RTJ1379-02	Solid	10/13/10 09:45	10/14/10 13:05	

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ1379-01 (RR-TP-12 75' NORTH - Solid)					**Sampled: 10/13/10 10:25**		**Recvd: 10/14/10 13:05**		
Total Metals by SW 846 Series Methods									
Arsenic	**87.9**		2.4	mg/kg dry	1.00	10/18/10 11:55	DAN	10J1289	6010B
General Chemistry Parameters									
Percent Solids	**80**		0.010	%	1.00	10/16/10 03:06	K.V	10J1285	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTJ1379-02 (RR-TP-42 75' SOUTH - Solid)					**Sampled: 10/13/10 09:45**		**Recvd: 10/14/10 13:05**		
Total Metals by SW 846 Series Methods									
Arsenic	**71.8**		2.3	mg/kg dry	1.00	10/18/10 12:00	DAN	10J1289	6010B
General Chemistry Parameters									
Percent Solids	**87**		0.010	%	1.00	10/16/10 03:08	K.V	10J1285	Dry Weight

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
General Chemistry Parameters									
Dry Weight	10J1285	RTJ1379-01	10.00	g	10.00	g	10/15/10 10:12	CXM	Dry Weight
Dry Weight	10J1285	RTJ1379-02	10.00	g	10.00	g	10/15/10 10:12	CXM	Dry Weight
Total Metals by SW 846 Series Methods									
6010B	10J1289	RTJ1379-02	0.50	g	50.00	mL	10/15/10 11:40	MDM	3050B
6010B	10J1289	RTJ1379-01	0.51	g	50.00	mL	10/15/10 11:40	MDM	3050B

Turnkey/Benchmark
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RTJ1379

Project: Tecumseh - Railroad Corridor
Project Number: TURN-0060

Received: 10/14/10
Reported: 10/18/10 16:41

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Total Metals by SW 846 Series Methods										
Blank Analyzed: 10/18/10 (Lab Number:10J1289-BLK1, Batch: 10J1289)										
Arsenic			2.0	mg/kg wet	ND					
Reference Analyzed: 10/18/10 (Lab Number:10J1289-SRM1, Batch: 10J1289)										
Arsenic		138	2.0	mg/kg wet	127	92	70.4-129.7			

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☑

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: Turnkey Env. Restoration, LLC	Project Manager: Tom Forbes	Date: 10-13-10	Chain of Custody Number: 178240
Address: 2558 Hamburg Turnpike	Telephone Number (Area Code)/Fax Number: 716-822-0595/0583	Lab Number:	Page 1 of 1
City: Buffalo	State: NY	Zip Code: 14218	Site Contact: R. Dubaz	Lab Contact: B. Fisher
Project Name and Location (State): Tonawanda - R.R. Corridor 2W	Carrier/Waybill Number:	Analysis (Attach list if more space is needed)
Contract/Purchase Order/Quote No.		

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	TOTAL # of cont.	Special Instructions/ Conditions of Receipt
RR-TP-12 25' N	10-13-10	1025				X	X						✓	
RR-TP-11 - 100' N		1045				X	X						✓	* Hold Sample
RR TP-12 - 150' N		1100				X	X						✓	* Hold Sample
RR TP-42 25' S		0945				X	X						✓	
RR TP-42 - 100' S		1000				X	X						✓	* Hold Sample

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other 48 hr.

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10-13-10	1500	1. Received By	10-14-10	12:30
2. Relinquished By	10-14-10	13:00	2. Received By	10-14-10	1305
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: * Hold Sample - Do not ~~Analyze~~ Analyze until Further notice

6.0

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

APPENDIX D

PROJECT DOCUMENTATION FORMS

TurnKey Environmental Restoration, LLC

DAILY LOG	DATE			
	NO.			
	SHEET		OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:	PROJECT NO.
PROJECT LOCATION:	CLIENT:
FIELD ACTIVITY:	

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	DESCRIPTION

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
A.M.:	
P.M.:	

PERSONNEL ON SITE:	
SIGNATURE	DATE:

(CONTINUED)

TURNKEY ENVIRONMENTAL RESTORATION, LLC

DAILY LOG	DATE			
	NO.			
	SHEET		OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:	PROJECT NO.

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	DESCRIPTION

SIGNATURE	DATE:

(CONTINUED)

TurnKey Environmental Restoration, LLC

DAILY LOG	DATE			
	NO.			
	SHEET		OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:	PROJECT NO.

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	DESCRIPTION

REFERENCED PROJECT FIELD FORMS:

☐ Aquifer Test Data Sheet	☐ Impacted Soil Excavation Log	☐ Soil Gas Survey Log
☐ Chain-of-Custody Form	☐ Impacted Soil Transportation Log	☐ Step-Drawdown Test Data Sheet
☐ Construction Sample Summary Log	☐ Monitoring Well Inspection Form	☐ Survey Elevation Log
☐ Corrective Measures Report	☐ Nuclear Densitometer Field Log	☐ Tailgate Safety Meeting Form
☐ Daily Drilling Report	☐ Photographic Log	☐ Test Pit Excavation Log
☐ Drilling Safety Checklist	☐ Pipe Leakage Testing Log	☐ Underground/Overhead Utility Checklist
☐ Equipment Calibration Log	☐ Post-Closure Field Inspection Report	☐ Variance Log
☐ Field Borehole Log	☐ Pressure Packer Testing Log	☐ Water Level Monitoring Record
☐ Field Borehole/Monitoring Well Installation Log	☐ Problem Identification Report	☐ Water Quality Field Collection Log
☐ Field Investigation Report	☐ Real-Time Air Monitoring Log	☐ Water Sample Collection Log
☐ Field Slug Test Log	☐ Record of Telecom Meeting	☐ Well Abandonment/Decomm. Log
☐ Groundwater Elevation Log	☐ Sample Summary Collection Log	☐ Well Completion Detail
☐ GW Well Development and Purge Log	☐ Sediment Sample Collection Log	☐
☐ Hot Work Permit	☐ Seep Sample Collection Log	☐
☐ IDW Container Log	☐ Seepage Meter Sample Collection Log	☐

SIGNATURE DATE:

DAILY LOG	DATE			
	REPORT NO.			
	PAGE	OF		

PROBLEM IDENTIFICATION REPORT

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Problem Description:

Problem Location (reference test location, sketch on back of form as appropriate):

Problem Causes:

Suggested Corrective Measures or Variances:

Linked to Corrective Measures Report No. *or Variance Log No.*

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative

TurnKey Environmental Restoration, LLC

DAILY LOG	DATE			
	REPORT NO.			
	PAGE		OF	

CORRECTIVE MEASURES REPORT

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Corrective Measures Undertaken (reference Problem Identification Report No.)

Retesing Location:

Suggested Method of Minimizing Re-Occurrence:

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative

APPENDIX E

SITE HEALTH AND SAFETY PLAN
AND
COMMUNITY AIR MONITORING PLAN

Site-Wide Health and Safety Plan (HASP)

Tecumseh Redevelopment Site
Lackawanna, New York

April 2010

0071-007-350

Prepared For:

Tecumseh Redevelopment Inc.
Richfield, Ohio

Prepared By:

TurnKey Environmental Restoration, LLC

Benchmark Environmental Engineering & Science, PLLC

2558 Hamburg Turnpike, Suite 300, Buffalo, New York | phone: (716) 856-0599 | fax: (716) 856-0583

SITE HEALTH AND SAFETY PLAN
for
BROWNFIELD CLEANUP PROGRAM

TECUMSEH REDEVELOPMENT SITE
LACKAWANNA, NEW YORK

April 2010 0071-007-350

TECUMSEH REDEVELOPMENT SITE
SITE-WIDE HEALTH AND SAFETY PLAN

ACKNOWLEDGEMENT

Plan Reviewed by (initial):

Corporate Health and Safety Director: _____

Project Manager: _____

Designated Site Safety and Health Officer: _____

Acknowledgement:
I acknowledge that I have reviewed the information contained in this site-specific Health and Safety Plan, and understand the hazards associated with performance of the field activities described herein. I agree to comply with the requirements of this plan.

NAME (PRINT)	SIGNATURE	DATE

TECUMSEH REDEVELOPMENT SITE
SITE-WIDE HEALTH AND SAFETY PLAN

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 General 1
1.2 Background 1
1.3 Known and Suspected Environmental Conditions 3
1.4 Parameters of Interest 4
1.5 Overview of BCP Activities 4

2.0 ORGANIZATIONAL STRUCTURE 6
2.1 Roles and Responsibilities 6
2.1.1 Corporate Health and Safety Director 6
2.1.2 Project Manager 6
2.1.3 Site Safety and Health Officer 7
2.1.4 Site Workers 8
2.1.5 Other Site Personnel 8

3.0 HAZARD EVALUATION 9
3.1 Chemical Hazards 9
3.2 Physical Hazards 12

4.0 TRAINING 14
4.1 Site Workers 14
4.1.1 Initial and Refresher Training 14
4.1.2 Site Training 15
4.2 Supervisor Training 16
4.3 Emergency Response Training 16
4.4 Site Visitors 16

5.0 MEDICAL MONITORING 18

6.0 SAFE WORK PRACTICES 20

7.0 PERSONAL PROTECTIVE EQUIPMENT 22
7.1 Equipment Selection 22
7.2 Protection Ensembles 23
7.2.1 Level A/B Protection Ensemble 23
7.2.2 Level C Protection Ensemble 24
7.2.3 Level D Protection Ensemble 24
7.2.4 Recommended Level of Protection for Site Tasks 25

TECUMSEH REDEVELOPMENT SITE
SITE-WIDE HEALTH AND SAFETY PLAN

TABLE OF CONTENTS

8.0 EXPOSURE MONITORING 26
8.1 General 26
8.1.1 On-Site Work Zone Monitoring 26
8.1.2 Off-Site Community Air Monitoring 26
8.2 Monitoring Action Levels 27
8.2.1 On-Site Work Zone Action Levels 27
8.2.2 Community Air Monitoring Action Levels 29

9.0 SPILL RELEASE/RESPONSE 33
9.1 Potential Spills and Available Controls 33
9.2 Initial Spill Notification and Evaluation 34
9.3 Spill Response 35
9.4 Post-Spill Evaluation 36

10.0 HEAT/COLD STRESS MONITORING 37
10.1 Heat Stress Monitoring 37
10.2 Cold Stress Monitoring 39

11.0 WORK ZONES AND SITE CONTROL 42

12.0 DECONTAMINATION 44
12.1 Decontamination for TurnKey-Benchmark Employees 44
12.2 Decontamination for Medical Emergencies 45
12.3 Decontamination of Field Equipment 45

13.0 CONFINED SPACE ENTRY 46

14.0 FIRE PREVENTION AND PROTECTION 47
14.1 General Approach 47
14.2 Equipment and Requirements 47
14.3 Flammable and Combustible Substances 47
14.4 Hot Work 47

15.0 EMERGENCY INFORMATION 48

16.0 REFERENCES 49

TECUMSEH REDEVELOPMENT SITE
SITE-WIDE HEALTH AND SAFETY PLAN

TABLE OF CONTENTS

LIST OF TABLES

Table 1	Constituents of Potential Concern
Table 2	Toxicity Data for Constituents of Potential Concern
Table 3	Potential Routes of Exposure to Constituents of Potential Concern
Table 4	Required Levels of Protection for BCP Investigation and Remedial Activities

LIST OF FIGURES

Figure 1	Site Vicinity and Location Map
Figure 2	Site Map
Figure 3	Conceptual Redevelopment Master Plan

APPENDICES

Appendix A	Emergency Response Plan
Appendix B	Hot Work Permit Form
Appendix C	NYSDOH Generic Community Air Monitoring Plan

1.0 INTRODUCTION

1.1 General

In accordance with OSHA requirements contained in 29 CFR 1910.120, this Health and Safety Plan (HASP) describes the specific health and safety practices and procedures to be employed by TurnKey Environmental Restoration, LLC and Benchmark Environmental Engineering & Science, PLLC employees (referred to jointly hereafter as "TurnKey-Benchmark") during Brownfield Cleanup Program (BCP) activities on the Tecumseh Redevelopment Site (former Bethlehem Steel Lackawanna Works), located in the City of Lackawanna, New York.. This HASP presents procedures for TurnKey-Benchmark employees who will be involved with investigation and remedial field activities; it does not cover the activities of other contractors, subcontractors, or other individuals on the Site. These firms will be required to develop and enforce their own HASPs as discussed in Section 2.0. TurnKey-Benchmark accepts no responsibility for the health and safety of contractor, subcontractor, or other personnel.

This HASP presents information on known Site health and safety hazards using available historical information, and identifies the equipment, materials and procedures that will be used to eliminate or control these hazards. Environmental monitoring will be performed during the course of field activities to provide real-time data for on-going assessment of potential hazards.

1.2 Background

Tecumseh Redevelopment Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike, approximately 2 miles south of the City of Buffalo (see Figure 1). 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 (Hamburg Turnpike) on the east; Lake Erie to the west and northwest; and other industrial properties to the south and the northeast. Figure 2 provides an overview of the Tecumseh Property, including major leased or licensed parcels, and adjacent parcels owned by others.

The Tecumseh property is located on a portion of the Site of the former Bethlehem Steel Corporation (BSC) Lackawanna Works in a primarily industrial area. The property was

formerly used for the production of steel, coke and related products by Bethlehem Steel Corporation (BSC). According to the Real Estate Records, in 1937, Bethlehem Steel Company owned the subject Site. In 1964, Bethlehem Steel Company merged into Bethlehem Steel Corporation. Steel production on the property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired the property, along with other BSC assets, out of bankruptcy in 2003.

A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of the entire former Bethlehem Steel Lackawanna Works 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. In August 2006, USEPA approved the RFI and terminated Bethlehem Steel's (and in turn Tecumseh's) obligation under the 1990 Administrative Order. Tecumseh is presently negotiating 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.

In April 2005, Tecumseh signed a Memorandum of Understanding (MOU) with Erie County and the City of Lackawanna to promote redevelopment of the former BSC Lackawanna property following cleanup. Tecumseh has entered into Brownfield Cleanup Agreements (BCAs) with the NYSDEC to investigate, remediate, and redevelop the Phase I, II and III Business Parks. The BCP application for the Phase IA Business Park was submitted to NYSDEC and deemed complete in August 2007; the BCA is pending.

In August 2006, USEPA approved the RFI and terminated Bethlehem Steel's (and in turn Tecumseh's) obligation under the 1990 Administrative Order. Tecumseh is presently negotiating an Order on Consent with the NYSDEC to undertake corrective measures at certain SWMUs primarily on the western slag fill and coke manufacturing portion of the property. The Phase I Business Park Area encompasses approximately 102 acres, and is presently in the final stages of a Remedial Investigation and Alternatives Analysis Report (RI/AAR). The Phase IA Business Park encompasses approximately 12.9 acres to the west of the Phase I Business Park. The RI/AAR Work Plan and associated documents for the Phase IA Business Park were submitted to the NYSDEC in January 2008. Separate RI/AAR Work Plans are currently being prepared for the Phase II Business Park Area (approximately 173 acres) and the Phase III Business Park Area (approximately 93.4 acres).

BQ Energy, LLC has entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on approximately 29 acres of the Tecumseh property, referred to as the "Steel Winds Site." This 29-acre parcel, located along the Lake Erie shoreline, was investigated and has undergone final remedial measures under the NY State Brownfield Cleanup Program. Eight wind turbines and supporting power generation equipment and infrastructure are presently operating on this parcel.

Consistent with the Redevelopment Master Plan (see Figure 3), BQ Energy, LLC has submitted applications to the NYSDEC for participation in the Brownfield Cleanup Program for construction of wind turbines on two additional parcels. BQ Energy is proposing construction of two additional wind turbines to the north of the existing eight turbines on an approximate 9.33-acre parcel, referred to as Steel Winds IA. The Steel Winds IA Site is part of an existing lease agreement between Tecumseh Redevelopment Inc. and BQ Energy, LLC. The project has been subjected to SEQRA review and has been issued a negative declaration by the City of Lackawanna, the lead agency for the project. In addition, BQ Energy intends to construct eight turbines along the western boundary of the Phase III Business Park Area of the Tecumseh property. These additional turbines will occupy an approximate 55.47-acre parcel deemed "Steel Winds II." The Steel Winds II BCP Site will extend along the full length of the western boundary of Phase III Business Park. As the Phase III Business Park is already in the BCP, the Steel Winds II BCP application "carved out" or reassigned this portion of the Phase III Business Park to BQ Energy, LLC for the express purpose of expediting the RI/AAR and expanding the wind farm on this portion of the site under the BCP. A Brownfield Cleanup Agreement (BCA) was signed for the Steel Winds II Site on March 27, 2008.

1.3 Known and Suspected Environmental Conditions

The Phase I, IA, II, and III Business Park Areas were formerly used to house portions of BSC's steel making operations. The slag and other industrial fill materials contain highly variable and sometimes elevated concentrations of metals, as well as semi-volatile and volatile organic compounds (SVOCs and VOCs). In addition, groundwater in contact with the soil/fill materials described above may exhibit elevated concentrations of corresponding soluble COPCs (e.g., BTEX) in groundwater.

1.4 Parameters of Interest

Constituents of potential concern (COPCs) at the Site include:

- **Volatile Organic Compounds (VOCs)** – VOCs present at elevated concentration may include benzene, toluene, ethylbenzene, and xylene (i.e., BTEX). These VOCs are typically associated with storage and handling of petroleum products such as gasoline.

- **Semi-Volatile Organic Compounds (SVOCs) –** SVOCs present at elevated concentrations may include base-neutral semi-volatile organic compounds (SVOCs) from oils, greases, and fuels associated with the operation of locomotive engines, steel mills, petroleum bulk storage, and other historic steel manufacturing operations. Specifically, polycyclic aromatic hydrocarbons (PAHs), which are byproducts of incomplete combustion and impurities in petroleum products. Although PAHs are commonly found in urban soil environments, they may be present at the Site at concentrations that are elevated compared to typical "background" levels. Naphthalene is a natural component of fossil fuels such as petroleum and coal; it is also formed when natural products such as wood or tobacco are burned.

- **Polychlorinated Biphenyls (PCBs)** – The potential impact of surface and subsurface soils by PCBs in discrete areas associated with former substations, rail yards, and hydraulic pump houses.

- **Inorganic Compounds** – Inorganic COPCs potentially present at elevated concentrations due to steel making activities may include arsenic, cadmium, chromium, lead, and mercury. Several of these parameters are components of coke and slag which are prevalent in the planned work area.

In addition, groundwater in contact with the soil/fill materials described above may exhibit elevated concentrations of corresponding soluble COPCs (e.g., BTEX).

1.5 Overview of BCP Activities

TurnKey-Benchmark personnel will be on-site to observe BCP investigation and remedial activities. General field activities to be completed are described below. Detailed BCP activities are more fully described in the individual work plans for each property.

1. **Soil/Fill Excavation:** TurnKey-Benchmark will monitor all soil/fill excavations (e.g., wind turbine foundation excavation, test pit investigations) and related activities to visually inspect soil/fill for evidence of contamination.

2. **Soil/Fill Documentation Sampling:** TurnKey-Benchmark will collect surface and subsurface soil/fill documentation samples following excavation.

3. **Surface Water Management:** During excavation, surface water and/or perched groundwater infiltration may occur. TurnKey-Benchmark will direct the contractor to collect and characterize the surface water for proper disposal.

4. **Subgrade Work:** Significant grading of the Site may be required before implementation of remedial measures (e.g., cover system placement).

5. **Cover Soil Placement:** A soil cover system will be placed over select portions of the Site to reduce potential contact with impacted soil/fill. TurnKey-Benchmark will oversee installation of the cover system.

6. **Groundwater Monitoring Well Installation and Sampling:** TurnKey-Benchmark will install groundwater monitoring wells and collect samples for the long-term groundwater monitoring program.

7. **Groundwater Remediation:** TurnKey-Benchmark personnel will oversee the potential groundwater remediation at the Site, which may include installation of treatment (ORC/HRC) filter socks in groundwater monitoring wells.

2.0 ORGANIZATIONAL STRUCTURE

This chapter of the HASP describes the lines of authority, responsibility, and communication as they pertain to health and safety functions at the Site. The purpose of this chapter is to identify the personnel who impact the development and implementation of the HASP and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establishes the lines of communications among them for health and safety matters. The organizational structure described in this chapter is consistent with the requirements of 29 CFR 1910.120(b)(2). This section will be reviewed by the Project Manager and updated as necessary to reflect the current organizational structure at this Site.

2.1 Roles and Responsibilities

All Turnkey-Benchmark personnel on the Site must comply with the minimum requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this site are detailed in the following paragraphs.

2.1.1 Corporate Health and Safety Director

The TurnKey-Benchmark Corporate Health and Safety Director is ***Mr. Thomas H. Forbes, P.E.*** The Corporate Health and Safety Director responsible for developing and implementing the Health and Safety program and policies for Benchmark Environmental Engineering & Science, PLLC and TurnKey Environmental Restoration, LLC, and consulting with corporate management to ensure adequate resources are available to properly implement these programs and policies. The Corporate Health and Safety Director coordinates TurnKey-Benchmark's Health and Safety training and medical monitoring programs and assists project management and field staff in developing site-specific health and safety plans.

2.1.2 Project Manager

The Project Manager for this site is ***Thomas H. Forbes, P.E.*** The Project Manager has the responsibility and authority to direct all TurnKey-Benchmark work operations at the site. The Project Manager coordinates safety and health functions with the Site Safety and

Health Officer, and bears ultimate responsibility for proper implementation of this HASP. He may delegate authority to expedite and facilitate any application of the program, including modifications to the overall project approach as necessary to circumvent unsafe work conditions. Specific duties of the Project Manager include:

- Preparing and coordinating the site work plan.
- Providing TurnKey-Benchmark workers with work assignments and overseeing their performance.
- Coordinating health and safety efforts with the Site Safety and Health Officer (SSHO).
- Reviewing the emergency response coordination plan to assure its effectiveness.
- Serving as the primary liaison with site contractors and the property owner.

2.1.3 Site Safety and Health Officer

The Site Safety and Health Officer (SSHO) for this site is ***Mr. Richard L. Dubisz.*** The qualified alternate SSHO is ***Mr. Thomas Behrendt.*** The SSHO reports to the Project Manager. The SSHO is on-site or readily accessible to the site during all work operations and has the authority to halt site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

- Managing the safety and health functions for TurnKey-Benchmark personnel on the site.
- Serving as the point of contact for safety and health matters.
- Ensuring that TurnKey-Benchmark field personnel working on the site have received proper training (per 29 CFR Part 1910.120(e)), that they have obtained medical clearance to wear respiratory protection (per 29 CFR Part 1910.134), and that they are properly trained in the selection, use and maintenance of personal protective equipment, including qualitative respirator fit testing.
- Performing or overseeing site monitoring as required by the HASP.

- Assisting in the preparation and review of the HASP
- Maintaining site-specific safety and health records as described in this HASP
- Coordinating with the Project Manager, Site Workers and Contractor's SSHO as necessary for safety and health efforts.

2.1.4 Site Workers

Site workers are responsible for: complying with this HASP or a more stringent HASP, if appropriate (i.e., Contractor and Subcontractor's HASP); using proper PPE; reporting unsafe acts and conditions to the SSHO; and following the safety and health instructions of the Project Manager and SSHO.

2.1.5 Other Site Personnel

Other site personnel who will have health and safety responsibilities will include the Remedial Contractor, who will be responsible for developing, implementing and enforcing a Health and Safety Plan equally stringent or more stringent than TurnKey-Benchmark's HASP. TurnKey-Benchmark assumes no responsibility for the health and safety of anyone outside its direct employ. Each Contractor's HASP shall cover all non-TurnKey/ Benchmark site personnel. Each Contractor shall assign a SSHO who will coordinate with TurnKey-Benchmark's SSHO as necessary to ensure effective lines of communication and consistency between contingency plans.

In addition to TurnKey-Benchmark and Contractor personnel, other individuals who may have responsibilities in the work zone include subcontractors and governmental agencies performing site inspection work (i.e., the New York State Department of Environmental Conservation). The Contractor shall be responsible for ensuring that these individuals have received OSHA-required training (29 CFR 1910.120(e)), including initial, refresher and site-specific training, and shall be responsible for the safety and health of these individuals while they are on-site.

3.0 HAZARD EVALUATION

Due to the presence of certain contaminants at the Site, the possibility exists that workers will be exposed to hazardous substances during field activities. The principal points of exposure would be through direct contact with and incidental ingestion of soil/fill, and through the inhalation of contaminated particles or vapors, during test pit completion, monitoring well installation, and soil/fill excavation. In addition, the use of heavy construction equipment (e.g., dozer) will also present conditions for potential physical injury to workers. Further, since work will be performed outdoors, the potential exists for heat/cold stress to impact workers, especially those wearing protective equipment and clothing. Adherence to the medical evaluations, worker training relative to chemical hazards, safe work practices, proper personal protection, environmental monitoring, establishment work zones and site control, appropriate decontamination procedures and contingency planning outlined herein will reduce the potential for chemical exposures and physical injuries.

3.1 Chemical Hazards

As discussed in Section 1.3, historic activities related to the former steel-manufacturing operations and facilities have resulted in elevated concentrations of VOCs, SVOCs, PCBs, and inorganic compounds in Site soils and groundwater. Table 1 identifies maximum concentrations of COPCs detected throughout the Tecumseh property. Table 2 lists exposure limits for airborne concentrations of the COPCs identified in Section 1.4 of this HASP. Brief descriptions of the toxicology of the prevalent constituents of potential concern and related health and safety guidance and criteria are provided below.

- **Arsenic (CAS #7440-38-2)** is a naturally occurring element and is usually found combined with one or more elements, such as oxygen or sulfur. Inhalation is a more important exposure route than ingestion. First phase exposure symptoms include nausea, vomiting, diarrhea and pain in the stomach. Prolonged contact is corrosive to the skin and mucus membranes. Arsenic is considered a Group A human carcinogen by the USEPA. Exposure via inhalation is associated with an increased risk of lung cancer. Exposure via the oral route is associated with an increased risk of skin cancer.

- **Benzene (CAS #71-43-2)** poisoning occurs most commonly through inhalation of the vapor; however, benzene can also penetrate the skin and poison in that way. Locally, benzene has a comparatively strong irritating effect, producing erythema and burning and, in more severe cases, edema and blistering. Exposure to high concentrations of the vapor (i.e., 3,000 ppm or higher) may result in acute poisoning characterized by the narcotic action of benzene on the central nervous system. In acute poisoning, symptoms include confusion, dizziness, tightening of the leg muscles, and pressure over the forehead. Chronic exposure to benzene (i.e., long-term exposure to concentrations of 100 ppm or less) may lead to damage of the blood-forming system. Benzene is very flammable when exposed to heat or flame and can react vigorously with oxidizing materials.

- **Cadmium** is a natural element and is usually combined with one or more elements, such as oxygen, chloride or sulfur. Breathing high levels of cadmium severely damages the lungs and can cause death. Ingestion of high levels of cadmium severely irritates the stomach, leading to vomiting and diarrhea. Long term exposure to lower levels of cadmium leads to a buildup of this substance in the kidneys and possible kidney disease. Other potential long term effects are lung damage and fragile bones. Cadmium is suspected to be a human carcinogen.

- **Chromium (CAS #7440-47-3)** is used in the production of stainless steel, chrome plated metals, and batteries. Two forms of chromium, hexavalent (CR+6) and trivalent (CR+3) are toxic. Hexavalent chromium is an irritant and corrosive to the skin and mucus membranes. Chromium is a potential occupational carcinogen. Acute exposures to dust may cause coughing, wheezing, headaches, pain and fever.

- **Ethylbenzene (CAS #100-41-4)** is a component of automobile gasoline. Over-exposure may cause kidney, skin liver and/or respiratory disease. Signs of exposure may include dermatitis, irritation of the eyes and mucus membranes, headache. Narcosis and coma may result in more severe cases.

- **Lead (CAS #7439-92-1)** can affect almost every organ and system in our bodies. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Lead may decrease reaction time, cause weakness in fingers, wrists or ankles and possibly affect memory. Lead may cause anemia.

- **Mercury (CAS #7439-97-6)** is used in industrial applications for the production of caustic and chlorine, and in electrical control equipment and apparatus. Over-exposure to mercury may cause coughing, chest pains, bronchitis, pneumonia, indecision, headaches, fatigue and salivation. Mercury is a skin and eye irritant.

- **Naphthalene (CAS #91-20-3)** is a white solid with a strong smell; is also called mothballs, moth flakes, white tar, and tar camphor. Naphthalene is a natural component of fossil fuels such as petroleum and coal; it is also formed when natural products such as wood or tobacco are burned. Acute exposure to naphthalene can cause systemic reactions, including nausea, headache, diaphoresis, hematuria, fever, anemia, liver damage, vomiting, convulsions, and coma. Acute exposure can also cause eye irritation, confusion, excitement, malaise, abdominal pain, irritation to the bladder, profuse sweating, jaundice, hematopoietic, hemoglobinuria, renal shutdown, and dermatitis. Exposure to a large amount of naphthalene can cause red blood cells to be damaged or destroyed, a condition called hemolytic anemia, which leads to fatigue, lack of appetite, restlessness, and a pale appearance. Poisoning may occur by ingestion of large doses, skin and/or eye contact, inhalation, or skin absorption.

- **Polycyclic Aromatic Hydrocarbons (PAHs)** are formed as a result of the pyrolysis and incomplete combustion of organic matter such as fossil fuel. PAH aerosols formed during the combustion process disperse throughout the atmosphere, resulting in the deposition of PAH condensate in soil, water and on vegetation. In addition, several products formed from petroleum processing operations (e.g., roofing materials and asphalt) also contain elevated levels of PAHs. Hence, these compounds are widely dispersed in the environment. PAHs are characterized by a molecular structure containing three or more fused, unsaturated carbon rings. Seven of the PAHs are classified by USEPA as probable human carcinogens (USEPA Class B2). These are: benzo(a)pyrene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; chrysene; dibenzo(a,h)anthracene; and indeno(1,2,3-cd)pyrene. The primary route of exposure to PAHs is through incidental ingestion and inhalation of contaminated particulates. PAH's are characterized by an organic odor, and exist as oily liquids in pure form. Acute exposure symptoms may include acne-type blemishes in areas of the skin exposed to sunlight.

- **Polynuclear Chlorinate Biphenyls (PCBs)** are associated with former substations, rail yards, and hydraulic pump houses on the Site. PCBs can be absorbed into the body by inhalation of its aerosol, through the skin, and by ingestion. Repeated or prolonged contact with skin may cause dermatitis. PCBs may have effects on the liver. Animal tests show that PCBs possibly cause toxic effects in human reproduction. In the food chain, bioaccumulation takes place, specifically in aquatic organisms. A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

- **Toluene (CAS #108-88-3)** is a common component of paint thinners and automobile fuel. Acute exposure predominantly results in central nervous system depression. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness, and coordination loss. Repeated exposures may cause removal of lipids from the skin, resulting in dry, fissured dermatitis.

- **Xylenes (o, m, and p) (CAS #95-47-6, 108-38-3, and 106-42-3)** are colorless, flammable liquids present in paint thinners and fuels. Acute exposure may cause central nervous system depression, resulting in headache, dizziness, fatigue, muscular weakness, drowsiness, and coordination loss. Repeated exposures may also cause removal of lipids from the skin, producing dry, fissured dermatitis. Exposure of high concentrations of vapor may cause eye irritation and damage, as well as irritation of the mucus membranes.

With respect to the anticipated BCP activities discussed in Section 1.5, possible routes of exposure to the above-mentioned contaminants are presented in Table 3. The use of proper respiratory equipment, as outlined in Section 7.0 of this HASP, will minimize the potential for exposure to airborne contamination. Exposure to contaminants through dermal and other routes will also be minimized through the use of protective clothing (Section 7.0), safe work practices (Section 6.0), and proper decontamination procedures (Section 12.0).

3.2 Physical Hazards

BCP investigation and remedial activities at the Tecumseh site may present the following physical hazards:

- The potential for physical injury during heavy construction equipment use, such as grading equipment, excavators, and tandem trucks.

- The potential for heat/cold stress to employees during the summer/winter months (see Section 10.0).

- The potential for slip and fall injuries due to rough, uneven terrain and/or open excavations.

These hazards represent only some of the possible means of injury that may be present during investigation and remedial activities at the Site. Since it is impossible to list all

potential sources of injury, it shall be the responsibility of each individual to exercise proper care and caution during all phases of the work.

4.0 TRAINING

4.1 Site Workers

All personnel performing investigation and remedial activities at the Site (such as, but not limited to, equipment operators, general laborers, and supervisors) and who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors/managers responsible for the Site shall receive training in accordance with 29 CFR 1910.120(e) before they are permitted to engage in operations in the exclusion zone or contaminant reduction zone. This training includes an initial 40-hour Hazardous Waste Site Worker Protection Course, an 8-hour Annual Refresher Course subsequent to the initial 40-hour training, and 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. Additional site-specific training shall also be provided by the SSHO prior to the start of field activities. A description of topics to be covered by this training is provided below.

4.1.1 Initial and Refresher Training

Initial and refresher training is conducted by a qualified instructor as specified under OSHA 29 CFR 1910.120(e)(5), and is specifically designed to meet the requirements of OSHA 29 CFR 1910.120(e)(3) and 1910.120(e)(8). The training covers, as a minimum, the following topics:

- OSHA HAZWOPER regulations.
- Site safety and hazard recognition, including chemical and physical hazards.
- Medical monitoring requirements.
- Air monitoring, permissible exposure limits, and respiratory protection level classifications.
- Appropriate use of personal protective equipment (PPE), including chemical compatibility and respiratory equipment selection and use.
- Work practices to minimize risk.
- Work zones and site control.
- Safe use of engineering controls and equipment.
- Decontamination procedures.
- Emergency response and escape.

- Confined space entry procedures.
- Heat and cold stress monitoring.
- Elements of a Health and Safety Plan.
- Spill containment.

Initial training also incorporates workshops for PPE and respiratory equipment use (Levels A, B and C), and respirator fit testing. Records and certification received from the course instructor documenting each employee's successful completion of the training identified above are maintained on file at TurnKey-Benchmark's Buffalo, NY office. Contractors and Subcontractors are required to provide similar documentation of training for all their personnel who will be involved in on-site work activities.

Any employee who has not been certified as having received health and safety training in conformance with 29 CFR 1910.120(e) is prohibited from working in the exclusion and contamination reduction zones, or to engage in any on-site work activities that may involve exposure to hazardous substances or wastes.

4.1.2 Site Training

Site workers are given a copy of the HASP and provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with the HASP and the information and requirements it contains. The site briefing shall be provided by the SSHO prior to initiating field activities and shall include:

- Names of personnel and alternates responsible for site safety and health.
- Safety, health and other hazards present on the Site.
- The Site lay-out including work zones and places of refuge.
- The emergency communications system and emergency evacuation procedures.
- Use of PPE.
- Work practices by which the employee can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Medical surveillance, including recognition of symptoms and signs of over-exposure as described in Chapter 5 of this HASP.
- Decontamination procedures as detailed in Chapter 12 of this HASP.
- The emergency response plan as detailed in Chapter 15 of this HASP.

- Confined space entry procedures, if required, as detailed in Chapter 13 of this HASP.
- The spill containment program as detailed in Chapter 9 of this HASP.
- Site control as detailed in Chapter 11 of this HASP.

Supplemental health and safety briefings will also be conducted by the SSHO on an as-needed basis during the course of the work. Supplemental briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during ongoing site characterization and analysis. Conditions for which the SSHO may schedule additional briefings include, but are not limited to: a change in Site conditions (i.e., based on monitoring results); changes in the work schedule/plan; newly discovered hazards; and safety incidents occurring during Site work.

4.2 Supervisor Training

On-site safety and health personnel who are directly responsible for or who supervise the safety and health of workers engaged in hazardous waste operations (i.e., SSHO) shall receive, in addition to the appropriate level of worker training described in Section 4.1, above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

4.3 Emergency Response Training

Emergency response training is addressed in Appendix A of this HASP, Emergency Response Plan.

4.4 Site Visitors

Each Contractor's SSHO will provide a site-specific briefing to all site visitors and other non-TurnKey/Benchmark personnel who enter the Site beyond the site entry point. The site-specific briefing will provide information about site hazards, the site layout including work zones and places of refuge, the emergency communications system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

Site visitors will not be permitted to enter the exclusion zone or contaminant reduction zones unless they have received the level of training required for site workers as described in Section 4.1.

5.0 MEDICAL MONITORING

Medical monitoring examinations are provided to TurnKey-Benchmark employees as stipulated under 29 CFR Part 1910.120(f). These exams include initial employment, annual and employment termination physicals for all TurnKey-Benchmark employees involved in hazardous waste site field operations. Post-exposure examinations are also provided for employees who may have been injured, received a health impairment, or developed signs or symptoms of over-exposure to hazardous substances or were accidentally exposed to substances at concentrations above the permissible exposure limits without necessary personal protective equipment. Such exams are performed as soon as possible following development of symptoms or the known exposure event.

Medical evaluations are performed by ADP Screening & Selection Services, an occupational health care provider under contract with TurnKey-Benchmark. ADP's local facility is Health Works WNY, Seneca Square Plaza, 1900 Ridge Road, West Seneca, New York 14224. The facility can be reached at (716) 823-5050 to schedule routine appointments or post-exposure examinations.

Medical evaluations are conducted according to the TurnKey-Benchmark Medical Monitoring Program and include an evaluation of the workers' ability to use respiratory protective equipment. The purpose of the medical evaluation is to determine an employee's fitness for duty on hazardous waste sites; and to establish baseline medical data. The examinations include:

- Occupational/medical history review.
- Physical exam, including vital sign measurement.
- Spirometry testing.
- Eyesight testing.
- Audio testing (minimum baseline and exit, annual for employees routinely exposed to greater than 85db).
- EKG (for employees >40 yrs age or as medical conditions dictate).
- Chest X-ray (baseline and exit, and every 5 years).
- Blood biochemistry (including blood count, white cell differential count, serum multiplastic screening).
- Medical certification of physical requirements (i.e., sight, musculoskeletal, cardiovascular) for safe job performance and to wear respiratory protection equipment.

In conformance with OSHA regulations, TurnKey-Benchmark will maintain and preserve medical records for a period of 30 years following termination of employment. Employees are provided a copy of the physician's post-exam report, and have access to their medical records and analyses.

6.0 SAFE WORK PRACTICES

All TurnKey-Benchmark employees shall conform to the following safe work practices during all on-site work activities conducted within the exclusion and contamination reduction zones:

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth contact is strictly prohibited.
- The hands and face must be thoroughly washed upon leaving the work area and prior to engaging in any activity indicated above.
- Respiratory protective equipment and clothing must be worn by all personnel entering the site as required by the HASP or as modified by the site safety officer. Excessive facial hair (i.e., beards, long mustaches or sideburns) that interferes with the satisfactory respirator-to-face seal is prohibited.
- Contact with surfaces/materials either suspected or known to be contaminated will be avoided to minimize the potential for transfer to personnel, cross contamination and need for decontamination.
- Medicine and alcohol can synergize the effects of exposure to toxic chemicals. Due to possible contraindications, use of prescribed drugs should be reviewed with the TurnKey-Benchmark occupational physician. Alcoholic beverage and illegal drug intake are strictly forbidden during the workday.
- All personnel shall be familiar with standard operating safety procedures and additional instructions contained in this Health and Safety Plan.
- On-site personnel shall use the "buddy" system. No one may work alone (i.e., out of earshot or visual contact with other workers) in the exclusion zone.
- Personnel and equipment in the contaminated area shall be minimized, consistent with effective site operations.
- All employees have the obligation to immediately report and if possible, correct unsafe work conditions.
- Use of contact lenses on-site will not be permitted. Spectacle kits for insertion into full-face respirators will be provided for TurnKey-Benchmark employees, as requested and required.

The recommended specific safety practices for working around the contractor's equipment (e.g., backhoes, bulldozers, excavators, etc.) are as follows:

- Although the Contractor and subcontractors are responsible for their equipment and safe operation of the site, TurnKey-Benchmark personnel are also responsible for their own safety.

- Subsurface work will not be initiated without first clearing underground utility services.

- Heavy equipment should not be operated within 20 feet of overhead wires. This distance may be increased if windy conditions are anticipated or if lines carry high voltage. The site should also be sufficiently clear to ensure the project staff can move around the heavy machinery safely.

- Care should be taken to avoid overhead wires when moving heavy-equipment from location to location.

- Hard hats, safety boots and safety glasses should be worn at all times in the vicinity of heavy equipment. Hearing protection is also recommended.

- The work site should be kept neat. This will prevent personnel from tripping and will allow for fast emergency exit from the site.

- Proper lighting must be provided when working at night.

- Construction activities should be discontinued during an electrical storm or severe weather conditions.

- The presence of combustible gases should be checked before igniting any open flame.

- Personnel shall stand upwind of any construction operation when not immediately involved in sampling/logging/observing activities.

- Personnel will not approach the edge of an unsecured trench/excavation closer than 2 feet.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 Equipment Selection

Personal protective equipment (PPE) will be donned when work activities may result in exposure to physical or chemical hazards beyond acceptable limits, and when such exposure can be mitigated through appropriate PPE. The selection of PPE will be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the Site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.

Equipment designed to protect the body against contact with known or suspect chemical hazards are grouped into four categories according to the degree of protection afforded. These categories designated A through D consistent with USEPA Level of Protection designation, are:

- **Level A:** Should be selected when the highest level of respiratory, skin and eye protection is needed.

- **Level B:** Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection is required. Level B protection is the minimum level recommended on initial site entries until the hazards have been further defined by on-site studies. Level B (or Level A) is also necessary for oxygen-deficient atmospheres.

- **Level C:** Should be selected when the types of airborne substances are known, the concentrations have been measured and the criteria for using air-purifying respirators are met. In atmospheres where no airborne contaminants are present, Level C provides dermal protection only.

- **Level D:** Should not be worn on any site with elevated respiratory or skin hazards. This is generally a work uniform providing minimal protection.

OSHA requires the use of certain PPE under conditions where an immediate danger to life and health (IDLH) may be present. Specifically, OSHA 29 CFR 1910.120(g)(3)(iii) requires use of a positive pressure self-contained breathing apparatus, or positive pressure air-line respirator equipped with an escape air supply when chemical exposure levels present a substantial possibility of immediate serious injury, illness or death, or impair the ability to

escape. Similarly, OSHA 29 CFR 1910.120(g)(3)(iv) requires donning totally encapsulating chemical protective suits (with a protection level equivalent to Level A protection) in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate serious illness, injury or death, or impair the ability to escape.

In situations where the types of chemicals, concentrations, and possibilities of contact are unknown, the appropriate level of protection must be selected based on professional experience and judgment until the hazards can be further characterized. The individual components of clothing and equipment must be assembled into a full protective ensemble to protect the worker from site-specific hazards, while at the same time minimizing hazards and drawbacks of the personal protective gear itself. Ensemble components are detailed below for levels A/B, C, and D protection.

7.2 Protection Ensembles

7.2.1 Level A/B Protection Ensemble

Level A/B ensembles include similar respiratory protection, however Level A provides a higher degree of dermal protection than Level B. Use of Level A over Level B is determined by: comparing the concentrations of identified substances in the air with skin toxicity data, and assessing the effect of the substance (by its measured air concentrations or splash potential) on the small area of the head and neck unprotected by Level B clothing.

The recommended PPE for level A/B is:

- Pressure-demand, full-face piece self-contained breathing apparatus (MSHA/-NIOSH approved) or pressure-demand supplied-air respirator with escape self-contained breathing apparatus (SCBA).
- Chemical-resistant clothing. For Level A, clothing consists of totally-encapsulating chemical resistant suit. Level B incorporates hooded one-or two-piece chemical splash suit.
- Inner and outer chemical resistant gloves.
- Chemical-resistant safety boots/shoes.
- Hardhat.

7.2.2 Level C Protection Ensemble

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing an air-purifying device. The device (when required) must be an air-purifying respirator (MSHA/NIOSH approved) equipped with filter cartridges. Cartridges must be able to remove the substances encountered. Respiratory protection will be used only with proper fitting, training and the approval of a qualified individual. In addition, an air-purifying respirator can be used only if: oxygen content of the atmosphere is at least 19.5% in volume; substances are identified and concentrations measured; substances have adequate warning properties; the individual passes a qualitative fit-test for the mask; and an appropriate cartridge/canister is used, and its service limit concentration is not exceeded.

Recommended PPE for Level C conditions includes:

- Full-face piece, air-purifying respirator equipped with MSHA and NIOSH approved organic vapor/acid gas/dust/mist combination cartridges or as designated by the SSHO.
- Chemical-resistant clothing (hooded, one or two-piece chemical splash suit or disposable chemical-resistant one-piece suit).
- Inner and outer chemical-resistant gloves.
- Chemical-resistant safety boots/shoes.
- Hardhat.

An air-monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators. Continual surveillance using direct-reading instruments is needed to detect any changes in air quality necessitating a higher level of respiratory protection.

7.2.3 Level D Protection Ensemble

As indicated above, Level D protection is primarily a work uniform. It can be worn in areas where only boots can be contaminated, where there are no inhalable toxic substances and where the atmospheric contains at least 19.5% oxygen.

Recommended PPE for Level D includes:

- Coveralls.
- Safety boots/shoes.
- Safety glasses or chemical splash goggles.
- Hardhat.
- Optional gloves; escape mask; face shield.

7.2.4 Recommended Level of Protection for Site Tasks

Based on current information regarding both the contaminants suspected to be present at the Site and the various tasks that are included in the investigation and remedial activities, the minimum required Levels of Protection for these tasks shall be as identified in Table 4.

8.0 EXPOSURE MONITORING

8.1 General

Based on the results of historic sample analysis and the nature of the proposed work activities at the Site, the possibility exists that organic vapors and/or particulates may be released to the air during intrusive construction activities. Ambient breathing zone concentrations may at times, exceed the permissible exposure limits (PELs) established by OSHA for the individual compounds (see Table 2), in which case respiratory protection will be required. Respiratory and dermal protection may be modified (upgraded or downgraded) by the SSHO based upon real-time field monitoring data.

8.1.1 On-Site Work Zone Monitoring

TurnKey-Benchmark personnel will conduct routine, real-time air monitoring during all intrusive construction phases such as excavation, backfilling, drilling, etc. The work area will be monitored at regular intervals using a photo-ionization detector (PID), combustible gas meter and a particulate meter. Observed values will be recorded and maintained as part of the permanent field record.

Additional air monitoring measurements may be made by TurnKey-Benchmark personnel to verify field conditions during subcontractor oversight activities. Monitoring instruments will be protected from surface contamination during use. Additional monitoring instruments may be added if the situations or conditions change. Monitoring instruments will be calibrated in accordance with manufacturer's instructions before use.

8.1.2 Off-Site Community Air Monitoring

In addition to on-site monitoring within the work zone(s), monitoring at the down-wind portion of the Site perimeter will be conducted. This will provide a real-time method for determination of substantial vapor and/or particulate releases to the surrounding community as a result of ground intrusive investigation work.

Ground intrusive activities are defined by NYSDOH Appendix 1A Generic Community Air Monitoring Plan (Reference 4) and attached as Appendix C. Ground intrusive activities include soil/waste excavation and handling, test pitting or trenching, and

the installation of soil borings or monitoring wells. Non-intrusive activities include the collection of soil and sediment samples or the collection of groundwater samples from existing wells. Continuous monitoring is required for ground intrusive activities and periodic monitoring is required for non-intrusive activities. Periodic monitoring consists of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring while bailing a well, and taking a reading prior to leaving a sampling location. This may be upgraded to continuous if the sampling location is in close proximity to individuals not involved in the site activity (i.e., on a curb of a busy street). The action levels below will be used during periodic monitoring. This will provide a real-time method for determination of substantial vapor and/or particulate releases to the surrounding community because of site investigation work.

8.2 Monitoring Action Levels

8.2.1 On-Site Work Zone Action Levels

The PID, explosimeter, or other appropriate instrument(s), will be used by TurnKey-Benchmark personnel to monitor organic vapor concentrations as specified in this HASP. In addition, fugitive dust/particulate concentrations will be monitored during major soil intrusion using a real-time particulate monitor as specified in this plan. In the absence of such monitoring, appropriate respiratory protection for particulates shall be donned. Sustained readings obtained in the breathing zone may be interpreted (with regard to other site conditions) as follows for TurnKey-Benchmark personnel:

- Total atmospheric concentrations of unidentified vapors or gases ranging from 0 to 1 ppm above background on the PID) - Continue operations under Level D (see Appendix A).

- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings from >1 ppm to 5 ppm above background on the PID (vapors not suspected of containing high levels of chemicals toxic to the skin) - Continue operations under Level C (see Appendix A).

- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings of >5 ppm to 50 ppm above background on the PID -

Continue operations under Level B (see Attachment 1), re-evaluate and alter (if possible) construction methods to achieve lower vapor concentrations.

- Total atmospheric concentrations of unidentified vapors or gases above 50 ppm on the PID - Discontinue operations and exit the work zone immediately.

The explosimeter will be used to monitor levels of both combustible gases and oxygen during RD activities involving deep excavation, if required. Action levels based on the instrument readings shall be as follows:

- Less than 10% LEL - Continue engineering operations with caution.
- 10-25% LEL - Continuous monitoring with extreme caution, determine source/cause of elevated reading.
- Greater than 25% LEL - Explosion hazard, evaluate source and leave the Work Zone.
- 19.5-21% oxygen - Proceed with extreme caution; attempt to determine potential source of oxygen displacement.
- Less than 19.5% oxygen - Leave work zone immediately.
- 21-25% oxygen - Continue engineering operations with caution.
- Greater than 25% oxygen - Fire hazard potential, leave Work Zone immediately.

The particulate monitor will be used to monitor respirable dust concentrations during all intrusive activities and during handling of site soil/fill. Action levels based on the instrument readings shall be as follows:

- Less than 50 $\mu g/m^3$ - Continue field operations.
- 50-150 $\mu g/m^3$ - Don dust/particulate mask or equivalent
- Greater than 150 $\mu g/m^3$ - Don dust/particulate mask or equivalent. Initiate engineering controls to reduce respirable dust concentration (i.e., wetting of excavated soils or tools at discretion of SSHO).

Readings with the organic vapor analyzer, combustible gas meter, and particulate monitor will be recorded and documented on the appropriate Project Field Forms. All instruments will be calibrated before use on a daily basis and the procedure will be documented on the appropriate Project Field Forms.

8.2.2 Community Air Monitoring Action Levels

In addition to the action levels prescribed in Section 8.2.1 for Benchmark personnel on-site, the following criteria shall also be adhered to for the protection of downwind receptors consistent with NYSDOH requirements (Appendix C):

- **ORGANIC VAPOR PERIMETER MONITORING:**
  - If the sustained ambient air concentration of organic vapors at the downwind perimeter of the exclusion zone exceeds 5 ppm above background, work activities will be halted and monitoring continued. If the sustained organic vapor decreases below 5 ppm over background, work activities can resume but more frequent intervals of monitoring, as directed by the SSHO, must be conducted.

  - If the sustained ambient air concentration of organic vapors at the downwind perimeter of the exclusion zone are greater than 5 ppm over background but less than 25 ppm, activities can resume provided that: the organic vapor level 200 feet downwind of the working site or half the distance to the nearest off-site residential or commercial structure, whichever is less, is below 5 ppm over background; and more frequent intervals of monitoring, as directed by the SSHO, are conducted.

  - If the sustained organic vapor level is above 25 ppm at the perimeter of the exclusion zone, the SSHO must be notified and work activities shut down. The SSHO will determine when re-entry of the exclusion zone is possible and will implement downwind air monitoring to ensure vapor emissions do not impact the nearest off-site residential or commercial structure at levels exceeding those specified in the ***Organic Vapor Contingency Monitoring Plan*** below. All readings will be recorded and will be available for New York State Department of Environmental Conservation (NYSDEC) and Department of Health (NYSDOH) personnel to review.

- **ORGANIC VAPOR CONTINGENCY MONITORING PLAN:**
  - If the sustained organic vapor level is greater than 5 ppm over background 200 feet downwind from the work area or half the distance to the nearest off-site residential or commercial property, whichever is less, all work activities must be halted.
  - If, following the cessation of the work activities or as the result of an emergency, sustained organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest off-site residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest off-site residential or commercial structure (20-foot zone).
  - If efforts to abate the emission source are unsuccessful and if sustained organic vapor levels approach or exceed 5 ppm above background within the 20-foot zone for more than 30 minutes, or are sustained at levels greater than 10 ppm above background for longer than one minute, then the ***Major Vapor Emission Response Plan*** (see below) will automatically be placed into effect.

- ***Major Vapor Emission Response Plan:***

  Upon activation, the following activities will be undertaken:

  1. All Emergency Response Contacts as listed in this Health and Safety Plan and the Emergency Response Plan (Appendix A) will be advised.
  2. The local police authorities will immediately be contacted by the SSHO and advised of the situation.
  3. Frequent air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two sustained successive readings below action levels are measured, air monitoring may be halted or modified by the SSHO.

The following personnel are to be notified in the listed sequence in the event that a Major Vapor Emission Plan is activated:

Responsible Person	Contact	Phone Number
SSHO	Police	911
SSHO	State Emergency Response Hotline	(800) 457-7362

Additional emergency numbers are listed in the Emergency Response Plan included as Appendix A.

- **EXPLOSIVE VAPORS:**
  - Sustained atmospheric concentrations of greater than 10% LEL in the work area - Initiate combustible gas monitoring at the downwind portion of the Site perimeter.
  - Sustained atmospheric concentrations of greater than 10% LEL at the downwind Site perimeter – Halt work and contact local Fire Department.

- **Airborne Particulate Community Air Monitoring**

Respirable (PM-10) particulate monitoring will be performed on a continuous basis at the upwind and downwind perimeter of the exclusion zone. The monitoring will be performed using real-time monitoring equipment capable of measuring PM-10 and integrating over a period of 15-minutes for comparison to the airborne particulate action levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. All readings will be recorded and will be available for NYSDEC and NYSDOH review. Readings will be interpreted as follows:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than the background (upwind perimeter) reading for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression provided that the downwind PM-10 particulate levels do not exceed 150 $\mu g/m^3$ above the upwind level and that visible dust is not migrating from the work area.
- If, after implementation of dust suppression techniques downwind PM-10 levels are greater than 150 $\mu g/m^3$ above the upwind level, work activities must be stopped and dust suppression controls re-evaluated. Work can resume provided that supplemental dust suppression measures and/or other controls

are successful in reducing the downwind PM-10 particulate concentration to within 150 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

Pertinent emergency response information including the telephone number of the Fire Department is included in the Emergency Response Plan (Appendix A).

9.0 SPILL RELEASE/RESPONSE

This chapter of the HASP describes the potential for and procedures related to spills or releases of known or suspected petroleum and/or hazardous substances on the Site. The purpose of this Section of the HASP is to plan appropriate response, control, counter-measures and reporting, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii). The spill containment program addresses the following elements:

- Potential hazardous material spills and available controls.
- Initial notification and evaluation.
- Spill response.
- Post-spill evaluation.

9.1 Potential Spills and Available Controls

An evaluation was conducted to determine the potential for hazardous material and oil/petroleum spills at this site. For the purpose of this evaluation, hazardous materials posing a significant spill potential are considered to be:

- CERCLA Hazardous Substances as identified in 40 CFR Part 302, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

- Extremely Hazardous Substances as identified in 40 CFR Part 355, Appendix A, where such materials pose the potential for release in excess of their corresponding RQ.

- Hazardous Chemicals as defined under Section 311(e) of the Emergency Planning and Community Right-To-Know Act of 1986, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Toxic Chemicals as defined in 40 CFR Part 372, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Chemicals regulated under 6NYCRR Part 597, where such materials pose the potential for release in excess of their corresponding RQ.

Oil/petroleum products are considered to pose a significant spill potential whenever the following situations occur:

- The potential for a "harmful quantity" of oil (including petroleum and non-petroleum-based fuels and lubricants) to reach navigable waters of the U.S. exists (40 CFR Part 112.4). Harmful quantities are considered by USEPA to be volumes that could form a visible sheen on the water or violate applicable water quality standards.

- The potential for any amount of petroleum to reach any waters of NY State, including groundwater, exists. Petroleum, as defined by NY State in 6NYCRR Part 612, is a petroleum-based heat source, energy source, or engine lubricant/maintenance fluid.

- The potential for any release, to soil or water, of petroleum from a bulk storage facility regulated under 6NYCRR Part 612. A regulated petroleum storage facility is defined by NY State as a site having stationary tank(s) and intra-facility piping, fixtures and related equipment with an aggregate storage volume of 1,100 gallons or greater.

The evaluation indicates that, based on site history and decommissioning records, a hazardous material spill and/or a petroleum product spill is not likely to occur during Remedial efforts.

9.2 Initial Spill Notification and Evaluation

Any worker who discovers a hazardous substance or oil/petroleum spill will immediately notify the Project Manager and SSHO. The worker will, to the best of his/her ability, report the material involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, if any, and any associated injuries. The Emergency Response Plan presented as Appendix A of this HASP will immediately be implemented if an emergency release has occurred.

Following initial report of a spill, the Project Manager will make an evaluation as to whether the release exceeds RQ levels. If an RQ level is exceeded, the Project Manager will notify the site owner and NYSDEC at 1-800-457-7362 within 2 hours of spill discovery. The Project Manager will also determine what additional agencies (e.g., USEPA) are to be

contacted regarding the release, and will follow-up with written reports as required by the applicable regulations.

9.3 Spill Response

For all spill situations, the following general response guidelines will apply:

- Only those personnel involved in overseeing or performing containment operations will be allowed within the spill area. If necessary, the area will be roped, ribboned, or otherwise blocked off to prevent unauthorized access.
- Appropriate PPE, as specified by the SSHO, will be donned before entering the spill area.
- Ignition points will be extinguished/removed if fire or explosion hazards exist.
- Surrounding reactive materials will be removed.
- Drains or drainage in the spill area will be blocked to prevent inflow of spilled materials or applied materials.

For minor spills, the Contractor will maintain a Spill Control and Containment Kit in the Field Office or other readily accessible storage location. The kit will consist of, at a minimum, a 50 lb. bag of "speedy dry" granular absorbent material, absorbent pads, shovels, empty 5-gallon pails and an empty open-top 55-gallon drum. Spilled materials will be absorbed, and shoveled into a 55-gallon drum for proper disposal (NYSDEC approval will be secured for on-site treatment of the impacted soils/absorbent materials, if applicable). Impacted soils will be hand-excavated to the point that no visible signs of contamination remains, and will be drummed with the absorbent.

In the event of a major release or a release that threatens surface water, a spill response contractor will be called to the site. The response contractor may use heavy equipment (i.e., excavator, backhoe, etc.) to berm the soils surrounding the spill site or create diversion trenching to mitigate overland migration or release to navigable waters. Where feasible, pumps will be used to transfer free liquid to storage containers. Spill control/cleanup contractors in the Western New York area that may be contacted for assistance include:

- The Environmental Service Group of NY, Inc.: (716) 695-6720
- Op-Tech: (716) 873-7680
- AAA Environmental (585) 750-2811

9.4 Post-Spill Evaluation

If a reportable quantity of hazardous material or oil/petroleum is spilled as determined by the Project Manager, a written report will be prepared as indicated in Section 9.2. The report will identify the root cause of the spill, type and amount of material released, date/time of release, response actions, agencies notified and/or involved in cleanup, and procedures to be implemented to avoid repeat incidents. In addition, all re-useable spill cleanup and containment materials will be decontaminated, and spill kit supplies/disposable items will be replenished.

10.0 HEAT/COLD STRESS MONITORING

Since some of the work activities at the Site will be scheduled for both the summer and winter months, measures will be taken to minimize heat/cold stress to TurnKey-Benchmark employees. The SSHO and/or his or her designee will be responsible for monitoring TurnKey-Benchmark field personnel for symptoms of heat/cold stress.

10.1 Heat Stress Monitoring

Personal protective equipment may place an employee at risk of developing heat stress, a common and potentially serious illnesses often encountered at construction, landfill, waste disposal, industrial or other unsheltered sites. The potential for heat stress is dependent on a number of factors, including environmental conditions, clothing, workload, physical conditioning and age. Personal protective equipment may severely reduce the body's normal ability to maintain temperature equilibrium (via evaporation and convection), and require increased energy expenditure due to its bulk and weight.

Proper training and preventive measures will mitigate the potential for serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress, the following steps should be taken:

- Adjust work schedules.
- Modify work/rest schedules according to monitoring requirements.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat (i.e., eight fluid ounces must be ingested for approximately every 1 lb of weight lost). The normal thirst mechanism is not sensitive enough to ensure that enough water will be consumed to replace lost perspiration. When heavy sweating occurs, workers should be encouraged to drink more.

- Train workers to recognize the symptoms of heat related illness.

Heat-Related Illness - Symptoms:

- Heat rash may result from continuous exposure to heat or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms; pain in the hands, feet and abdomen.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

The monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70 degrees Fahrenheit or above. For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism.

- Heart rate may be measured by the radial pulse for 30 seconds as early as possible in the resting period. The rate at the beginning of the rest period should not exceed 100 beats per minute. If the rate is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest periods stay the same. If the pulse rate is 100 beats per minute at the beginning of the nest rest period, the following work cycle should be further shortened by 33%.

- Body temperature may be measured orally with a clinical thermometer as early as possible in the resting period. Oral temperature at the beginning of the rest period should not exceed 99.6 degrees Fahrenheit. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period remains the same. However, if the oral temperature exceeds 99.6 degrees Fahrenheit at the beginning of the next period, the work cycle may be further shortened by 33%. Oral temperature should be measured at the end of the rest

period to make sure that it has dropped below 99.6 degrees Fahrenheit. No TurnKey-Benchmark employee will be permitted to continue wearing semi-permeable or impermeable garments when his/her oral temperature exceeds 100.6 degrees Fahrenheit.

10.2 Cold Stress Monitoring

Exposure to cold conditions may result in frostbite or hypothermia, each of which progresses in stages as shown below.

- **Frostbite** occurs when body tissue (usually on the extremities) begins to freeze. The three states of frostbite are:

  1) **Frost nip** - This is the first stage of the freezing process. It is characterized by a whitened area of skin, along with a slight burning or painful sensation. Treatment consists of removing the victim from the cold conditions, removal of boots and gloves, soaking the injured part in warm water (102 to 108 degrees Fahrenheit) and drinking a warm beverage. Do not rub skin to generate friction/ heat.

  2) **Superficial Frostbite** - This is the second stage of the freezing process. It is characterized by a whitish gray area of tissue, which will be firm to the touch but will yield little pain. The treatment is identical for Frost nip.

  3) **Deep Frostbite** - In this final stage of the freezing process the affected tissue will be cold, numb and hard and will yield little to no pain. Treatment is identical to that for Frost nip.

- **Hypothermia** is a serious cold stress condition occurring when the body loses heat at a rate faster than it is produced. If untreated, hypothermia may be fatal. The stages of hypothermia may not be clearly defined or visible at first, but generally include:

  1) Shivering
  2) Apathy (i.e., a change to an indifferent or uncaring mood)
  3) Unconsciousness
  4) Bodily freezing

Employees exhibiting signs of hypothermia should be treated by medical professionals. Steps that can be taken while awaiting help include:

1) Remove the victim from the cold environment and remove wet or frozen clothing. (Do this carefully as frostbite may have started.)

2) Perform active re-warming with hot liquids for drinking (Note: do not give the victim any liquid containing alcohol or caffeine) and a warm water bath (102 to 108 degrees Fahrenheit).

3) Perform passive re-warming with a blanket or jacket wrapped around the victim.

In any potential cold stress situation, it is the responsibility of the Site Health and Safety Officer to encourage the following:

- Education of workers to recognize the symptoms of frostbite and hypothermia.
- Workers should dress warmly, with more layers of thin clothing as opposed to one thick layer.
- Personnel should remain active and keep moving.
- Personnel should be allowed to take shelter in a heated areas, as necessary.
- Personnel should drink warm liquids (no caffeine or alcohol if hypothermia has set in).
- For monitoring the body's recuperation from excess cold, oral temperature recordings should occur:
  - At the Site Safety Technicians discretion when suspicion is based on changes in a worker's performance or mental status.
  - At a workers request.
  - As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind chill less than 20 degrees Fahrenheit or wind chill less than 30 degrees Fahrenheit with precipitation).
  - As a screening measure whenever anyone worker on site develops hypothermia.

Any person developing moderate hypothermia (a core body temperature of 92 degrees Fahrenheit) will not be allowed to return to work for 48 hours without the recommendation of a qualified medical doctor.

11.0 WORK ZONES AND SITE CONTROL

Work zones around the areas designated for construction activities will be established on a daily basis and communicated to all employees and other site users by the SSHO. It shall be each Contractor's SSHO's responsibility to ensure that all site workers are aware of the work zone boundaries and to enforce proper procedures in each area. The zones will include:

- Exclusion Zone ("Hot Zone"): The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape. All personnel entering the Exclusion Zone must wear the prescribed level of personal protective equipment identified in Section 7.

- Contamination Reduction Zone: The zone where decontamination of personnel and equipment takes place. Any potentially contaminated clothing, equipment and samples must remain in the Contamination Reduction Zone until decontaminated.

- Support Zone: The part of the site that is considered non-contaminated or "clean." Support equipment will be located in this zone, and personnel may wear normal work clothes within this zone.

In the absence of other task-specific work zone boundaries established by the SSHO, the following boundaries will apply to all investigation and construction activities involving disruption or handling of site soils or groundwater:

- Exclusion Zone: 50 foot radius from the outer limit of the sampling/construction activity.

- Contaminant Reduction Zone: 100 foot radius from the outer limit of the sampling/construction activity.

- Support Zone: Areas outside the Contaminant Reduction Zone.

Access of non-essential personnel to the Exclusion and Contamination Reduction Zones will be strictly controlled by the SSHO. Only personnel who are essential to the completion of the task will be allowed access to these areas and only if they are wearing the prescribed level of protection. Entrance of all personnel must be approved by the SSHO.

The SSHO will maintain a Health and Safety Logbook containing the names of TurnKey-Benchmark workers and their level of protection. The zone boundaries may be changed by the SSHO as environmental conditions warrant, and to respond to the necessary changes in work locations on-site.

12.0 DECONTAMINATION

12.1 Decontamination for TurnKey-Benchmark Employees

The degree of decontamination required is a function of a particular task and the environment within which it occurs. The following decontamination procedure will remain flexible, thereby allowing the decontamination crew to respond appropriately to the changing environmental conditions that may arise at the site. All TurnKey-Benchmark personnel on-site shall follow the procedure below, or the Contractor's procedure (if applicable), whichever is more stringent.

Station 1 - Equipment Drop: Deposit visibly contaminated (if any) re-useable equipment used in the contamination reduction and exclusion zones (tools, containers, monitoring instruments, radios, clipboards, etc.) on plastic sheeting.

Station 2 - Boots and Gloves Wash and Rinse: Scrub outer boots and outer gloves.

Station 3 - Tape, Outer Boot and Glove Removal: Remove tape, outer boots and gloves. Deposit tape and gloves in waste disposal container.

Station 4 - Canister or Mask Change: If worker leaves exclusive zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot cover donned, and worker returns to duty.

Station 5 - Outer Garment/Face Piece Removal: Protective suit removed and deposited in separate container provided by Contractor. Face piece or goggles are removed if used. Avoid touching face with fingers. Face piece and/or goggles deposited on plastic sheet. Hard hat removed and placed on plastic sheet.

Station 6 - Inner Glove Removal: Inner gloves are the last personal protective equipment to be removed. Avoid touching the outside of the gloves with bare fingers. Dispose of these gloves in waste disposal container.

Following PPE removal, personnel shall wash hands, face and forearms with absorbent wipes. If field activities proceed for a duration of 6 consecutive months or longer, shower facilities will be provided for worker use in accordance with OSHA 29 CFR

1910.120(n).

12.2 Decontamination for Medical Emergencies

In the event of a minor, non-life threatening injury, personnel should follow the decontamination procedures as defined, and then administer first-aid.

In the event of a major injury or other serious medical concern (e.g., heat stroke), immediate first-aid is to be administered and the victim transported to the hospital in lieu of further decontamination efforts unless exposure to a site contaminant would be considered "Immediately Dangerous to Life or Health."

12.3 Decontamination of Field Equipment

Decontamination of heavy equipment will be conducted by the Contractor in accordance with his approved Health and Safety Plan in the Contamination Reduction Zone. As a minimum, this will include manually removing heavy soil contamination, followed by steam cleaning on an impermeable pad.

Decontamination of all tools used for sample collection purposes will be conducted by TurnKey-Benchmark personnel. It is expected that all tools will be constructed of nonporous, nonabsorbent materials (i.e., metal), which will aid in the decontamination effort. Any tool or part of a tool made of porous, absorbent material (i.e., wood) will be placed into suitable containers and prepared for disposal.

Decontamination of bailers, split-spoons, spatula knives, and other tools used for environmental sampling and examination shall be as follows:

- Disassemble the equipment.
- Water wash to remove all visible foreign matter.
- Wash with detergent.
- Rinse all parts with distilled-deionized water.
- Allow to air dry.
- Wrap all parts in aluminum foil or polyethylene.

13.0 CONFINED SPACE ENTRY

OSHA 29 CFR 1910.146 identifies a confined space as a space that is large enough and so configured that an employee can physically enter and do assigned work, has limited or restricted means for entry and exit, and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, trenches, storage tanks, process vessels, pits, sewers, tunnels, underground utility vaults, pipelines, sumps, wells, and excavations.

Confined space entry by TurnKey-Benchmark employees is not anticipated to be necessary to complete the investigation and remedial activities identified in Section 2.0. In the event that the scope of work changes or confined space entry appears necessary, the Project Manager will be consulted to determine if feasible engineering alternatives to confined space entry can be implemented. If confined space entry by TurnKey-Benchmark employees cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed and a confined-space entry permit will be issued through TurnKey-Benchmark's corporate Health and Safety Director. TurnKey-Benchmark employees shall not enter a confined space without these procedures and permits in place.

14.0 FIRE PREVENTION AND PROTECTION

14.1 General Approach

Recommended practices and standards of the National Fire Protection Association (NFPA) and other applicable regulations will be followed in the development and application of Project Fire Protection Programs. When required by regulatory authorities, the project management will prepare and submit a Fire Protection Plan for the approval of the contracting officers, authorized representative or other designated official. Essential considerations for the Fire Protection Plan will include:

- Proper site preparation and safe storage of combustible and flammable materials.
- Availability of coordination with private and public fire authorities.
- Adequate job-site fire protection and inspections for fire prevention.
- Adequate indoctrination and training of employees.

14.2 Equipment and Requirements

Fire extinguishers will be provided by each Contractor and are required on all heavy equipment and in each field trailer. Fire extinguishers will be inspected, serviced, and maintained in accordance with the manufacturer's instructions. As a minimum, all extinguishers shall be checked monthly and weighed semi-annually, and recharged if necessary. Recharge or replacement shall be mandatory immediately after each use.

14.3 Flammable and Combustible Substances

All storage, handling or use of flammable and combustible substances will be under the supervision of qualified persons. All tanks, containers and pumping equipment, whether portable or stationary, used for the storage and handling of flammable and combustible liquids, will meet the recommendations of the NFPA.

14.4 Hot Work

If the scope of work necessitates welding or blowtorch operation, the hot work permit presented in Appendix B will be completed by the SSHO and reviewed/issued by the Project Manager.

15.0 EMERGENCY INFORMATION

In accordance with OSHA 29 CFR Part 1910, an Emergency Response Plan is attached to this HASP as Appendix A. The hospital route map is presented as Figure A-1.

16.0 REFERENCES

1. New York State Department of Health. 2002. *Generic Community Air Monitoring Plan, Appendix 1A, Draft DER-10 Technical Guidance for Site Investigation and Remediation.* December.

TABLES

TABLE 1

CONSTITUENTS OF POTENTIAL CONCERN

Site-Wide Health and Safety Plan
Tecumseh Redevelopment, Inc.
Lackawanna, New York

Parameter[1]	CAS No.	Maximum Detected Concentration [2]			
		Groundwater [3] (mg/L)	Surface Soil/Fill (mg/kg)	Sub-Surface Soil/Fill (mg/kg)	LNAPL (mg/kg)
Volatile Organic Compounds (VOCs):					
Benzene	71-43-2	570	0.0047	2800	14,000
Ethylbenzene	100-41-4	25	*Note 4*	170	4,600
Toluene	108-88-3	77	0.001	1700	5,700
Xylene, Total	1330-20-7	390	0.0017	1100	31,000
Polycyclic Aromatic Hydrocarbons (PAHs):					
Acenaphthene	83-32-9	0.36	*Note 4*	*Note 4*	400
Acenaphthylene	208-96-8	0.09	*Note 4*	*Note 4*	570
Anthracene	120-12-7	0.27	0.23	*Note 4*	240
Benz(a)anthracene	56-55-3	0.28	0.7	*Note 4*	27
Benzo(a)pyrene	50-32-8	0.23	0.56	*Note 4*	ND
Benzo(b)fluoranthene	205-99-2	0.069	0.86	*Note 4*	12
Benzo(ghi)perylene	191-24-2	0.033	0.35	*Note 4*	ND
Benzo(k)fluoranthene	207-08-9	0.071	0.38	*Note 4*	ND
Chrysene	218-01-9	0.26	0.67	*Note 4*	17
Dibenz(ah)anthracene	53-70-3	0.022	0.08	*Note 4*	ND
Fluoranthene	206-44-0	0.76	1.3	*Note 4*	200
Fluorene	86-73-7	1.7	*Note 4*	*Note 4*	9,600
Indeno(1,2,3-cd)pyrene	193-39-5	0.04	0.36	*Note 4*	ND
Naphthalene	91-20-3	280	0.29	1100	49,000
Phenanthrene	85-01-8	0.94	0.87	*Note 4*	800
Pyrene	129-00-0	0.41	0.87	*Note 4*	220
Inorganic Compounds:					
Arsenic	7440-38-2	70.6	30.5	17.7	28.2
Cadmium	7440-43-9	20.6	9.7	3.7	0.03
Chromium	7440-47-3	306	1190	508	1.7
Lead	7439-92-1	26.3	160	224	0.34
Mercury	7439-97-6	0.22	4.2	0.99	ND
Polychlorinated Biphenyls (PCBs):					
Aroclor 1242	53469-21-9	*Note 4*	*Note 4*	*Note 4*	2
Aroclor 1260	11096-82-5	*Note 4*	*Note 4*	*Note 4*	3.3

Notes:

1. Constituents were identified as parameters of interest during the RFI for the Benzol Plant Tank Storage Area (SWMU P-11).
2. Maximum detected concentrations as presented in the Final RFI Report for the Benzol Plant Tank Storage Area (SWMU P-11).
3. Groundwater analytical data collected from the Coke Oven Area of the Former Bethlehem Steel Lackawanna Coke Division Site.
4. Compounds with a detection frequency greater than 5% and a maximum concentration greater than the screening criteria were retained as potential parameters of interest during the RFI (Reference 1).

Acronyms:

NA = Not analyzed.
ND = Parameter not detected above method detection limits.

TABLE 2

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

Site-Wide Health and Safety Plan
Tecumseh Redevelopment Site
Lackawanna, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits [1]		
				PEL	TLV	IDLH
Volatile Organic Compounds (VOCs): ppm						
Benzene	Benzol, Phenyl hydride	71-43-2	Ca	1	0.5	500
Ethylbenzene	Ethylbenzol, Phenylethane	100-41-4	*none*	100	100	800
Toluene	Methyl benzene, Methyl benzol	108-88-3	C-300	200	50	500
Xylene, Total	o-, m-, p-isomers	1330-20-7	*none*	100	100	900
Polycyclic Aromatic Hydrocarbons (PAHs) [2] : ppm						
Acenaphthene	*none*	83-32-9	*none*	--	--	--
Acenaphthylene	*none*	208-96-8	*none*	--	--	--
Anthracene	*none*	120-12-7	*none*	--	--	--
Benz(a)anthracene	*none*	56-55-3	*none*	--	--	--
Benzo(a)pyrene	*none*	50-32-8	*none*	--	--	--
Benzo(b)fluoranthene	*none*	205-99-2	*none*	--	--	--
Benzo(ghi)perylene	*none*	191-24-2	*none*	--	--	--
Benzo(k)fluoranthene	*none*	207-08-9	*none*	--	--	--
Chrysene	*none*	218-01-9	*none*	--	--	--
Dibenz(ah)anthracene	*none*	53-70-3	*none*	--	--	--
Fluoranthene	*none*	206-44-0	*none*	--	--	--
Fluorene	*none*	86-73-7	*none*	--	--	--
Indeno(1,2,3-cd)pyrene	*none*	193-39-5	*none*	--	--	--
Naphthalene	Naphthalin, Tar camphor, White tar	91-20-3	*none*	10	10	250
Phenanthrene	*none*	85-01-8	*none*	--	--	--
Pyrene	*none*	129-00-0	*none*	--	--	--
Polychlorinated Inorganic Compounds: mg/m [3]						
Aroclor 1242	Chlorodiphenyl, 42% chlorine	53469-21-9	Ca	--	--	--
Aroclor 1260	Chlorodiphenyl, 60% chlorine	11096-82-5	*none*	--	--	--
Inorganic Compounds: mg/m [3]						
Arsenic	*none*	7440-38-2	Ca	0.01	0.01	5
Cadmium	*none*	7440-43-9	Ca	0.005	0.01	9
Chromium	*none*	7440-47-3	*none*	1	0.5	250
Lead	*none*	7439-92-1	*none*	0.05	0.15	100
Mercury	*none*	7439-97-6	C-0.1	0.1	0.05	10

Notes:

1. Concentration limits as reported by NIOSH Pocket Guide to Chemical Hazards, February 2004 (NIOSH Publication No. 97-140, fourth printing with changes and updates).
2. Individual parameters listed are those most commonly detected at steel/coke manufacturing sites.
3. " -- " = concentration limit not available; exposure should be minimized to the extent feasible through appropriate engineering controls & PPE.

Explanation:

Ca = NIOSH considers constituent to be a potential occupational carcinogen.
C-## = Ceiling Level equals the maximum exposure concentration allowable during the work day.
IDLH = Immediately Dangerous to Life or Health.
ND indicates that an IDLH has not as yet been determined.
TLV = Threshold Limit Value, established by American Conference of Industrial Hygienists (ACGIH), equals the maximum exposure concentration allowable for 8 hours/day @ 40 hours/week.
TLVs are the amounts of chemicals in the air that almost all healthy adult workers are predicted to be able to tolerate without adverse effects. There are three types.
TLV-TWA (TLV-Time-Weighted Average) which is averaged over the normal eight-hour day/forty-hour work week. (Most TLVs.)
TLV-STEL or Short Term Exposure Limits are 15 minute exposures that should not be exceeded for even an instant. It is not a stand alone value but is accompanied by the TLV-TWA.
It indicates a higher exposure that can be tolerated for a short time without adverse effect as long as the total time weighted average is not exceeded.
TLV-C or Ceiling limits are the concentration that should not be exceeded during any part of the working exposure.
Unless the initials "STEL" or "C" appear in the Code column, the TLV value should be considered to be the eight-hour TLV-TWA.
PEL = Permissible Exposure Limit, established by OSHA, equals the maximium exposure conconcentration allowable for 8 hours per day @ 40 hours per week

TABLE 3

POTENTIAL ROUTES OF EXPOSURE TO CONSTITUENTS OF POTENTIAL CONCERN

Site-Wide Health and Safety Plan
Tecumseh Redevelopment Site
Lackawanna, New York

Activity [1]	Direct Contact with Soil/Fill	Inhalation of Vapors or Dust	Direct Contact with Groundwater
1. Soil/Fill Excavation	x	x	
2. Soil/Fill Documentation Sampling	x	x	
3. Surface Water Management			x
4. Slag/Fill Subgrade Preparation	x	x	
5. Cover Soil Placement	x	x	
6. Groundwater Monitoring Well Installation/Sampling	x	x	x
7. Groundwater Remediation	x	x	x

Notes:
1. Activity as described in Section 1.5 of the Health and Safety Plan.

TurnKey Environmental Remediation LLC
Benchmark Environmental Engineering & Science, PLLC

TABLE 4

REQUIRED LEVELS OF PROTECTION FOR BCP INVESTIGATION AND REMEDIAL ACTIVITIES

Site-Wide Health and Safety Plan
Tecumseh Redevelopment Site
Lackawanna, New York

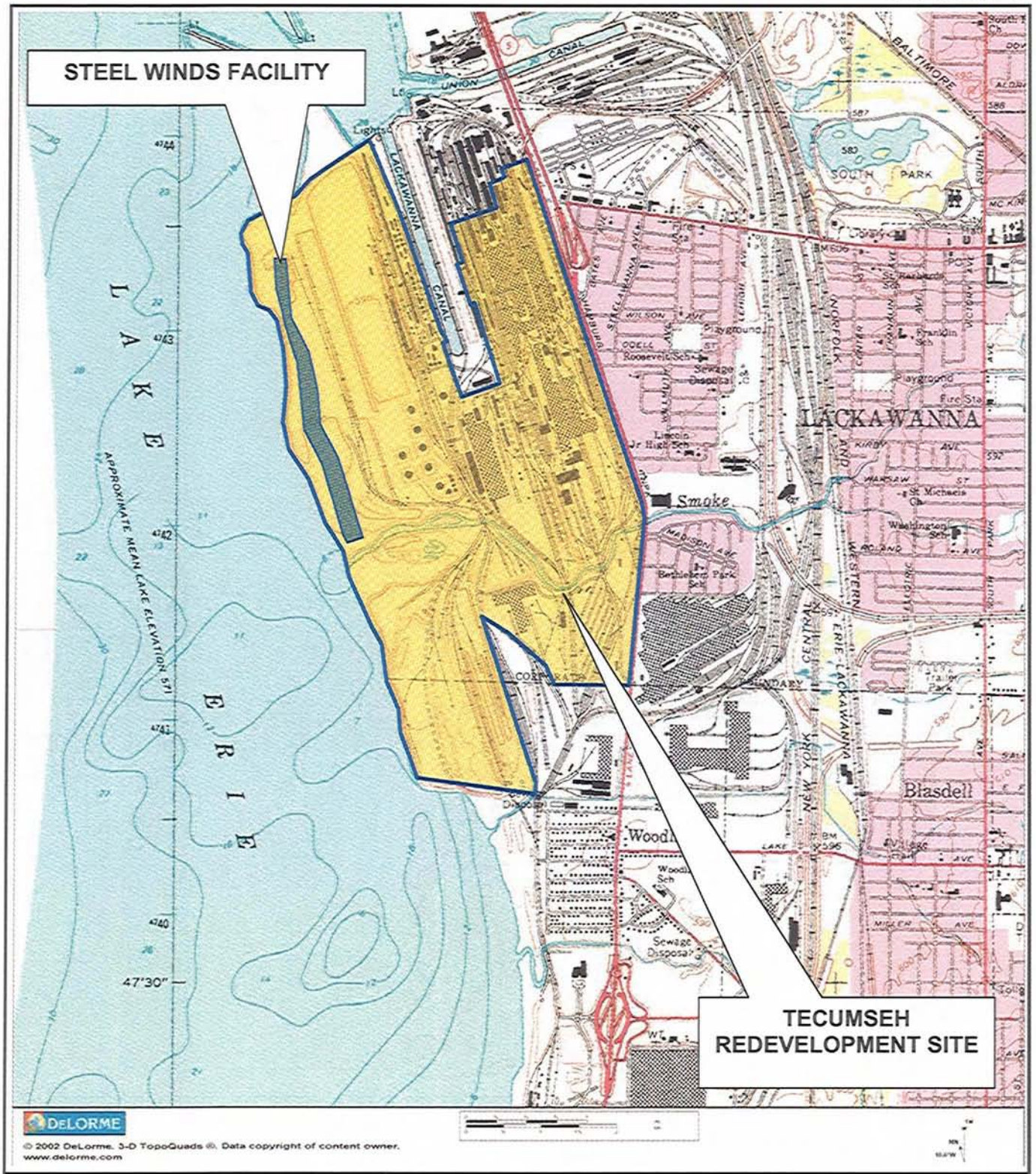
Activity	Respiratory Protection [1]	Clothing	Gloves [2]	Boots [2, 3]	Other Required PPE/Modifications [2, 4]
1. Soil/Fill Excavation	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
2. Soil/Fill Documentation Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
3. Surface Water Management	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
4. Slag/Fill Subgrade Preparation	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
5. Cover Soil Placement	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
6. Groundwater Monitoring Well Installation/Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
7. Groundwater Remediation	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS

Notes:

1. Respiratory equipment shall conform to guidelines presented in Section 7.0 of this HASP. The Level C requirement is an air-purifying respirator equiped with organic compound/acid gas/dust cartridge.
2. HH = hardhat; L= Latex; L/N = latex inner glove, nitrile outer glove; N = Nitrile; S = Saranex; SG = safety glasses; SGSS = safety glasses with sideshields; STSS = steel toe safety shoes.
3. Latex outer boot (or approved overboot) required whenever contact with contaminated materials may occur. SSHO may downgrade to STSS (steel-toed safety shoes) if contact will be limited to cover/replacement soils.
4. Dust masks shall be donned as directed by the SSHO (site safety and health officer) or site safety technician whenever potentially contaminated airborne particulates (i.e., dust) are present in significant amounts in the breathing zone. Goggles may be substituted with safety glasses w/side-shields whenever contact with contaminated liquids is not anticipated.

FIGURES

FIGURE 1



TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-006-100

DATE: APRIL 2010

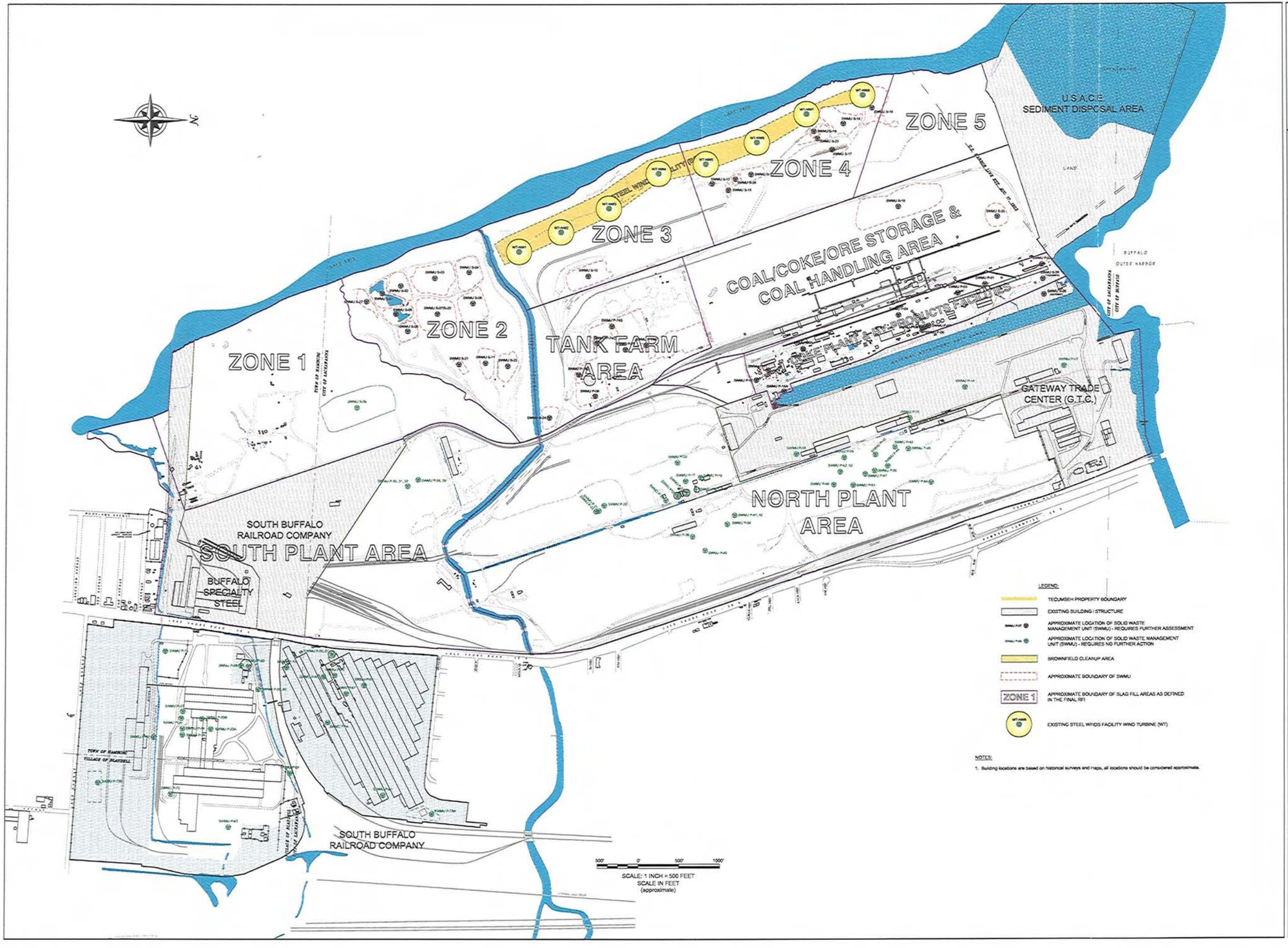
DRAFTED BY: JCT

SITE LOCATION AND VICINITY MAP

SITE-WIDE HEALTH AND SAFETY PLAN

TECUMSEH LACKAWANNA FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR
TECUMSEH REDEVELOPMENT INC.



TurnKey Environmental Restoration, LLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0635

JOB NO.: 0071-006-100

REVISIONS

NO	BY	DATE	REMARKS

DRAWN BY: JCT
DATE: APRIL 2010
CHECKED BY:
APPROVED BY:

DISCLAIMER:
PROPERTY OF BENCHMARK ES, PLLC. IMPORTANT: THIS DRAWING WAS PREPARED AS AN INSTRUMENT OF SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT AND, AS SUCH IS SUBJECT TO RECALL BY BENCHMARK ES, PLLC. IT IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM TO ANY PERSON OR ENTITY WITHOUT THE PRIOR WRITTEN CONSENT OF BENCHMARK ES, PLLC.

SEAL

SITE PLAN

SITE-WIDE HEALTH AND SAFETY PLAN
TECUMSEH LACKAWANNA SITE
LACKAWANNA, NEW YORK

PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

FIGURE 2

LAKE FRONT ACCESS & GREENWAY

STEEL WINDS 1 FACILITY (± 29.01 ACRES)
BCP SITE NO. C915189

WIND ENERGY, GOLF COURSE AND/OR PASSIVE RECREATION (± 139.25 ACRES)

HEAVY INDUSTRIAL, INTERMODAL, AND/OR GREEN ENERGY DEVELOPMENT (± 245.96 ACRES)

STEEL WINDS 1A FACILITY (±9.33 ACRES)

STEEL WINDS 2 NON-BCP (± 34.86 ACRES)

MEDIUM INDUSTRIAL (± 53.39 ACRES)

PASSIVE RECREATION (CAMUs) (± 73.81 ACRES)

STEEL WINDS 2 NON-BCP (± 40.71 ACRES)

STEEL WINDS 2 BCP (± 17.39 ACRES)

STEEL WINDS 2 BCP (± 38.11 ACRES)

PHASE IA - BUSINESS PARK (±9.81 ACRES)

GATEWAY TRADE CENTER (G.T.C.)

PHASE III - BUSINESS PARK
BCP SITE NO. C915199
(± 93.37 ACRES)

PHASE I - BUSINESS PARK
BCP SITE NO. C915187
(±101.85 ACRES)

PHASE II - BUSINESS PARK
BCP SITE NO. C915198
(± 144.11 ACRES)

SOUTH BUFFALO RAILROAD COMPANY

BUFFALO SPECIALTY STEEL

ARCELORMITTAL USA INC. GALVANIZING MILL

ARCELORMITTAL USA INC. GALVANIZING MILL

REPUBLIC ENGINEERED PRODUCTS, INC.

SOUTH BUFFALO RAILROAD COMPANY

BUFFALO OUTER HARBOR

CITY OF LACKAWANNA / CITY OF BUFFALO

LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- EXISTING BUILDING / STRUCTURE (see Note 1)
- RAILROAD TRACK
- APPROXIMATE BOUNDARY OF NON-TECUMSEH PROPERTY
- SWMU P-07 — APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ASSESSMENT
- SWMU P-04 — APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES NO FURTHER ACTION
- APPROXIMATE BOUNDARY OF SWMU
- APPROXIMATE BOUNDARY OF HAZARDOUS WASTE CAMU
- APPROXIMATE BOUNDARY OF NON-HAZARDOUS WASTE CAMU
- LAKE FRONT ACCESS & GREENWAY

NOTES:

1. Building locations are based on historical surveys and maps, all locations should be considered approximate.

500' 0' 500' 1000'

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

SOLID WASTE MANAGEMENT UNITS

SWMU ID	UNIT DESCRIPTION
P-01	Quench Water TK, North Station
P-02	Quench Water TK, Hotel Station
P-03	Quench Water TK, Central Station
P-04	Quench Water TK, K Station
P-05	Quench Water TK, P Station
P-06	Lime Tri-Sys Settling Basin
P-07	Abandoned Lime Sludge Settling Basin
P-08	Waste Oil Storage Tanks (In Tank Farm)
P-09	Abandoned Tar Decanter Sludge Pits
P-10	Contaminated Soil in Area Near Rail Mill
P-11	Railroad Plant Tank Storage Area
P-12	Mill Oil Storage Area
P-13	Steel Turnpike B-S Primary Thickener
P-14	Steel Turnpike C-T Primary Thickener
P-15	Steel Turnpike End Primary Thickener
P-16	Blast Furnace #1 Primary Thickener
P-17	Blast Furnace Filter Thickener
P-18	Blast Furnace Cooling Tower and Hot & Cold Wells
P-19	Old Iron Plant Tankhouse
P-20	Sinter Plant Sulphuric Dump
P-21	BOF/CTA North Secondary Tank
P-22	BOH North Secondary Tank
P-23	BOF/CTA Primary Thickener
P-24	BOH Tank Overflow
P-25	BOH, South Clarifier
P-26	BOH Cooling Tower
P-27	BOH Inner Workings
P-28	Main MAP West Settling Tank
P-29	Main MAP Tube Scale Room
P-30	Main MAP North Scale Pit
P-31	Main MAP South Scale Pit
P-32	Main MC Scales Pit
P-33	12" & 15" East MAP Scale Pit
P-34	15" East MAP Scale Pit
P-35	Main MAP Scale Pits
P-36	Main MAP Scale Pits
P-37	Main MAP Scale Pits
P-38	Main MAP Scale Pits
P-39	Main MAP Scale Pits
P-40	Main MAP Scale Pits
P-41	Main MAP Scale Pits
P-42	Main MAP Scale Pits
P-43	Main MAP Scale Pits
P-44	Main MAP Scale Pits
P-45	Main MAP Scale Pits
P-46	Main MAP Scale Pits
P-47	Main MAP Scale Pits
P-48	Main MAP Scale Pits
P-49	Main MAP Scale Pits
P-50	Main MAP Scale Pits
P-51	Main MAP Scale Pits
P-52	Main MAP Scale Pits
P-53	Main MAP Scale Pits
P-54	Main MAP Scale Pits
P-55	Main MAP Scale Pits
P-56	Main MAP Scale Pits
P-57	Main MAP Scale Pits
P-58	Main MAP Scale Pits
P-59	Main MAP Scale Pits
P-60	Main MAP Scale Pits
P-61	Main MAP Scale Pits
P-62	Main MAP Scale Pits
P-63	Main MAP Scale Pits
P-64	Main MAP Scale Pits
P-65	Main MAP Scale Pits
P-66	Main MAP Scale Pits
P-67	Main MAP Scale Pits
P-68	Main MAP Scale Pits
P-69	Main MAP Scale Pits
P-70	Main MAP Scale Pits
P-71	Main MAP Scale Pits
P-72	Main MAP Scale Pits
P-73	Main MAP Scale Pits
P-74	Main MAP Scale Pits
P-75	Main MAP Scale Pits
P-76	Main MAP Scale Pits
P-77	Main MAP Scale Pits
P-78	Main MAP Scale Pits
P-79	Main MAP Scale Pits
P-80	Main MAP Scale Pits
P-81	Main MAP Scale Pits
P-82	Main MAP Scale Pits
P-83	Main MAP Scale Pits
P-84	Main MAP Scale Pits
P-85	Main MAP Scale Pits
P-86	Main MAP Scale Pits
P-87	Main MAP Scale Pits
P-88	Main MAP Scale Pits
P-89	Main MAP Scale Pits
P-90	Main MAP Scale Pits
P-91	Main MAP Scale Pits
P-92	Main MAP Scale Pits
P-93	Main MAP Scale Pits
P-94	Main MAP Scale Pits
P-95	Main MAP Scale Pits
P-96	Main MAP Scale Pits
P-97	Main MAP Scale Pits
P-98	Main MAP Scale Pits
P-99	Main MAP Scale Pits
P-100	Main MAP Scale Pits
P-101	Main MAP Scale Pits
P-102	Main MAP Scale Pits
P-103	Main MAP Scale Pits
P-104	Main MAP Scale Pits
P-105	Main MAP Scale Pits
P-106	Main MAP Scale Pits
P-107	Main MAP Scale Pits
P-108	Main MAP Scale Pits
P-109	Main MAP Scale Pits
P-110	Main MAP Scale Pits
P-111	Main MAP Scale Pits
P-112	Main MAP Scale Pits
P-113	Main MAP Scale Pits
P-114	Main MAP Scale Pits
P-115	Main MAP Scale Pits
P-116	Main MAP Scale Pits
P-117	Main MAP Scale Pits
P-118	Main MAP Scale Pits
P-119	Main MAP Scale Pits
P-120	Main MAP Scale Pits
P-121	Main MAP Scale Pits
P-122	Main MAP Scale Pits
P-123	Main MAP Scale Pits
P-124	Main MAP Scale Pits
P-125	Main MAP Scale Pits
P-126	Main MAP Scale Pits
P-127	Main MAP Scale Pits
P-128	Main MAP Scale Pits
P-129	Main MAP Scale Pits
P-130	Main MAP Scale Pits
P-131	Main MAP Scale Pits
P-132	Main MAP Scale Pits
P-133	Main MAP Scale Pits
P-134	Main MAP Scale Pits
P-135	Main MAP Scale Pits
P-136	Main MAP Scale Pits
P-137	Main MAP Scale Pits
P-138	Main MAP Scale Pits
P-139	Main MAP Scale Pits
P-140	Main MAP Scale Pits
P-141	Main MAP Scale Pits
P-142	Main MAP Scale Pits
P-143	Main MAP Scale Pits
P-144	Main MAP Scale Pits
P-145	Main MAP Scale Pits
P-146	Main MAP Scale Pits
P-147	Main MAP Scale Pits
P-148	Main MAP Scale Pits
P-149	Main MAP Scale Pits
P-150	Main MAP Scale Pits
P-151	Main MAP Scale Pits
P-152	Main MAP Scale Pits
P-153	Main MAP Scale Pits
P-154	Main MAP Scale Pits
P-155	Main MAP Scale Pits
P-156	Main MAP Scale Pits
P-157	Main MAP Scale Pits
P-158	Main MAP Scale Pits
P-159	Main MAP Scale Pits
P-160	Main MAP Scale Pits
P-161	Main MAP Scale Pits
P-162	Main MAP Scale Pits
P-163	Main MAP Scale Pits
P-164	Main MAP Scale Pits
P-165	Main MAP Scale Pits
P-166	Main MAP Scale Pits
P-167	Main MAP Scale Pits
P-168	Main MAP Scale Pits
P-169	Main MAP Scale Pits
P-170	Main MAP Scale Pits
P-171	Main MAP Scale Pits
P-172	Main MAP Scale Pits
P-173	Main MAP Scale Pits
P-174	Main MAP Scale Pits
P-175	Main MAP Scale Pits

SOLID WASTE MANAGEMENT UNITS

SWMU ID	UNIT DESCRIPTION
S-01	Surface Impoundment A
S-02	Surface Impoundment B
S-03	Surface Impoundment C (Transformer Waste Management Unit C)
S-04	Surface Impoundment D
S-05	Surface Impoundment E
S-06	Surface Impoundment F
S-07	Surface Impoundment G
S-08	Surface Impoundment H (Not used)
S-09	Waste Pile I
S-10	Slag Quench Area J
S-11	Landfill K (North Tar Pit, North)
S-12	Incinerator Landfill L
S-13	Coal Tar Sludge Hazardous Waste Management Unit 1A)
S-14	General Fumes Landfill N
S-15	General Rubble Landfill O
S-16	Lime Coated Soil (CS) - Dredged Fill Landfill (see note 1)
S-17	Vacuum Carbonate Breakdown - Landfill Q
S-18	Lime Dust and Ash Landfill R
S-19	Mortarless Breakdown Landfill S
S-20	Slurry Area for Sludge Rain Impoundment T
S-21	Sludge Storage Area
S-22	Vacuum Carbonate Breakdown Improvement North of Smelter Creek (from Tar Pit North)
S-23	Tar Pit Adjacent to Lime Stabilized Mill, Sludge Landfill
S-24	Tar Pit North of Lime Plant
S-25	Landfill - Impoundment Under North End of Coke Pile
S-26	Fill Area from Coke Battery No. 3
S-27	Sludge Disposal Area (Adjacent to SWMU S-01)
S-28	Waste Landfill
S-29	Waste Landfill

WATER COURSES

DESCRIPTION
42" X 60" Discharge Mill Medium Water Tunnel (Effluent)
Smelter Creek
South Return Water Trench
North Return Water Trench
Smelter Creek
Gateway Waterway (Slip Canal) (formerly Locomotive Slip Canal)

Phase III Business Park Area

Phase II Business Park Area

Phase I Business Park Area

REVISIONS

NO.	BY	DATE	REMARKS

TURNKEY ENVIRONMENTAL RESTORATION, LLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0635

JOB NO.: 0071-008-100

SEAL

DRAWN BY: JCT
DATE: APRIL 2010
CHECKED BY:
APPROVED BY:

DISCLAIMER:
PROPERTY OF BENCHMARK ES, PLLC. IMPORTANT: THESE DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL. THEY ARE NOT TO BE CHANGED OR COPIED, AND ARE NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM TO ANY PERSON OR ENTITY NOT AUTHORIZED BY BENCHMARK ES, PLLC, EXCEPT AS AUTHORIZED IN WRITING AND NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ES, PLLC.

CONCEPTUAL REDEVELOPMENT MASTER PLAN

SITEWIDE HEALTH AND SAFETY PLAN
TECUMSEH LACKAWANNA SITE
LACKAWANNA, NEW YORK

PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

FIGURE 3

APPENDIX A

EMERGENCY RESPONSE PLAN

EMERGENCY RESPONSE PLAN
for
BROWNFIELD CLEANUP PROGRAM

TECUMSEH REDEVELOPMENT SITE

LACKAWANNA, NEW YORK

April 2010 0071-007-350

TECUMSEH REDEVELOPMENT SITE
SITE-WIDE HEALTH AND SAFETY PLAN
APPENDIX A: EMERGENCY RESPONSE PLAN

TABLE OF CONTENTS

1.0 GENERAL 1

2.0 PRE-EMERGENCY PLANNING 2

3.0 ON-SITE EMERGENCY RESPONSE EQUIPMENT 3

4.0 EMERGENCY PLANNING MAPS 4

5.0 EMERGENCY CONTACTS 5

6.0 EMERGENCY ALERTING & EVACUATION 6

7.0 EXTREME WEATHER CONDITIONS 8

8.0 EMERGENCY MEDICAL TREATMENT & FIRST AID 9

9.0 EMERGENCY RESPONSE CRITIQUE & RECORD KEEPING 10

10.0 EMERGENCY RESPONSE TRAINING 11

LIST OF FIGURES

Figure A-1 Hospital Route Map

1.0 GENERAL

This report presents the site-specific Emergency Response Plan (ERP) referenced in the Site-Wide Health and Safety Plan (HASP) prepared for BCP investigation and remedial activities conducted at the Tecumseh Redevelopment Site (former Bethlehem Steel Lackawanna Works), Lackawanna, New York. This appendix of the Site-Wide HASP describes potential emergencies that may occur at the Site; procedures for responding to those emergencies; roles and responsibilities during emergency response; and training all workers must receive in order to follow emergency procedures. This ERP also describes the provisions this Site has made to coordinate its emergency response planning with other contractors on-site and with off-site emergency response organizations.

This ERP is consistent with the requirements of 29 CFR 1910.120(l) and provides the following site-specific information:

- Pre-emergency planning.
- Personnel roles, lines of authority, and communication.
- Emergency recognition and prevention.
- Safe distances and places of refuge.
- Evacuation routes and procedures.
- Decontamination procedures.
- Emergency medical treatment and first aid.
- Emergency alerting and response procedures.
- Critique of response and follow-up.
- Emergency personal protective equipment (PPE) and equipment.

2.0 PRE-EMERGENCY PLANNING

This Site has been evaluated for potential emergency occurrences, based on site hazards, the required work tasks, the site topography, and prevailing weather conditions. The results of that evaluation indicate the potential for the following site emergencies to occur at the locations indicated.

Type of Emergency:

1. Medical, due to physical injury
2. Fire

Source of Emergency:

1. Slip/trip/fall
2. Fire

Location of Source:

1. Non-specific

3.0 ON-SITE EMERGENCY RESPONSE EQUIPMENT

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency clean up. Emergency response equipment available on the Site is listed below. The equipment inventory and storage locations are based on the potential emergencies described above. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this Site but not ordinarily stocked.

Any additional personal protective equipment (PPE) required and stocked for emergency response is also listed in below. During an emergency, the Emergency Response Coordinator (ERC) is responsible for specifying the level of PPE required for emergency response. At a minimum, PPE used by emergency responders will comply with Section 7.0, Personal Protective Equipment, of this HASP. Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

Emergency Equipment	Quantity	Location
Spill Response Kit	2	Benzol Yard ICM Treatment Building; Wastewater Treatment Plant Garage (Phase III parcel)
First Aid Kit	3	Site Vehicle; Benzol Yard ICM Treatment Building; Field Office in Coke Oven Office Building
Chemical Fire Extinguisher	2 (minimum)	All heavy equipment and Site Vehicle

Emergency PPE	Quantity	Location
Full-face respirator	1 for each worker	Site Vehicle
Chemical-resistant suits	4 (minimum)	Site Vehicle

4.0 EMERGENCY PLANNING MAPS

An area-specific map of the Tecumseh Redevelopment Site will be developed on a daily basis during performance of field activities. The map will be marked to identify critical on-site emergency planning information, including: emergency evacuation routes, a place of refuge, an assembly point, and the locations of key site emergency equipment. Site zone boundaries will be shown to alert responders to known areas of contamination. There are no major topographical features; however, the direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on the map. The map will be posted at site-designated place of refuge and inside the TurnKey personnel field vehicle.

5.0 EMERGENCY CONTACTS

The following identifies the emergency contacts for this ERP.

Emergency Telephone Numbers:

Project Manager: ***Patrick T. Martin***
Work: (716) 856-0599
Mobile: (716) 867-2860

Corporate Health and Safety Director: ***Thomas H. Forbes***
Work: (716) 856-0599
Mobile: (716) 864-1730

Site Safety and Health Officer (SSHO): ***Richard L. Dubisz***
Work: (716) 856-0635
Mobile: (716) 998-4334

Alternate SSHO: ***Thomas Behrendt***
Work: (716) 856-0635
Mobile: (716) 818-8358

MERCY HOSPITAL (ER):	(716) 826-7000
FIRE:	911
AMBULANCE:	911
BUFFALO POLICE:	911
STATE EMERGENCY RESPONSE HOTLINE:	(800) 457-7362
NATIONAL RESPONSE HOTLINE:	(800) 424-8802
NYSDOH:	(716) 847-4385
NYSDEC:	(716) 851-7220
NYSDEC 24-HOUR SPILL HOTLINE:	(800) 457-7252

The Site location is:
Tecumseh Redevelopment Inc.
1951 Hamburg Turnpike
Lackawanna, New York 14218
Site Phone Number: (Insert Cell Phone or Field Trailer): _____

6.0 EMERGENCY ALERTING & EVACUATION

Internal emergency communication systems are used to alert workers to danger, convey safety information, and maintain site control. Any effective system can be employed. Two-way radio headsets or field telephones are often used when work teams are far from the command post. Hand signals and air-horn blasts are also commonly used. Every system must have a backup. It shall be the responsibility of each contractor's SSHO to ensure an adequate method of internal communication is understood by all personnel entering the site. Unless all personnel are otherwise informed, the following signals shall be used.

1) Emergency signals by portable air horn, siren, or whistle: two short blasts, personal injury; continuous blast, emergency requiring site evacuation.

2) Visual signals: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/ everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.

If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible, by way of the nearest exit. Emergency decontamination procedures detailed in Section 12.0 of the HASP are followed to the extent practical without compromising the safety and health of site personnel. The evacuation routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by rehearsals and inputs from emergency response organizations. Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds. Since work conditions and work zones within the site may be changing on daily basis, it shall be the responsibility of the construction Site Health and Safety Officer to review evacuation routes and procedures as necessary and to inform all TurnKey-Benchmark workers of any changes.

Personnel exiting the site will gather at a designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly site. If any worker cannot be accounted for, notification is given to the SSHO (***Thomas***

Behrendt or ***Richard Dubisz***) so that appropriate action can be initiated. Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

7.0 EXTREME WEATHER CONDITIONS

In the event of adverse weather conditions, the SSHO in conjunction with the Contractor's SSHO will determine if engineering operations can continue without sacrificing the health and safety of site personnel. Items to be considered prior to determining if work should continue include but are not limited to:

- Potential for heat/cold stress.
- Weather-related construction hazards (i.e., flooding or wet conditions producing undermining of structures or sheeting, high wind threats, etc).
- Limited visibility.
- Potential for electrical storms.
- Limited site access/egress (e.g., due to heavy snow)

8.0 EMERGENCY MEDICAL TREATMENT & FIRST AID

Personnel Exposure:

The following general guidelines will be employed in instances where health impacts threaten to occur acute exposure is realized:

- Skin Contact: Use copious amounts of soap and water. Wash/rinse affected area for at least 15 minutes. Decontaminate and provide medical attention. Eyewash stations will be provided on site. If necessary, transport to Mercy Hospital.
- Inhalation: Move to fresh air and, if necessary, transport to Mercy Hospital.
- Ingestion: Decontaminate and transport to Mercy Hospital.

Personal Injury:

Minor first-aid will be applied on-site as deemed necessary. In the event of a life threatening injury, the individual should be transported to Mercy Hospital via ambulance. The SSHO will supply available chemical specific information to appropriate medical personnel as requested.

First aid kits will conform to Red Cross and other applicable good health standards, and shall consist of a weatherproof container with individually sealed packages for each type of item. First aid kits will be fully equipped before being sent out on each job and will be checked weekly by the SSHO to ensure that the expended items are replaced.

Directions to Mercy Hospital (see Figure A-1):

The following directions describe the best route to Mercy Hospital:

- From Gate 2, proceed onto the Hamburg Turnpike (SR 5).
- Proceed east on Hamburg Turnpike (SR 5) to the Tifft Street Exit and turn right onto Tifft Street.
- Take Tifft Street east crossing South Park Avenue and McKinley Parkway. Bear left on Edgewood Avenue.
- Turn right on Abbott Road and Mercy Hospital will be on right hand side. Follow signs to emergency room (ER).

9.0 EMERGENCY RESPONSE CRITIQUE & RECORD KEEPING

Following an emergency, the SSHO and Project Manager shall review the effectiveness of this Emergency Response Plan (ERP) in addressing notification, control and evacuation requirements. Updates and modifications to this ERP shall be made accordingly. It shall be the responsibility of each contractor to establish and assure adequate records of the following:

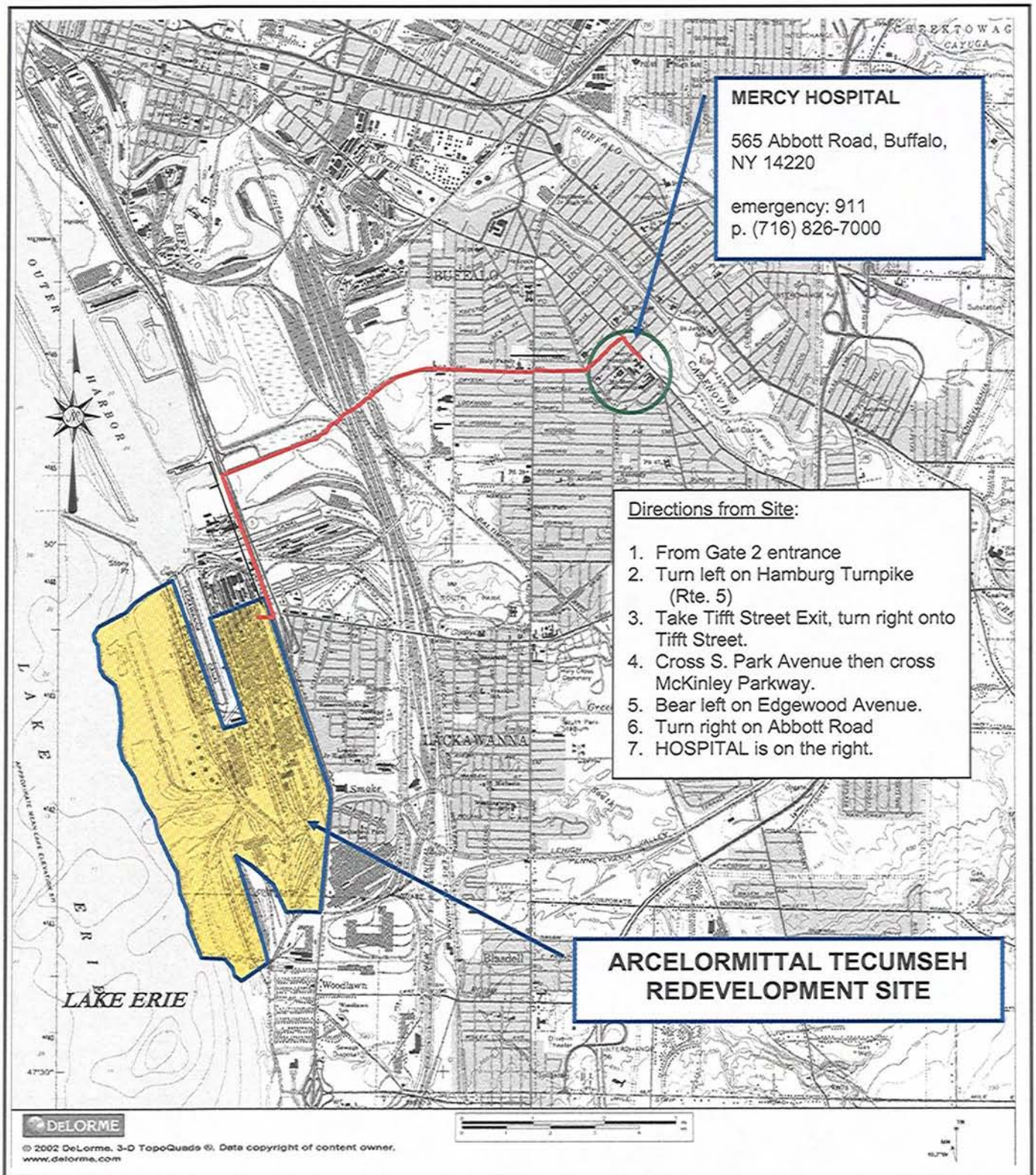
- Occupational injuries and illnesses.
- Accident investigations.
- Reports to insurance carrier or State compensation agencies.
- Reports required by the client.
- Records and reports required by local, state, federal and/or international agencies.
- Property or equipment damage.
- Third party injury or damage claims.
- Environmental testing logs.
- Explosive and hazardous substances inventories and records.
- Records of inspections and citations.
- Safety training.

10.0 EMERGENCY RESPONSE TRAINING

All persons who enter the worksite, including visitors, shall receive a site-specific briefing about anticipated emergency situations and the emergency procedures by the SSHO. Where this site relies on off-site organizations for emergency response, the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

FIGURES

FIGURE A-1



TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-007-350

DATE: APRIL 2010

DRAFTED BY: JCT

HOSPITAL ROUTE MAP

SITE-WIDE HEALTH AND SAFETY PLAN (HASP)

TECUMSEH REDEVELOPMENT SITE
LACKAWANNA, NEW YORK

PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

APPENDIX B

HOT WORK PERMIT FORM

HOT WORK PERMIT

PART 1 - INFORMATION

Issue Date:	
Date Work to be Performed: Start:	Finish (permit terminated):
Performed By:	
Work Area:	
Object to be Worked On:	

PART 2 - APPROVAL

(for 1, 2 or 3: mark Yes, No or NA)*

Will working be on or in:	Finish (permit terminated):	
1. Metal partition, wall, ceiling covered by combustible material?	yes	no
2. Pipes, in contact with combustible material?	yes	no
3. Explosive area?	yes	no

* = If any of these conditions exist (marked "yes"), a permit will not be issued without being reviewed and approved by Thomas H. Forbes (Corporate Health and Safety Director). Required Signature below.

PART 3 - REQUIRED CONDITIONS**

(Check all conditions that must be met)

	PROTECTIVE ACTION		PROTECTIVE EQUIPMENT
	Specific Risk Assessment Required		Goggles/visor/welding screen
	Fire or spark barrier		Apron/fireproof clothing
	Cover hot surfaces		Welding gloves/gauntlets/other:
	Move movable fire hazards, specifically		Wellintons/Knee pads
	Erect screen on barrier		Ear protection: Ear muffs/Ear plugs
	Restrict Access		B.A.: SCBA/Long Breather
	Wet the ground		Respirator: Type:
	Ensure adequate ventilation		Cartridge:
	Provide adequate supports		Local Exhaust Ventilation
	Cover exposed drain/floor or wall cracks		Extinguisher/Fire blanket
	Fire watch (must remain on duty during duration of permit)		Personal flammable gas monitor
	Issue additional permit(s):		

Other precautions:

** Permit will not be issued until these conditions are met.

SIGNATURES

Orginating Employee:	Date:
Project Manager:	Date:
Part 2 Approval:	Date:

Prepared By: _____

APPENDIX C

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

APPENDIX F

RAILROAD BALLAST SPECIFICATIONS

Sub-Ballast

This item shall be paid for under NYSDOT Specification 304.14. For this project, based on Geotechnical Evaluations, a 6 inch layer of sub-ballast will consist of the foundation course for the railroad roadbed. The material shall be composed of either caliche, argillaceous limestone, conglomerate, gravel, crushed slag, or other granular materials.

The materials shall meet the requirement herein after as specified by special note. Aggregate retained on a No 10 sieve shall consist of hard, durable particles or fragments of stone, gravel, sand or slag. Materials that break up when alternatively frozen and thawed or soaked and dried shall not be used. Allowable wear, based on the Los Angeles abrasion test, shall not be greater than 50%. A higher or lower percentage of wear may be specified by the Engineer.

It is the intent of this special note is that the sub-ballast shall consist of gradations as set forth in the following table.

Sieve Size	2"	1'	¾"	No 10	No 40	No 200
% Pass (optimum)	100%	95%	67%	38%	21%	7%
% Pass (Permissible)	100%	90-100	50-84	26-50	12-30	0-10

The sub-ballast shall be constructed on the properly prepared subgrade in conformance with the plans, specifications and sections provided for this project. The maximum compacted thickness of the subballast shall not exceed 7 inches or another compacted lift shall be provided. Each lift must be compacted to not less than 95% of the maximum density and to within 2% of the optimal moisture content, as determined by ASTM D 1557.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

Description
The work shall consist of furnishing, placing and compacting stone ballast for the construction of tracks, and/or turnouts, and/or the reconstruction of rail-highway grade crossings as indicated in the contract documents or where directed by the Engineer.

Materials
Materials Specification 703-02, Coarse Aggregate shall apply except as modified herein.

All stone ballast shall be composed of angular fragments of rock, reasonably uniform in quality, and having specified durability and wear resistance qualities. Screened gravel, crushed gravel, marble, sandstone, argillaceous limestones, argillaceous dolomites or crushed slag are not acceptable for use as stone ballast.

All physical requirements and limitations on deleterious materials for crushed stone ballast are listed in Table 703-90 (below).

Stone ballast shall be handled in such a manner that it is kept clean and free from segregation. Any stone which requires washing or scrubbing to insure cleanliness shall be washed at the quarry or crusher site. The gradation requirements of stone sizes shall conform to Table 703-91 (below), "Size Gradation-Stone Ballast."

All sampling and testing shall be done in accordance with Engineer written instructions. Each portion of a quarry exhibiting a variation in quality of stone shall be tested separately. The test results shall not be averaged. The Engineer reserves the right to sample and test the stone ballast up to and including the point of use.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

TABLE 703-90 BALLAST CLASS TESTS [1]	Ballast Class		
	NY1	NY2	NY3
Magnesium Sulfate Test (NYSDOT 703-7P) [2]			
Max. percent loss by weight at 10 cycles	18	18	18
Freezing and Thawing Test (NYSDOT 703-8P) [3]			
Max. percent loss by weight at 25 cycles	10	10	10
Los Angeles Abrasion Test (AASHTO T96)			
Max. percent loss by weight (Grading A or B)	15[4]	20[4]	35[4]
		45[5]	45[5]
Flat and Elongated Pieces (ASTM C125)			
Max. percent by weight of:			
Flat or Elongated to the Degree of 3:1	30	30	30
Flat or Elongated to the Degree of 5:1	10	10	10
Impedance Test (NYSDOT 703-12G)			
Impedance, K ohms	2.6+	2.6+	2.6+
Petrographic Test			
Shale or other deleterious materials [6]	1.0	1.0	1.0
Clay balls or lumps	0.2	0.2	0.2
Materials passing the 75 m sieve (NYSDOT 703-2P)	0.7	0.7	0.7

[1] To determine its conformance to specification limits, processed crushed stone may be tested at any point after completion of processing. The manufactured material shall be separated into the primary sizes indicated in Table 703-5, "Primary Sizes". Each size fraction shall conform to the requirements 703-90, Stone Ballast.

[2] Magnesium Sulfate loss applies to No. 2 primary size fraction.

[3] The freeze-thaw loss applies to the No. 3 primary size fraction, but the Engineer reserves the option to test the No. 2 primary size fraction.

[4] Loss applies to limestone, dolomite, quartzite, and trap rock.

[5] Loss applies to granite, anorthosite, and gabbro.

[6] Argillaceous limestone's and dolomites are considered to be deleterious materials.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

TABLE 703-91
SIZE GRADATION - STONE BALLAST
AMOUNTS FINER THAN EACH SIEVE*

SIZE NO.	NOMINAL SIZE	PERCENT BY WEIGHT								
		2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	No. 4 Sieve	No. 10 Sieve
CR3-4	2" – ½"	100	98 - 100	60 - 85	20 - 40	5-15	0-5	0-1	-	-
4	1½" – ¾"	-	100	90 - 100	20 - 55	0-15	-	0-5	-	-
5	1" – 3/8"	-	-	100	90 - 100	40-75	15 - 35	0-15	0-5	-
57	1" – No. 4 Sieve	-	-	100	95 - 100	-	25 - 60	-	0-10	0-5

* Sieves shall meet the requirements of ASTM designation E-11

Construction Details
Self-spreading vehicles of a type approved by the Engineer may be used. When stone is initially spread by self-spreading vehicles, a power grader of a type approved by the Engineer may be used to assist the spreading operation. If results of spreading with the power grader are found to be unsatisfactory, permission for use of a grader may be withdrawn. Alternate methods of spreading may be approved by the Engineer for limited areas such as grade crossings. The stone ballast shall be shaped to a true section conforming to the ballast section shown on the plans and thoroughly compacted until the surface is true and unyielding.

Compaction may be done with rollers or with vibratory compactors subject to the following requirements:

- The contractor shall place ballast on the graded and compacted sub-base with the maximum lift thickness being determined by the compaction equipment selected and the requirements for proper compaction as given in Section 203-3.12 of the Standard Specifications.

- The top grade of the ballast base course shall be a minimum of 2 in. below the bottom of tie elevation as determined from the top of rail profile shown in the contract documents, the rail section, tie plate thickness, and nominal tie thickness being used at a particular location.

- The requirements for Standard Proctor Maximum Density and Moisture Control shall not apply for ballast, however, compaction shall be continued until the stones are firmly interlocked and the surface is true and unyielding.

ITEM C675.1399 – FURNISH, PLACE AND COMPACT BALLAST BASE COURSE

- The ballast from 2 inches below the tie grade line to the finished surface shall be placed, tamped and dressed after the proposed track is in place, and will be paid for under its respective item.

Method of Measurement
The work will be measured as the number of tons of stone ballast is placed and compacted.

Basis of Payment
The unit price bid per ton shall include the cost of all labor, material and equipment necessary to complete the work.

DESIGN FILE: UNLPIT

TABLE No. 1 Recommended Limiting Values of Testing for Ballast Material

PROPERTY	Granita	Traprock	Quartzite	Limestone	Domestic Limestone	Blast Furnace Slag	Steel Slag	ASTM Test
Percent Material Passing No. 200 Sieve	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	C 117
Bulk Specific Gravity (See Note #2)	2.60	2.60	2.60	2.60	2.60	2.30	2.90	C 127
Absorption Percent	1.0	1.0	1.0	2.0	2.0	5.0	2.0	C 127
Clay Lumps & Friable 5 Cycles	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	C 142
Degradation	35%	25%	30%	35%	35%	40%	30%	See Note #1
Soundness (Sodium Sulfate)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	C 88
Flat and/or Elongated Particles	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	USACE CRD-C 119

Note #1 - Materials having gradations containing particles retained on the 1" sieve shall be tested by ASTM C 535. Materials having graduations with 100% sieve shall be tested by ASTM C 131.

Note #2 - The limit for specific gravity is a minimum value. Limits for the tests are maximum values.

TABLE NO. 2 Recommended Ballast Graduations

Size No.	Nominal Size Sqaure Opening	3"	2-1/2"	2"	1½"	1"	¾"	½"	⅜"	No. 4	No. 8
24	2-1/2" - ¾"	100	90 - 100		25 - 60		0 - 10	0 - 5			
25	2-1/2" - ⅜"	100	80 - 100	60 - 85	50 - 70	25 - 50		5 - 20	0 - 10	0 - 3	
3	2" - 1"		100	95 - 100	35 - 70	0 - 15		0 - 5			
4A	2" - ¾"		100	90 - 100	60 - 90	10 - 35	0 - 10		0 - 3		
4	1-1/2" - ¾"			100	90 - 100	20 - 55	0 - 15		0 - 5		
5	1" - ⅜"				100	90 - 100	40 - 75	15 - 35	0 - 15	0 - 5	
57	1" - No. 4				100	95 - 100		25 - 60		0 - 10	0 - 5

Note #1 - Graduation Numbers 24, 25, 3, a-A and 4 are main line ballast materials.
Graduation Numbers 5 and 57 are yard ballast materials.

EXHIBIT "G"

EXHIBIT "G"

ITEM C675.15 – FURNISH AND PLACE STONE BALLAST SURFACING COURSE ON TRACKS

Description:
The work shall consist of furnishing and placing stone ballast for the raising and surfacing of tracks, turnouts, track crossings and road crossings where indicated in the contract documents or where directed by the Engineer.

Materials:
Materials Specification 703-02, Coarse Aggregate shall apply except as modified herein.

All stone ballast shall be composed of angular fragments of rock, reasonably uniform in quality, and having specified durability and wear resistance qualities. Screened gravel, crushed gravel, marble, sandstone, argillaceous limestones, argillaceous dolomites or crushed slag are not acceptable for use as stone ballast.

All physical requirements and limitations on deleterious materials for crushed stone ballast are listed in Table 703-90 (below).

Stone ballast shall be handled in such a manner that it is kept clean and free from segregation. Any stone which requires washing or scrubbing to insure cleanliness shall be washed at the quarry or crusher site. The gradation requirements of stone sizes shall conform to Table 703-91 (below), "Size Gradation-Stone Ballast."

All sampling and testing shall be done in accordance with Engineer written instructions. Each portion of a quarry exhibiting a variation in quality of stone shall be tested separately. The test results shall not be averaged. The Engineer reserves the right to sample and test the stone ballast up to and including the point of use.

ITEM C675.15 – FURNISH AND PLACE STONE BALLAST SURFACING COURSE ON TRACKS

TABLE 703-90 BALLAST CLASS TESTS [1]	Ballast Class		
	NY1	NY2	NY3
Magnesium Sulfate Test (NYSDOT 703-7P) [2]			
Max. percent loss by weight at 10 cycles	18	18	18
Freezing and Thawing Test (NYSDOT 703-8P) [3]			
Max. percent loss by weight at 25 cycles	10	10	10
Los Angeles Abrasion Test (AASHTO T96)			
Max. percent loss by weight (Grading A or B)	15[4]	20[4]	35[4]
		45[5]	45[5]
Flat and Elongated Pieces (ASTM C125)			
Max. percent by weight of:			
Flat or Elongated to the Degree of 3:1	30	30	30
Flat or Elongated to the Degree of 5:1	10	10	10
Impedance Test (NYSDOT 703-12G)			
Impedance, K ohms	2.6+	2.6+	2.6+
Petrographic Test			
Shale or other deleterious materials [6]	1.0	1.0	1.0
Clay balls or lumps	0.2	0.2	0.2
Materials passing the 75 m sieve (NYSDOT 703-2P)	0.7	0.7	0.7

[1] To determine its conformance to specification limits, processed crushed stone may be tested at any point after completion of processing. The manufactured material shall be separated into the primary sizes indicated in Table 703-5, "Primary Sizes". Each size fraction shall conform to the requirements 703-90, Stone Ballast.

[2] Magnesium Sulfate loss applies to No. 2 primary size fraction.

[3] The freeze-thaw loss applies to the No. 3 primary size fraction, but the Engineer reserves the option to test the No. 2 primary size fraction.

[4] Loss applies to limestone, dolomite, quartzite, and trap rock.

[5] Loss applies to granite, anorthosite, and gabbro.

[6] Argillaceous limestone's and dolomites are considered to be deleterious materials.

ITEM C675.15 – FURNISH AND PLACE STONE BALLAST SURFACING COURSE ON TRACKS

TABLE 703-91
SIZE GRADATION - STONE BALLAST
AMOUNTS FINER THAN EACH SIEVE*

SIZE NO.	NOMINAL SIZE	PERCENT BY WEIGHT								
		2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	No. 4 Sieve	No. 10 Sieve
CR3-4	2" – ½"	100	98 - 100	60 - 85	20 - 40	5-15	0-5	0-1	-	-
4	1½" – ¾"	-	100	90 - 100	20 - 55	0-15	-	0-5	-	-
5	1" – 3/8"	-	-	100	90 - 100	40-75	15 - 35	0-15	0-5	-
57	1" – No. 4 Sieve	-	-	100	95 - 100	-	25 - 60	-	0-10	0-5

* Sieves shall meet the requirements of ASTM designation E-11

Construction Details:
Stone Ballast shall not be distributed, until track and turnouts have been lined to within 2 in. of final alignment.

The ballast required for raising and surfacing track shall be distributed from hopper bottom or special ballast railroad cars, or alternate method of distribution approved by the Engineer, in the quantities as shown in the contract documents or ordered by the Engineer as necessary for the raise. Immediately after distributing the ballast, the track shall be dressed as necessary to permit continued operation of normal train service including proper operation of switches, frogs, guard rails, and flange areas.

The rail cars used to transport the ballast shall be in good condition, so that leakage of ballast does not occur, and so that the spreading operation can be controlled. The rail cars or other equipment shall be free of any debris or foreign material that might contaminate the ballast.

The requirements for Standard Proctor Maximum Density and Moisture Control shall not apply for ballast, however, compaction shall be continued until the stones are firmly interlocked and the surface is true and unyielding.

Method of Measurement:
This work will be measured as the number of tons of stone ballast furnished, and placed.

Basis of Payment:
The unit price bid per ton shall include the cost of all labor, material and equipment necessary to complete the work.