# REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN

# COOPER CROUSE-HINDS, LLC
# NORTH LANDFILL AND SOUTH LANDFILL
# TOWN OF SALINA AND SYRACUSE, NY

*Prepared for:*

Cooper Crouse-Hinds, LLC
600 Travis, Suite 5600
Houston, Texas 77002

*Prepared by:*

Tetra Tech GEO
175 N. Corporate Drive, Suite 100
Brookfield, WI 53045

*March 16, 2012*

# *CERTIFICATION*

I, the undersigned, certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly prepared this Remedial Design/Remedial Action Work Plan for the Cooper Crouse-Hinds North Landfill and South Landfill located in the Town of Salina and City of Syracuse, New York, in accordance with the Division of Environmental Remediation (DER) Draft DER-10 Technical Guidance for Site Investigation and Remediation (December 2002). Based upon my personal activities and my direct supervision of the persons directly responsible for preparing this Remedial Design/Remedial Action Work Plan, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

**For Tetra Tech GEO:**

(Professional Seal)


Peter Rich
Printed Name of Certifying Engineer

Signature of Certifying Engineer

March 14, 2012
Date of Certification

072252
Registration Number

NY
Registration State

Tetra Tech
Company

Principal Engineer / VP
Title

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## 1.0 INTRODUCTION

This Remedial Design/Remedial Action (RD/RA) Work Plan has been prepared on behalf of Cooper Crouse-Hinds, LLC (CC-H) and presents the process to design and implement the final remedy for the closure of CC-H North Landfill and South Landfill, collectively referred to herein as the "Site." The Site has been designated a Class 3 Inactive Hazardous Waste Disposal Site (Site No. 7-34-004) by the New York State Department of Environmental Conservation (NYSDEC). CC-H entered into a Consent Order (R7-0666-05-11) on August 29, 2011 with NYSDEC to implement the selected remedy for the Site as outlined in the Record of Decision (ROD) issued on March 31, 2011. The ROD was incorporated into and made a part of the Consent Order.

The primary objective of this RD/RA Work Plan is to provide the framework for the development and implementation of final plans and specifications for implementing the construction, operation, maintenance, and monitoring of the remedial alternative for the CC-H Site as set forth in the ROD. The RD/RA Work Plan includes the following key elements:

- Site history and background information.
- Summary of pre-design investigation field activities.
- Description of future pre-design activities and schedule for such activities.
- Description of remedial design activities with a schedule for performing these activities.
- Schedule for submitting remedial design documents.
- Remedial design management.

Additionally, this RD/RA Work Plan was developed in accordance with Title 6 of the New York Code of Rules and Regulations (NYCRR) § 375-1.6(a).

### 1.1 Site Location and Description

The Cooper Crouse-Hinds, LLC (CC-H) Site consists of two former landfills, referred to as the North Landfill and South Landfill with associated wetland areas, separated by seventh North Street, which are located immediately west of CSX railroad tracks and the adjacent operating CC-H manufacturing facility. The Site is located in the Town of Salina (North Landfill) and City of Syracuse (South Landfill), Onondaga County, New York (Latitude 043º 05’ 7” N, Longitude 076º 09’ 40” W). The North Landfill consists of three contiguous parcels (Tax ID Nos. 073.-01-08.1, 073.-01-08.3, and 073.-01-08.4) totaling 21.48 acres in size. The South Landfill consists of one parcel (Tax ID No. 01.01-03) totaling 19.4 acres in size. The Site is located in an area of mixed usage including light industrial/manufacturing, commercial and retail usage. Seventh North Street is oriented southeast-northwest and separates the two landfills that comprise the Site. A Site Location Map is presented as Figure 1 and a Site Plan is presented as Figure 2.

### 1.1.1 Landfills

The North Landfill is bordered along its northern border by a former landfill (approximately 37 acres) owned by Plaza East, LLC (Plaza), which consists of areas of fill (municipal waste and miscellaneous debris) with woodland cover and wetland areas. The North Landfill is bordered to the east and southeast by CSX railroad tracks and the CC-H facility and to the south and southwest by Seventh North Street and the South Landfill. West of the North Landfill are wetlands (Plaza property) followed by Ley Creek.

The South Landfill is bordered to the north by Seventh North Street and the North Landfill. To the east and southeast of the South Landfill are CSX railroad tracks followed by mixed commercial and retail development and Hiawatha Boulevard. Further to the South is undeveloped woods, wetlands and mixed commercial and retail development border the South Landfill further to the south. Ley Creek abuts the entire west and northwest boundary of the South Landfill.

Review of available historical documentation indicates that prior to the mid-to-late 1950s the North and South Landfills had been occupied by low lying fields, salt marshes and woodlands. From the mid-1950s to 1989 fill material had been placed across various areas of the North and South Landfills. An overall Site Plan is shown on Figure 2. Current topographic conditions are shown on the topographic survey map included on Figure 3.

### 1.1.2 Topography

The site topography is shown on Figure 3. Topography of the North Landfill is generally flat across the southern half of the landfill with an average elevation range of approximately 370 feet to 372 feet above mean sea level (AMSL). However, moving to the north from the central area of the North Landfill, the elevation rises moderately and increases to near an average of 381 feet AMSL across a notably mounded area of the landfill. Topography slopes moderately to steeply downward from the fill-mound along the northern portion of the North Landfill. Drainage across the North Landfill is generally radially outward from the fill-mound area in all directions. Drainage to the north and west is to the west wetland (Wetland B) and then to the adjacent wetland property owned by Plaza East. Drainage to the south and east is towards the east wetland (Wetland A) and the eastern stream segment (Stream A).

Topography of the South Landfill is generally flat across the landfill area with an average elevation range of 373 feet to 377 feet AMSL. Topography along the edges of the fill-mound slopes moderately to steeply away from the fill-mound to the north, east, south and west. Drainage across the South Landfill is generally radially outward from the fill-mound in all directions. Drainage to the east-southeast is to the stream (Stream B) and wetland areas (Wetland C) located on the east-southeast side of the landfill. Drainage to the south is to the wetland area (Wetland C) located to the south of the fill-mound.

Drainage to the west is collected along the landfill's western border for drainage into Wetland C and eventual flows to Ley Creek.

### 1.1.3 Surface Water Features

Ley Creek is located between 80 feet and 120 feet west of the western property boundary of the North Landfill and adjacent to the western boundary of the South Landfill (Figure 2). Ley Creek is part of the Onondaga Lake drainage basin and flows to the south/southwest towards Onondaga Lake. Between the mouth of Ley Creek and the Onondaga County Ley Creek Transfer Station and former sewage treatment plant (POTW) outfall, Ley Creek is classified as a Class C water body. From the POTW outfall to a point located 3.1 miles north of the creek mouth, Ley Creek is classified as a Class B water body. The section of Ley Creek adjacent to the CC-H Landfill Site is classified as a Class C water body. Flood insurance maps indicate that the CC-H Landfill Site is located within the 100-year flood plain of Ley Creek as defined by the Federal Emergency Management Agency (FEMA). The base flood water surface water elevation for the Site is 374 feet AMSL.

Bear Trap Creek drains into Ley Creek at its terminus that is located approximately 260 feet west of the southwest corner of the North Landfill, which is to the immediate north of the Seventh North Street bridge that crosses Ley Creek (Figure 2). Bear Trap Creek extends northward from its terminus and receives drainage from areas that range from undeveloped usage to commercial usage and potentially light industrial usage.

Two stream segments and one drainage ditch are located on the CC-H Landfill Site and are described in the next section.

### 1.1.4 Wetlands

In November 2005, wetland delineation was conducted across the Site to define the extent of wetlands on-site. All work was conducted according to the criteria set forth in the *1987 United States Army Corps of Engineers Wetlands Delineation Manual*, *Classification of Wetlands and Deepwater Habitats of the United States*, and the *1995 NYSDEC Freshwater Wetlands Delineation Manual*. Wetland areas identified on-site are described further below.

Two wetland areas and one stream section were identified on the North Landfill (Figure 2). The first wetland, Wetland A (a.k.a. the "east wetland") extends along the majority of the southeastern side of the North Landfill and is approximately 2.63 acres in size. The east wetland receives flow from an off-site drainage ditch/stream form the Plaza East former landfill and CSX Railroad properties that enters the wetland at the east corner of the landfill. Surface water in this ditch/stream appears to originate as surface water runoff and drainage from and across the adjacent properties owned by Plaza East, LLC and CSX Railroad. Surface water discharge from the east wetland is to a stream (Stream A) that is 675 feet in length and flows southwest from Wetland A to the south point of the North Landfill where it then turns to the northwest and parallels Seventh North Street. At its

terminus, the stream discharges into two 24-inch diameter culverts, which carry flow beneath Seventh North Street and into a drainage ditch that is located along the northeast boundary of the South Landfill. Drainage in the ditch flows northwest and ultimately discharges to Ley Creek. The second wetland, Wetland B (a.k.a. the "west wetland") is located along the northwest side of the North Landfill; the on-site portion of this wetland feature is approximately 2.61 acres in size. Wetland B occurs adjacent to and within the flood plain of Ley Creek and extends offsite from the northwest property boundary, and across the adjacent property owned by Plaza East, LLC, to Ley Creek. Wetland B is identified on National Wetland Inventory (NWI) maps (ID No. PFO1/SS1E).

One wetland area, stream section, and drainage ditch were identified on the South Landfill (Figure 2). Wetland C (a.k.a. the "south wetland") is located south of the southwest point of the South Landfill and is approximately 1.29 acres in size. The stream section (Stream B) is approximately 1,825 feet in length and extends along the southeast side of the South Landfill. The stream channel begins near the east point of the landfill and runs parallel with the CSX railroad tracks and southeastern edge of the landfill until it enters the Wetland C. Upon entering Wetland C, the stream flows southwest along the northwest edge of Wetland C.

Prior to 2009, surface water from Stream B and Wetland C discharged into Ley Creek at the terminus of the stream via a 36-inch diameter culvert pipe. The culvert pipe was removed in 2009 and the area backfilled with imported gravel material and fill (Figure 2) to prevent the flow of surface water and entrained sediments from Ley Creek to the South Landfill and vice versa. There is no longer a discharge point to Ley Creek, however surface water can still flow along Stream B and into Wetland C.

Surface water flow in Stream B appears to be primarily from surface water runoff from the South Landfill and the adjacent CSX railroad property. Observations indicate that flow in the stream is generally limited to times of heavy runoff due to either rainfall events or snow melt. Generally, the upper one third of the stream area is dry for the majority of the year. Prior to the removal of the 36-inch culvert pipe, observations indicated that surface water from Ley Creek flowed into Stream B and Wetland C during high water events in Ley Creek.

The drainage ditch is located along the northern boundary of the South Landfill and Seventh North Street. The ditch is 1,075 feet in length and begins at the east point of the South Landfill. Flow in the ditch is to the northwest to its terminus where it discharges into Ley Creek. The ditch accepts discharge from a culvert pipe located at the head of the ditch and from the two 24-inch culvert pipes leading beneath the roadway. The source of flow from the culvert pipe at the head of the ditch is from unknown off-site sources to the southeast. The head of the ditch is located at an elevation of approximately two feet below the head of the South Landfill (Stream B) and does not provide discharge flow to Stream B.

Based on the NYSDEC wetlands maps, the wetlands located on the North and South Landfills are not under the direct jurisdiction of New York State. The United States Army

Corps of Engineers (USACE) provided a preliminary Jurisdictional Determination (JD) dated June 19, 2009 on these wetland areas.

### 1.2 Site History

Available information indicates that prior to the mid-1950s the area of the North Landfill had been undeveloped and occupied by fields, salt marshes and woodlands. Beginning in the mid-1950s, CC-H reportedly began using the North Landfill for disposal of wastes that were generated at their adjacent manufacturing facility. Between the mid- 1950s and 1972 the North Landfill reportedly accepted an unknown quantity of solid industrial waste (i.e., foundry sand) from the CC-H facility. In April of 1981, CC-H applied for a Part 360 permit to operate the North Landfill as a non-hazardous landfill. On March 10, 1982, CC-H withdrew its application. Waste disposal was discontinued at the North Landfill in 1989. The North Landfill has been inactive since 1989.

Available information indicates that prior to 1959 the area of the South Landfill had been undeveloped and occupied by fields, salt marshes and woodlands. Beginning in 1960, CC-H reportedly began using the South Landfill for disposal of wastes that were generated at their adjacent manufacturing facility. Between 1960 to early 1965 the South Landfill also accepted approximately 2,000 cubic yards per week of municipal solid waste (sanitary, domestic, trash, debris, etc.) from the City of Syracuse.

In a memo dated December 1, 1960, from the City of Syracuse Department of Public Works (DPW) to CC-H, the DPW indicated that the landfill (reportedly the South Landfill) would be prepared for usage in a way that would correct drainage issues in ditches and culverts across the South Landfill and along Seventh North Street and also in a way that would allow for the development of a lagoon for use in clarifying liquid plant wastes. [Note: The source of the liquid waste was not identified]. It was also indicated at this time (1960) that the Ley Creek channel west from Seventh North Street would be cleaned for the length of the CC-H creek frontage to improve area drainage and reduce odor problems. In a memo dated June 9, 1961, from the City of Syracuse DPW to CC-H, the DPW presented a plan for cleaning the ditches across the North and South Landfills in lieu of conducting cleaning of the Ley Creek channel by crane and drag-line. The date of channel cleaning completed by the City of Syracuse DPW, and/or how the sediments from Ley Creek were handled and where they were disposed of was not noted in available documentation. However, it is clear from available documentation and aerial photographs that the DPW actively modified drainage in ditches along the east side of both the North and South Landfills and along Seventh North Street to facilitate usage of the South Landfill by DPW. The location of these ditches also correlates with the location of the stream sections (Stream A and B) and drainage ditches that are currently mapped on the CC-H Site in Figure 2.

At some time in early 1965, CC-H terminated use of the South Landfill by the City of Syracuse due to concerns over the remaining useful volume of the fill area and because the City was not providing cover material per the agreement. Waste disposal activities

were reportedly discontinued at the South Landfill in 1969 and the South Landfill has been inactive since that time.

After the City of Syracuse's use of the South Landfill was terminated in 1965, the City entered into an agreement with Plaza East, LLC to dispose of municipal solid waste on property located immediately north of the North Landfill. Access to this area was through a 100-foot wide strip of land located along the northwest portion of Wetland B (adjacent to Ley Creek) which was conveyed to Plaza East, LLC by CC-H in 1964. A road was constructed on this strip to allow the City of Syracuse to use Plaza East property for the continued disposal of municipal waste. A letter from the City of Syracuse, Department of Public Works dated June 24, 1968 states that the access road would be first landfilled to approximately 12 to 18 inches below grade before placement of a road surface. There is no indication as to the type of fill material to be placed by the City.

In the early 1970s, Onondaga County formed the Bear Trap-Ley Creek Drainage District to address periodic flooding in Ley Creek. The County began operations intended to widen and deepen the Ley Creek channel for the majority of its length. As part of that plan the County took the 100-foot wide Plaza East, LLC parcel which left Plaza East, LLC with no access to their property from Seventh North Street. On August 30, 1972, CC-H entered into a land transfer and right of-way (ROW) agreement with Onondaga County in which an additional 100-foot wide strip of land was transferred from CC-H to Onondaga County so that the County could grant an easement to Plaza East, LLC for access to the landfill property. At some point the 100-foot wide parcel was transferred back to Plaza East, LLC. The 150-foot wide strip of land between Wetland B and Ley Creek is currently owned by Plaza East, LLC as shown on Figure 2.

As part of the 1972 ROW agreement, CC-H also granted Onondaga County a semi-permanent ROW along the entirety of the western property border of the South Landfill. This agreement allowed Onondaga County temporary access to the CC-H Site for a period of one year in order to complete widening and deepening of Ley Creek in association with the Ley Creek drainage project. Available information indicates that work on the Ley Creek dredging and drainage channel improvements for the South Landfill was completed in about January 1973. CC-H indicated that a dike had been located in the area of the southwest corner of the South Landfill and that dredge spoils had reportedly been spread over the southwest corner of the South Landfill in the area of Wetland C.

### 1.3 Description of Off-Site Sources

The clean-up of off-site sources is critical to the success of the Site remedial program. On-site media that are to be remediated as part of this remedial program have the potential to become re-contaminated if off-site sources are not addressed first.

### 1.3.1 Lower Ley Creek

Based on the Site conceptual model, the on-site wetlands became contaminated with polychlorinated biphenyls (PCBs) from past episodes of Ley Creek dredging and flooding that resulted in the deposition of PCB-contaminated sediments on CC-H property. Potential upstream sources of contamination include the Plaza East, LLC landfill, the Town of Salina Landfill site (NY State Site No. 7-34-036), the Old Ley Creek Channel site (NY State Site 7-34-074), the Ley Creek PCB Dredging site (NY State Site No. 7-34-044), the GM-IFG site (NY State Site No. 7-34-057), and the Solvents and Petroleum site (USEPA ID No. NYD013277454).

Lower Ley Creek is a part (subsite) of the Onondaga Lake National Priorities List site for which the USEPA is presently conducting a remedial investigation.

### 1.3.2 Plaza East Wetland

Plaza East, LLC owns a strip of land ranging between 100 to 150 feet wide and 900 feet long that is located between Ley Creek and the parcels that make up the North Landfill property. This off-site property is comprised of a wetland area that has undoubtedly been contaminated with PCBs due to deposition of PCB-contaminated sediment caused by Ley Creek flooding, just as the adjacent wetlands on the North Landfill property have been. The Remedial Investigation (RI) Report completed in 2009 indicated that dredge spoils from Ley Creek were also deposited on this property. The Plaza East, LLC wetland area is included in the Lower Ley Creek RI being conducted by USEPA. Remedial activities at the North Landfill should proceed in conjunction with or after remedial action activities on the Plaza East, LLC wetland area and Ley Creek cleanup have been completed.

### 1.3.3 Plaza East Landfill

The North Landfill is bordered along its northern border by a former landfill (approximately 37 acres) owned by Plaza East, LLC. The RI report indicates that the City of Syracuse had an agreement with Plaza East to dispose of municipal solid waste on property located immediately north of the North landfill. Municipal waste was encountered in test pits located along the property line with Plaza East indicating encroachment of wastes on the Plaza East property onto the North Landfill property. Remedial measures implemented on the North Landfill will need to consider isolation/separation of North Landfill wastes from the Plaza East wastes.

## 1.4 Remedial Objectives

The objectives for the remedial program have been established through the remedy selection process provided in 6 NYCRR Part 375. The goal for the remedial program is to restore the Site to pre-disposal conditions to the extent feasible. At a minimum, the remedy will eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the Site through the proper

application of scientific and engineering principles. The remedial objectives for this site are provided below.

### 1.4.1 Public Health Protection

*Groundwater*

- Prevent people from drinking groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with contaminated groundwater.
- Prevent potential for inhalation of contaminants volatilizing from the groundwater.

*Soil*

- Prevent ingestion/direct contact with contaminated soil.
- Prevent potential for inhalation of contaminants volatilizing from the soil.

*Surface water*

- Prevent people from drinking surface water impacted by contaminants.
- Prevent contact with contaminants from impacted water bodies.

*Sediment*

- Prevent direct contact with contaminated sediments.

*Air/Soil Gas*

Control landfill methane gas generated within the landfills so as not to create hazards to health, safety or property.

### 1.4.2 Environmental Protection

*Groundwater*

- Restore the groundwater aquifer to meet ambient groundwater quality criteria, to the extent feasible.
- Prevent discharge of contaminated groundwater to surface water.

*Soil*

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

*Surface Water*

- Restore surface water to ambient water quality criteria for contaminants of concern, to the extent feasible.
- Prevent impacts to biota from ingestion/direct contact with surface water causing toxicity and impacts from bioaccumulation through marine and aquatic food chain.

*Sediment*

- Prevent releases of contaminants from sediment that would result in surface water levels in excess of ambient water quality criteria.

- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity and impacts from bioaccumulation through marine and aquatic food chain.

*Air/Soil Gas*

- Prevent adverse environmental impact related to landfill methane gas migration and odors

### 1.5 Remedy of Record

The elements of the selected remedy set forth in the ROD are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

2. There are three areas with elevated contaminant levels that will be targeted for excavation and off-site disposal. All three areas occur in the North Landfill. One area on the east side includes approximately 750 cubic yards of waste containing PCBs at concentrations of 50 parts per million (ppm) or greater. The other area on the east side includes approximately 4,500 cubic yards of waste that contains elevated solvents. The area on the west side of the North Landfill includes approximately 1,500 cubic yards of oily waste in the vicinity of monitoring well MW-6. The ROD provides for all three areas to be characterized, excavated and transported off-site to a Toxic Substances Control Act (TSCA) facility and/or hazardous waste landfill as applicable. Characterization will include design borings to further delineate these areas. During excavation, the areas containing oily waste or solvents will be further delineated through visual confirmation, detection of strong odors, measurement of elevated contaminant vapor concentrations, or by otherwise readily implementable methods without the need for laboratory analyses.

3. Both the North and South Landfills will be consolidated to reduce their current area. The consolidated areas will be fenced and will have engineered cap systems designed and constructed in conformance with the substantive requirements for landfill caps set forth in 6 NYCRR Part 360. The areas to be consolidated will be determined during the design; however, areas to be excavated will include a 50-foot buffer zone area between the South Landfill and Ley Creek and 30-foot buffer zone areas between the landfills and on-site wetlands. If required for cap installation, buffer zones will be established between the landfills and Seventh North Street. This excavated material will be consolidated in the landfills above the water table.

4. Wetland sediment with PCB concentrations greater than 1 ppm and less than 50 ppm will be excavated for consolidation and capping on-site with the material discussed above. PCB contaminated sediment with concentrations of 50 ppm or greater will be properly transported off-site for disposal.

5. The excavated wetlands and buffer zones will be restored and maintained per an approved restoration plan developed during the remedial design phase. Buffer zone soils will need to meet the Unrestricted Use Soil Cleanup Objectives set forth in Table 375-6.8(a) of 6 NYCRR Part 375 for a minimum of two feet in depth measured from the finished surface grade. The remaining buffer zone soils will need to meet, at a minimum, the lower of the protection of groundwater or the protection of public health soil cleanup objectives for commercial use as set forth in Table 375-6.8(b) of 6 NYCRR Part 375.

6. Green remediation and sustainability efforts will be considered in the design and implementation of the remedy to the extent practicable, including:
    a. using renewable energy sources;
    b. reducing green house gas emissions;
    c. encouraging low carbon technologies;
    d. conserve natural resources;
    e. increase recycling and reuse of clean materials;
    f. preserve open space and working landscapes; and,
    g. design cover systems to be usable for habitat or recreation.

7. Imposition of an institutional control in the form of an environmental easement for the controlled property that will:
    a. require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
    b. allow the use and development of the controlled property for industrial use, although subject to local zoning laws;
    c. restrict the use of groundwater and surface water as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH; prohibit agriculture or vegetable gardens on the controlled property;
    d. require compliance with the Department approved Site Management Plan; and,
    e. include provisions to evaluate the potential for vapor intrusion for any buildings developed on the site and to implement actions recommended for addressing exposures related to soil vapor intrusion.

8. A Site Management Plan will be developed to include the following:
    a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to assure the following institutional and/or engineering controls remain in place and effective:

        Institutional Controls: The Environmental Easement discussed above.
        Engineering Controls: The landfill caps and fencing discussed above.
        This plan will include, but may not be limited to:

i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
ii. descriptions of the provisions of the environmental easement including any land use, groundwater and surface water use restrictions;
iii. provisions for the management and inspection of the identified engineering controls;
iv. maintaining site access controls and Department notification;
v. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls; and

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but would not be limited to:
i. monitoring of wetlands, groundwater, surface water and sediment to assess the performance and effectiveness of the remedy;
ii. a schedule of monitoring and frequency of submittals to the Department; and.
iii. monitoring of wetlands and buffer areas to assess restoration success.

9. The remedial party or subsequent property owner will provide a periodic certification of institutional and engineering controls for the site, prepared and submitted by a professional engineer or such other expert, acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will:
a. contain certification that the institutional controls and engineering controls put in place are still in place, and are either unchanged from the previous certification or are compliant with Department-approved modifications;
b. allow the Department access to the site; and,
c. state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

### 1.6 Work Plan Organization

This RD/RA Work Plan is organized into six sections and two appendices.

- Section 1: Introduction – presents background information, project objectives, and remedial goals for the Site.
- Section 2: Pre-Design Activities to Date – describes pre-design activities conducted to date by CC-H as well as other monitoring efforts that may be of value during the remedial design.
- Section 3: Future Pre-Design Activities - presents available information about objectives and plans for further pre-design work.
- Section 4: Remedial Design Process – describes the engineering design processes and deliverables to be produced to address each element of the selected remedy as well as major milestones and dates of the remedial program.

- Section 5: Remedial Design Management – describes the project management approach, including remedial design organization, project communication, document management, quality assurance, health and safety, physical security, regulatory requirements, and citizen participation as part of the remedial design process.
- Section 6: References – lists the references used to prepare this Work Plan.
- Appendix A: Preliminary Jurisdictional Determination for on-site wetlands
- Appendix B: ARARs (Section 6.0 from the 2010 Feasibility Study (FS) Report) - provides a preliminary guide for involvement of each local, state, federal, and regulatory agency with jurisdiction over implementing at least a portion of the selected remedy.

## 2.0 PRE-DESIGN ACTIVITIES TO DATE

This section provides a summary of pre-design and design-related activities conducted to date to support design of the selected remedy. Specifically, it provides an overview of the CC-H Site Remedial Investigation/Feasibility Study (RI/FS) analyses, wetland and floodplain assessment and design-related investigation activities including delineation work for the three elevated contamination areas and landfill gas survey. Section 3 of this work plan outlines further activities to be performed to support the remedial design.

### 2.1 Remedial Investigation/Feasibility Study

Field efforts that were part of the Remedial Investigation for the CC-H Site were conducted in 2004 to 2006. In 2004, a Preliminary Site Assessment (PSA) was conducted at the Site to determine the nature and extent of any impacts at the Site and to determine if the Site had the potential to and/or was impacting Ley Creek. The PSA Report was submitted to NYSDEC, USEPA and New York State Department of Health (NYSDOH) on September 29, 2004. In 2005 and 2006, a Supplemental Site Assessment (SSA) was conducted at the Site to address data gaps identified during the 2004 PSA and to determine if interim remedial measures (IRMs) were necessary at the Site. The Preliminary Site Assessment and Supplemental Site Assessment Report was submitted to NYSDEC, USEPA and NYSDOH on May 25, 2006.

The final RI report was submitted in August 2009. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the Site. The RI included test pits and boreholes for collection of waste material and surface and subsurface soil samples. New monitoring wells were installed and groundwater samples were collected from new and existing monitoring wells. Surface water samples were collected from on-site stream segments and Ley Creek. Surface and subsurface sediment samples were collected from the on-site wetlands, stream segments and ditches and from Ley Creek. In total, approximately 200 samples of groundwater, soil, sediments, and surface water were collected during the RI. Output from these efforts will be applied as appropriate during the remedial design effort.

Preliminary analyses conducted as part of the FS (GeoTrans, 2010) included Applicable or Relevant and Appropriate Requirements (ARARs) associated with the remedial action for the Site. This analysis will be used as a basis for further remedial design evaluations.

### 2.2 Preliminary Jurisdictional Determination for On-Site Wetlands

The Army Corps of Engineers evaluated the wetland delineation map provided by CC-H for the Site and determined that the wetland and water boundaries shown on the map accurately represent on-site conditions in a Preliminary Jurisdictional Determination (JD) dated April 8, 2009 (Appendix A). Preliminary JDs are non-binding written indications that there may be waters of the United States on the parcel and the approximate locations of those waters. Preliminary JDs are advisory in nature and may not be appealed.

### 2.3 North Landfill Elevated Contaminant Areas Delineation

One of the elements of the final remedy is the excavation and disposal of three identified areas of elevated contaminant concentrations within the North Landfill. All three areas are to be characterized, excavated and transported off-site to a TSCA and/or hazardous waste landfill as applicable. The ROD identified these areas as follows:

- PCB area of approximately 750 cubic yards of waste containing PCBs at concentrations of 50 ppm or greater.
- Volatile organic compound (VOC) area of approximately 4,500 cubic yards of waste containing elevated solvent concentrations.
- Non-aqueous phase liquid (NAPL) Oil area of approximately 1,500 cubic yards of waste containing oily waste.

Additional characterization of these areas included pre-design borings for delineation purposes. The work was carried out November 30 to December 10, 2010 in accordance with an approved work plan dated August 5, 2010. The results of the delineation are included in Appendix C of this report. The pre-design sampling results refined the volumetric estimates for each area as follows:

- PCB area of approximately 85 cubic yards (125 tons)
- VOC area of approximately 900 cubic yards (1,350 tons)
- NAPL Oil area of approximately 175 cubic yards (265 tons)

The PCB, VOC and NAPL oil areas will be addressed through excavation and off-site disposal.

### 2.4 Landfill Gas Survey

Material encountered in test pits excavated in the North Landfill and South Landfill during the RI consisted primarily of foundry sand, core butts, foundry molds, metal debris, wood debris and industrial debris. Test pits across the South Landfill also encountered municipal wastes which included paper, glass bottles, plastic, wood, metal cans, metal debris and general municipal refuse. The need for a gas venting layer as a component of proposed landfill caps is dependent upon whether or not landfill gas is being produced at the landfills.

A landfill gas bar hole survey was conducted as part of pre-design activities for the proposed landfill caps on the North Landfill and South Landfill. A total of 39 bar hole probes were installed on the North Landfill (22 probes) and South Landfill (17 probes). On the North Landfill, elevated landfill gas measurements were observed at three probes in an isolated area located near the south entrance gate to the North Landfill. Peak methane measurements ranged from 8.2-23.5% and sustained methane measurements ranged from 7.8-17%. On the South Landfill, elevated landfill gas measurements were observed at six probes across a large part of the South Landfill. Peak methane measurements ranged from 7.0-79% and sustained methane measurements ranged from 6.9-79%.

These results indicate that a landfill gas venting layer will be needed for the South Landfill as expected due to the greater amounts of municipal refuse from the City of Syracuse landfilling operations that occurred from 1960 through 1965. For the North Landfill there does not appear to be a need to install a gas venting layer due to the greater amount of foundry sand and lower municipal waste volume. It is recommended that another round of landfill methane gas measurements be collected from the bar hole probes near the entrance to the North Landfill to evaluate the source of methane gas in that area.

## 3.0 FUTURE PRE-DESIGN ACTIVITIES

It is anticipate that a number of tasks will need to be completed prior to commencing with the remedial design process. These tasks include issues that need be resolved prior to moving ahead with the design and pre-design work.

### 3.1 Landfill Gas Survey Update

Another round of landfill gas measurements will be collected at the South Landfill bar hole probes and the three North Landfill probes that had measureable gas concentrations as described in Section 2.4. Supplemental bar hole probes may also be installed to refine the assessment of landfill gas.

Any supplemental and/or replacement bar hole probes will be constructed by driving a ½-inch diameter rod approximately 2.5-3 feet into the soil. The rod will be extracted and a ½-inch diameter, 18-inch long PVC pipe inserted approximately 6-12 inches into the bar hole to prevent soil from falling into the hole and/or entering the gas meter tip. The exposed end of the PVC pipe will be fitted with a length of tygon tubing using a gas tight connection. The PVC and tubing will seal the hole from ambient air. The tip of the gas meter will be inserted into the tubing allowing gas to be sampled with the instrument directly from the soil matrix that lies below the pipe.

A Landtec GA-90 landfill gas meter will be used to analyze methane (0 to 100%), carbon dioxide (0 to 50%), and oxygen (0 to 21%) levels in the landfill gas. Static and barometric pressure and temperature will also be recorded. The meter will be field-calibrated on-site following the manufacturer's instructions. The instrument will be recalibrated each day if ambient temperature changes by more than 10 degrees during the day.

### 3.2 Utility Evaluation

There are several existing utilities that traverse the North Landfill and South Landfill properties including overhead power lines (National Grid) and underground water and sanitary sewer pipelines (City of Syracuse). At this time, it is not known whether relocation of some of these utilities is necessary or possible, or if any utilities will need to be integrated into the proposed closure plan. The preliminary identification and location of these utilities is as follows:

- Overhead power lines extend south from the Plaza East property and bisect the North Landfill to the west of Wetland A. There are five or six wood poles along this line in the North Landfill. It appears that two poles occur in the wetlands buffer zone where waste removal will be required. One pole also appears to be near the elevated VOC area.
- The same overhead power lines continue south from the North Landfill and bisect a part of the South Landfill, continue along Stream B and then bisect Wetland C before crossing Ley Creek. There are 10 wood poles along this line through the

South Landfill and related wetland areas. Most of the poles are either in waste or within wetland areas where sediment removal will be required.

- Overhead power lines also parallel the railroad property along the east side of Wetland A on the North Landfill property. There is a lattice tower and four wood poles along this part of the line. At least three of the poles are within Wetland A where sediment removal will be required.
- Overhead power lines also parallel the north property line of the South Landfill within the right-of-way for North Seventh Street. There also appears to be a buried sanitary sewer line and possibly phone lines in the right-of way. Stream A flows into the drainage ditch along North Seventh Street. Any work done on the drainage will need to take into account the location of theses utilities.
- A municipal waterline crosses over Ley Creek at the north end of the South Landfill property approximately 50 feet south of North Seventh Street. The depth and location of this line with respect to buried waste needs to be confirmed.

The elements of this pre-design evaluation are listed below:

1. Survey the location of each utility and easement/right-of-way, including the location of all power line wood poles and lattice towers.
2. Obtain depth and construction information for buried utilities, power line poles and lattice tower foundations.
3. Determine the easement and/or property rights associated with each utility.
4. Determine utility set back requirements for excavating around existing structures and pipelines.
5. Evaluate the type of remedial work that might be done at each pole/tower location such as sediment removal, waste removal, in-situ treatment, and cap construction.
6. Evaluate options for each structure such as no action (no removal required), sediment/waste removal up to a set distance around each structure, relocating poles/lines, capping waste in place and "booting" the membrane liner from the landfill cap to poles/towers within the confines of the landfill cap.
7. Following the evaluation, meet with NYSDEC and then the utilities (National Grid and City of Syracuse) and present findings. Work with the utilities to get concurrence with plan of action.

### 3.3 Site Survey

A boundary and topographic survey of the Site was completed in 2003, but more detail and coverage is needed for the wetland areas, streams and Ley Creek. Updating of the topographic information will be crucial to the remedial design, particularly relative to balancing cuts and fills on grading plans. In addition, the location of underground and overhead utilities and associated structures needs to be established as discussed in Section 3.4.

The elements of this task are listed below:

1. Perform record research at the Onondaga County Clerk's Office and other municipal offices for information including, but not limited to, deeds, filed maps, street line monument data, easements, etc.

2. Perform a field survey of existing conditions on the properties identified as the CC-H North Landfill and South Landfill, using instruments and procedures consistent with local survey standards.
3. Perform boundary line tasks (update previous boundary work) as necessary to place record title information on the mapping.
4. Horizontal and vertical control will be established on the site using previous work on or near the site. Horizontal values will reference NAD 83, NYSP Central Zone 3102, expressed in US Survey feet. Vertical values will reference NAVD 88, expressed in US Survey feet. Control will be established following accepted standards and procedures.
5. Horizontal and vertical control points shall be placed in locations with the intent that they be accessible throughout the construction phase. A minimum of five horizontal points and five vertical points (benchmarks) shall be set and identified on the completed mapping.
6. Perform a field topographic survey on the project site by utilizing electronic total stations coupled with data collectors. Locations shall include, but not be limited to the following:
    - Asphalt and concrete limits
    - Curbs, sidewalks and retaining walls
    - Pavement markings (traffic, parking, etc.)
    - Traffic signage and appurtenances
    - Visible utility surface features (utility poles, catch basins, manholes, valves, etc.)
7. Topographic survey information will be gathered within the following limits:
    - Northerly to the far bank of Ley Creek
    - Southerly to the CSX Transportation, Inc. railroad
    - Easterly to 100 feet beyond the Plaza East property line
8. Utility and municipal service companies operating in the area will be contacted to request record information. Existing utilities will be located as surface evidence allows, and depths shall be obtained from surface activities and observations combined with record information supplied by service organizations.
9. AUTODESK® civil/survey software will be used to prepare the mapping at a scale convenient for subsequent design tasks, with contours generated at one-foot intervals.
10. Deliverables will be as follows:
    - Digital copy of the mapping in ACAD® 2010 format
    - Copy of the AUTODESK® mapping and DTM database

### 3.4 Cultural Resource Assessment

To insure that historic preservation is considered in permitted undertakings, there are laws at each level of government that require projects to be reviewed for their potential impact/effect on historic properties. At the federal level, Section 106 of the National Historic Preservation Act of 1966 directs the review of federally-funded, licensed or permitted projects. At the State level, Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law of 1980 performs a comparable function. Local

environmental review for municipalities is carried out under the State Environmental Quality Review Act of 1978.

The New York Archeology Council has developed a step-wise process for assessing cultural resources within a project area. The process is based on the standard practices of archeology and is designed to identify potential cultural resources prior to construction that could impact historic sites. A Phase I investigation is the first step in determining whether a proposed project contains any potentially significant cultural resources. Specific tasks include Phase IA (literature and document review and sensitivity assessment) and Phase IB (field investigations).

The Phase IA literature review and sensitivity assessment may include the following elements:

1. State and regional site files checks (e.g., New York State Office of Parks, Recreation & Historical Preservation, regional colleges/universities, private Cultural Resource Management firms);
2. Research (e.g., histories, archaeological reports, soil surveys, environmental reports, deed and census records, etc.);
3. Interviews (e.g., landowners, local historians, archaeologists, Native Americans, etc.);
4. Walkover (e.g., check for ground disturbance, terrain, visible cultural resources);
5. Sensitivity assessment (types of sites likely to be present in all parts of the project area, types of Phase I testing needed); and,
6. Report summarizing results, sensitive areas, and recommendations.

A Phase IB work plan would be submitted, if required, based on the results of the Phase IA literature review and sensitivity assessment.

A Phase IB field investigation to verify the presence/absence of archaeological sites could include one or more of the following elements:

1. Systematic Surface Survey;
2. Subsurface Testing;
3. Remote Sensing; and,
4. Laboratory Processing.

At the conclusion of all investigations, a written report will be prepared containing a summary of what (if anything) was found and recommendations for any follow-up.

### 3.5 Construction Traffic Analysis

An evaluation of the truck route to transport trucks between the CC-H North Landfill and South Landfill and the local interstate system will be conducted. Based upon the amount of materials and pieces of equipment that will need to be delivered to the project site, we are anticipating several thousand truck trips will be generated over the course of the project. The evaluation is intended to look at the best routing for the truck traffic that will minimize off-site impacts.

At this time it seems the best truck route is Seventh North Street to Interstate 81. A meeting will be held with the New York State Department of Transportation and Onondaga County Department of Transportation to review the proposed truck route.

A field review will be conducted for the potential route to identify all traffic control devices and gather roadway information including, but not limited to, roadway widths, speed limits, and roadway geometry. Field measurements will be made for all overhead bridge clearances on the potential routes. In addition, weekday AM (7-9 am) and PM (4-6 pm) peak period traffic counts will be collected at the intersection of the landfill entrances and Seventh North Street.

A Truck Route Evaluation Report will be prepared suitable for CC-H and agency review and will include the following:

1. Written text, including appropriate graphics, to present the existing conditions of the roadways.
2. Description of the truck route, including photographs.
3. A summary of the expected impacts of the truck route.

### 3.6 End Use Planning

CC-H will cap and vegetate the landfills in accordance with 6 NYCRR Part 360. In addition, CC-H may evaluate with cooperating potentially responsible parties, future use of the Site as a park with consideration of uses including hiking trails, scenic or jogging paths, fishing dock, picnic areas and/or nature conservancy.

## 4.0 REMEDIAL DESIGN PROCESS

This section describes major design elements, initial design submittals, subsequent design submittals, and schedule for the remedial design. The design and construction of remedy components will be performed concurrently, where appropriate, to expedite the remedial program schedule. Additionally, the remedial design submittals may vary depending on the preferred contracting method (e.g., design/build) for different components of the remedial action, as well as key decisions made during the remedial design. These decisions will consider critical path components and key factors that influence the design and implementation of the Site remedy.

### 4.1 Remedial Design Elements

The primary elements of the selected remedy (Figure 4) as documented in the ROD and presented in Section 1.5 include:

- Remediating the three areas with elevated contaminant concentrations on the North Landfill.
- Waste consolidation on the North Landfill and South Landfill to create a 50-foot buffer zone between the South Landfill and Ley Creek, 30-foot buffer zones between the landfills and on-site wetlands and a buffer zone between the landfills and Seventh North Street if required for cap installation.
- Excavation of PCB-contaminated wetlands sediment for consolidation and capping on-site (<50 ppm PCBs) or off-site disposal (>50 ppm PCBs).
- Engineered cap systems for both landfills designed and constructed in conformance with the substantive requirements for landfill caps set forth in 6 NYCRR Part 360.
- Restoration and monitoring of excavated wetlands and buffer zones.
- Institutional control in the form of an environmental easement for the controlled property that will allow the use and development of the controlled property for industrial use; restrict the use of groundwater and surface water as a source of potable or process water (without necessary water quality treatment); and prohibit agriculture or vegetable gardens on the controlled property.
- Maintenance of the cap.
- Long-term monitoring of wetlands, groundwater, methane gas, surface water and sediment to assess the performance and effectiveness of the remedy and monitoring of wetlands and buffer areas to assess restoration success.

The design of these elements is interdependent; thus each will influence the design of other elements. For example, the extent of waste consolidation will affect the size of the landfill cap and the areas to be restored. The remedial design will be conducted in an iterative manner to account for these interrelationships and optimize the overall design.

### 4.2 Preparation of Initial Design Submittal

The remedial design will include the preparation of an initial design submittal, which will address all of the remedial elements of the project including:

- Remediating the areas with elevated contaminant concentrations
- Sediment Excavation and Waste Consolidation Operations
- Landfill Cap
- Site Restoration

Institutional controls and long-term operation, maintenance, and monitoring will be included within the design effort. The initial design submittal will contain the following components for each remedial element:

- design and performance criteria;
- summary of relevant pre-design investigation results and other data to date;
- initial designs;
- identification of any data gaps that need to be addressed prior to completing an intermediate or final design and a schedule for addressing any data gaps;
- narrative of contracting approach and technical issues; and,
- description of subsequent design submittals (e.g., intermediate and final designs) and schedule.

These components are discussed in more detail below. Details regarding anticipated content for each element of the initial design submittal are provided in Sections 4.2.2.1 through 4.2.2.4.

#### 4.2.1 Design and Performance Criteria

Design and performance criteria will be developed to provide overall guidance for relevant design, construction, and operational criteria. The design criteria will be derived from the ROD, Consent Order, regulatory standards, engineering standards and guidelines, and performance criteria. Performance criteria will be developed which describe the parameters by which to measure performance, and will consider both environmental and community aspects. Examples of remedial elements that may require performance criteria include, but are not necessarily limited to, confirmatory sampling in wetland and buffer zones; cap component layers placement verification; geotechnical requirements for cap materials; regulatory water discharge requirements; and noise management at the construction site. Performance criteria will be established to guide remedial program activities toward successful completion of the remedial action while minimizing impacts to the community and the environment.

#### 4.2.2 Initial Designs

Initial designs will include evaluation and interpretation of pre-design investigation findings, engineering analyses and calculations, and means and methods for implementing the selected remedy. Initial designs which will represent approximately the 30 percent design effort level are further described below.

#### 4.2.2.1 Elevated Contaminant Concentration Areas

The initial design for the three areas will:

- Summarize the horizontal and vertical delineation of the PCB, VOC and NAPL oil areas and quantity of waste to be remediated;
- Specify the off-site disposal site and approvals to accept waste;
- Evaluate potential backfill material sources, material staging areas, and construction support areas, including site access limitations and temporary road requirements to promote safe construction and minimize impacts to the public;
- Discuss methods of waste excavation, dewatering, and loading;
- Evaluate potential stability issues during excavation;
- Discuss confirmatory sampling requirements, procedures and analyses:
- Discuss water management procedures during construction;
- Discuss stormwater management procedures during construction;
- Discuss decontamination procedures for excavation and transportation equipment; and,
- Describe truck route to off-site disposal site.

#### 4.2.2.2 Excavation and Consolidation Operations

The initial design submittal for excavation and consolidation operations will include the following components: wetlands sediment excavation and waste removal; water storage and treatment; and backfilling and consolidation.

***Wetlands Sediment Excavation and Waste Removal Operations***

The sediment excavation and backfill portion of the initial design will include the following items:

- Develop preliminary contaminated sediment and waste excavation volume and production rates (based on *in-situ* cubic yards per work day) based on the preliminary excavation areas and depths and the design and performance criteria.
- Discuss means and methods of clearing and grubbing the landfill and wetlands areas and handling of removed brush.
- Stormwater management plan: Use precipitation and historic flood data to develop an estimate of stormwater volume that may require water management, if any, and provide requirements for high precipitation and winter shut-down operations.
- A contingency plan in the event of flood conditions in Ley Creek during the construction season.
- Soil erosion and sediment control measures.
- Surface water and groundwater base flow diversion to Ley Creek to minimize amount of water needing management.
- Excavation sequencing.
- Evaluate the location of utilities in the excavation areas. For each utility, preliminary recommendations will be made for which utilities (a) can be abandoned in place, (b) need to be removed, (c) can be relocated, or (d) must

remain in service and relocation is not feasible. Potentially applicable methods for removing and/or relocating utilities will also be described.

- Basis for selecting the chosen excavation method(s) (e.g., long reach excavators working off crane mats).
- Excavation dewatering and water treatment.
- Layout and construction of truck access ramps and roads (e.g., wood plank or Mabey DuraBase® temporary plastic roadway mats) into the wetlands areas for ingress and egress of dump trucks.
- Sediment dewatering and/or stabilization methods and location.
- Horizontal and vertical control of excavations.
- Evaluate potential best management practices to control water quality impacts at the point of excavation. This evaluation will include an analysis of silt curtains, sheet pilings, coffer dams, silt fences as well as other standard practices.
- Evaluate the approach, as necessary, to minimize residual contamination in areas that require excavation of sediment.
- Evaluate potential cultural resources in excavation or capping areas.
- Develop preliminary site requirements for support facilities including field offices and space for importing, stockpiling, and transporting of backfill materials.
- Develop excavation and monitoring approaches to ensure compliance with applicable goals and performance criteria.
- Prepare an odor evaluation control approach, if required, that will include potential controls within the landfill consolidation areas to ensure performance criteria are met.
- Address potential odors, noise, traffic, and lighting impacts to the community as necessary.

***Water Management Operations***

The water management portion of the initial design will include the following items:

- Describe the water storage and handling processes needed.
- A Site Plan that identifies the proposed location of the contingent water collection infrastructure and routing of major conveyance pipes.
- A drawing depicting the general configuration of the water management operations and related infrastructure with respect to location and footprint.

***Backfilling and Consolidation Operations***

The initial design for backfilling and consolidation operations will include:

- Backfill layers, thicknesses and material specifications consistent with the restoration plan.
- Evaluate potential backfill material sources, material staging areas, and construction support areas, including site access limitations and temporary road requirements.
- Backfill sequencing and coordination with excavation.
- Stabilization and/or dewatering of wetlands sediments prior to consolidation.
- Consolidation plan of operation, waste placement, rough grading and compaction of wastes.

#### 4.2.2.3 Landfill Cap

A closure plan for the landfills will be prepared that is consistent with 6 NYCRR Part 360 requirements. It is assumed that standard, established technologies used for cover system design may be sufficiently adapted to allow for a post-closure re-use of the site. The closure plan design documents will include design drawings, a design report, and technical specifications. The initial design submittal for the landfill cap will include the following:

- Preliminary Site Plan which shows proposed landfill footprint, property lines, storm water drainage systems, streams and water courses, roads and structures.
- Landfill configuration and preliminary grading plan reflecting creation of required buffer zones, consolidation of excavated sediment from wetlands and wastes from buffer zones, and consideration of end use.
- Discussion and proposed plan to isolate/separate or manage North Landfill wastes from Plaza East landfill wastes. Options include creating separation by waste consolidation (requires consolidation on Plaza East property as well) or isolation of wastes by installing vertical wall/sheet piling between the two landfills.
- Discussion of landfill gas generation and need for gas venting system on North Landfill. The presentation of options will include relocation of putrescible wastes to South Landfill with no gas venting on North Landfill, partial gas venting, or a complete gas venting system, and the recommendation and basis. The gas venting layer will be 12 inches in thickness and have a minimum coefficient of permeability of $1x10^{-3}$ centimeters per second. Gas venting risers will be spaced at a maximum separation of one vent per acre in accordance with State regulations.
- Evaluation of barrier system options including low permeability soil barrier or geomembrane barrier, and the recommendation and basis.
- Landfill cover system drainage elements.
- Cover system barrier protection and topsoil layers designed to be integrated into the site plan for post-closure construction.
- Preliminary stormwater features. Appropriate stormwater controls are anticipated to include vegetation on the landfill surface, lined drainage swales, rip-rap, diversion drains to reduce the potential for subsurface scouring of the landfill cap soils, etc.
- Evaluation of flood protection options to prevent damage/erosion of final cover
- Preparation of the Notice of Intent (NOI) for the State Pollutant Discharge Elimination System (SPDES) Construction Activity Permit, a Storm Water Pollution Prevention Plan (SWPPP), and an Erosion and Sediment Control Plan (ESCP) in accordance with the New York State guidelines for submission to the NYSDEC. The temporary erosion and sediment controls are anticipated to include such items as silt fencing, rock check dams, temporary settling basins, etc.

#### 4.2.2.4 Site Restoration

The initial design for site restoration will:

- Describe background, regulatory requirements, and goals and objectives for the plan.
- Summarize information that has been collected to date and previously reported to describe historical and current conditions of the wetlands and streams.
- Describe effects of remediation on existing habitats to the extent feasible.
- Identify the target habitats and associated species that will be used with the assistance of the NYSDEC and local university.
- Provide initial designs for wetlands, streams and buffer zones.

### 4.2.3 Description of Subsequent Design Submittals and Schedule

The format and schedule for subsequent design submittals will be defined within the initial design submittal and will be based on the decisions regarding the technical issues as discussed above.

## 4.3 Preparation of Subsequent Design Submittals

Following completion of the initial design submittals, subsequent design submittals (e.g., intermediate and final designs) and specifications will be prepared. The final remedial design documents will have the signature and seal of a professional engineer with New York registration who will certify that the remedial design was prepared in accordance with the Consent Order.

It is anticipated that the following supporting plans will be incorporated into subsequent design submittals:

- Health and Safety Plan;
- Performance Monitoring Plan; and,
- Construction Quality Assurance (CQA) Plan.

Preliminary outlines for these plans will be included as part of the initial design submittals.

## 4.4 Site Management Plan

A Site Management Plan will be prepared that identifies all use restrictions and engineering controls for the Site and details the steps and media-specific requirements necessary to assure the institutional and/or engineering controls remain in place and effective. The Site Management Plan will include the following components:

- Institutional Controls in the form of an environmental easement for the controlled property that will:

- require the remedial party or site owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- detail the provisions for management of future excavations in areas of remaining contamination;
- include a provision to evaluate the potential for vapor intrusion for any buildings developed on the site and to implement actions recommended for addressing exposures related to soil vapor intrusion.
- allow the use and development of the controlled property for industrial use, although subject to local zoning laws;
- restrict the use of groundwater and surface water as a source of potable or process water, without necessary water quality treatment as determined by the NYSDEC, NYSDOH or County DOH;
- prohibit agriculture or vegetable gardens on the controlled property; and,
- require compliance with the NYSDEC approved Site Management Plan

- Engineering Controls that will include, but not be limited to:
  - an excavation plan which details the provisions for management of future excavations in areas of remaining contamination;
  - descriptions of the provisions of the environmental easement including any land use, groundwater and surface water use restrictions;
  - provisions for the management and inspection of the identified engineering controls;
  - maintaining site access controls and NYSDEC notification;
  - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls; and
  - a provision to evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion.

- Monitoring Plan to assess the performance and effectiveness of the remedy that will include, but not be limited to:
  - monitoring of wetlands, groundwater, methane gas and surface water to assess the performance and effectiveness of the remedy;
  - a schedule of monitoring and frequency of submittals to the Department; and,
  - monitoring of wetlands and buffer areas to assess restoration success.

- Operations and Maintenance (O&M) of landfill cap and wetland areas:
  - Wetland inspection, maintenance and repair work
  - Landfill cap inspection, mowing and repair work
  - Monitoring well and gas vent inspection and maintenance

### 4.5 Permit Requirements

The permit requirements for the design, construction and operation of the Site remedy are included in Appendix B.

### 4.6 Schedule

The schedule for the RD/RA activities for the Site is somewhat dependent on the schedule for other off-site remedial activities including the cleanup of Ley Creek and Plaza East wetlands. The general sequence of events is as follows:

- Removal of the three areas with elevated contaminant levels from the North Landfill for off-site disposal.
- Remediation of South Landfill (sediment removal, waste consolidation, landfill capping and site restoration).
- Remediation of North Landfill (VOC/TPH area S/S, sediment removal, waste consolidation, landfill capping and site restoration) incorporating lessons learned from South Landfill remediation. This work should be completed in concert with Plaza East wetlands cleanup and restoration otherwise Wetland B (the west wetland adjacent to the North landfill) may become re-contaminated during the next Ley Creek flood event.

In addition, the overall progress of the project will be dependent upon a number of factors including, but not limited to, NYSDEC review and approval timeframes, time of year at which the final design documents are complete, weather conditions at the time of construction, etc. The following table provides a proposed schedule for completion of the CC-H Site remedy, contingent upon the factors described above.

| Task Description | Estimated Start | Estimated Finish |
|---|---|---|
| Consent Order Signed | | Aug-11 |
| File Order with County | Sep-11 | Oct-11 |
| Initial Data Submittal | Sep-11 | Oct-11 |
| Draft RD/RA Work Plan | Sep-11 | Oct-11 |
| Final RD/RA Work Plan | Mar-12 | Apr-12 |
| RD/RA Work Plan Approval | Apr-12 | May-12 |
| Monthly Progress Reports | May-12 | Dec-14 |
| Pre-Design Activities | May-12 | Sep-12 |
| Remedial Design Submittals | May-12 | Dec-12 |
| Permitting tasks | May-12 | Dec-12 |
| PCB/VOC/TPH Area Removals | Jul-12 | Oct-12 |
| South Landfill Closure/Wetland RA | May-13 | Dec-13 |
| South Landfill Final Engineering Report | Dec-13 | May-14 |
| North Landfill Closure/Wetland RA | May-14 | Dec-14 |
| North Landfill Final Engineering Report | Dec-14 | May-15 |
| Post-Closure Site Management | Dec-14 | |

# 5.0 REMEDIAL DESIGN MANAGEMENT

This section describes the management approach, including project organization, project communication, document management, quality assurance and health and safety for the CC-H North Landfill and South Landfill remedial design.

## 5.1 Remedial Design Organization

Several organizations will be directly involved in the performance and review of the remedial design. These organizations have specific project functions that relate to each other in various ways according to their project responsibilities. The objective of this section is to describe the overall project organization and responsibility of various parties to aid in the exchange of information to ensure efficient project operation.

### 5.1.1 New York State Department of Environmental Conservation

The NYSDEC is the lead agency for the CC-H Landfills Site. This state agency will review and approve plans, drawings, reports, and schedules submitted for the pre-design, remedial design, and remedial action as documented in the Consent Order. Mr. Rick Mustico is NYSDEC's Project Manager for the Site.

### 5.1.2 Cooper Crouse-Hinds

Cooper Crouse-Hinds is responsible for the design and implementation of the Site remedy. Mr. Nelson M. Olavarria is the Director of Environmental Assessment and Remediation for Cooper Industries and will serve as the CC-H Program Director. Cooper has retained Tetra Tech GEO to manage and prepare the remedial design for the Site remedy.

### 5.1.3 Tetra Tech GEO

Tetra Tech GEO is CC-H's primary consultant for the remedial design. The design organization for the project team is further described below.

#### 5.1.3.1 Project Manager

Mr. Michael Noel, P.G will serve as the Project Manager for the RD/RA. Mr. Noel was the Project Manager for the RI/FS portion of the project. The Project Manager will perform the functions listed below:

- Be directly responsible to Cooper to ensure that the project objectives and project schedules are met;
- Provide overall direction and management for remedial design activities;
- Perform administrative and decision-making activities, as well as provide necessary authorizations related to the project;
- Finalize and submit all reports; and

- Communicate with NYSDEC on an ongoing basis regarding technical issues and project status.

#### 5.1.3.2 Remedial Design Manager

Mr. Peter Rich, P.E., is a registered engineer in the State of New York and will serve as the Remedial Design Manager. Mr. Rich is responsible for the consistency and quality of remedial design documents.

#### 5.1.3.3 Technical Experts

The design team may include experts from across Tetra Tech to provide technical direction and support for the remedial design.

***Landfill Cover*** - Mr. Caleb Moore, P.E., has 12 years of solid waste and civil engineering experience, including managing the design of landfill liner systems, leachate collection systems, final cover systems, and grading, drainage, and earthwork improvements. He has overseen the preparation of construction plans and specifications and provided engineering support during the construction of a variety of landfill improvements. He has also directed hydraulic studies and supervised the design of storm drain features including natural and concrete channels, pipes, and basins.

***Landfill Gas*** - Mr. Gus Andraos has more than 29 years of gas processing experience, including more than 25 years of experience in landfill gas engineering. He has directed the permitting, design, operation, and maintenance of more than 75 landfill gas systems. He has selected and designed processing equipment, developed operations and maintenance manuals for landfill gas processing plants and gas collection systems, and conducted computer modeling to calculate pressure variation in gas lines.

***Geotechnical Engineering*** - Dr. Peter Skopek, Ph.D., P.E., has over 23 years of professional experience in geotechnical engineering. His project experience includes deep and shallow foundation design, slope assessment and stabilization design, ground stabilization, design of braced, cantilevered, tieback, soil nail, and mechanically supported retaining walls and excavations, landfill design and redevelopment, liquefaction assessment and geotechnical seismic design, pavement and geotechnical road design, performance reviews and design of earthen dams, geotechnical site investigation, design and implementation of laboratory programs, execution of field inspections, and provision of geotechnical services during construction.

***Dredging*** - Mr. Steve McGee has over 25 years of experience in project management and development, including experience in sediment dredging, conveyance, dewatering, solidification, capping, water treatment and disposal. He served as the Fox River Project Coordinator for a $700 million fast-track design-build sediment remediation project.

***Wetlands Remediation and Restoration*** - Mr. Jack Brunner has over 20 years of experience as an environmental scientist and program/project manager. Mr. Brunner has

significant natural resources management experience, including ecosystem restoration planning and design, planning level surveys for fauna and flora, National Environmental Policy Act (NEPA) environmental assessments, and endangered species management. Mr. Brunner also has significant sediment cleanup experience as well as CERCLA and RCRA program experience. Mr. Brunner has managed many large-scale sediment remediation and ecological restoration projects.

### 5.2 Project Communication

CC-H will communicate with the NYSDEC and other agencies to complete the remedial design effectively and efficiently. CC-H will submit monthly progress reports that describe all actions taken pursuant to the Consent Order during the reporting period and those anticipated for the upcoming reporting period; all approved modifications to work plans and/or schedules; all results of sampling and tests and all other data received or generated by or on behalf of CC-H in connection with the Site during the reporting period, including quality assurance/quality control information; information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays; and information regarding activities undertaken in support of the Citizen Participation Plan during the reporting period and those anticipated for the upcoming reporting period. Each monthly progress report, data submittal, or other design deliverable will be submitted to the agencies and persons on the distribution list identified on pages 10/11 in the Consent Order for review and comment.

### 5.3 Document Management

CC-H will prepare and submit remedial design documents for review and approval in accordance with the Consent Order. CC-H will provide documents approved by NYSDEC to the public document repository at the Salina Free Library in Mattydale, NY. In addition, the Onondaga Nation will receive copies of remedial design documents for review and comment from NYSDEC.

### 5.4 Health and Safety Plan

Written health and safety plan(s) will be developed for each phase of the remediation project. Project health and safety plans will be developed and updated as needed to address changing activities and site conditions.

### 5.5 Citizen Participation

A Citizen Participation Plan will be prepared by NYSDEC per NYSDEC's publication, *Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook* (June 1998). The Citizen Participation Plan will provide a formal yet flexible plan for communication with the public during the Site remediation program. CC-H will assist NYSDEC in its implementation of a citizen participation program and will provide information regarding the Remedial Program to the public. In addition, in compliance

with the RD/RA Order effective August 29, 2011, CC-H will provide public notice of the RD/RA Order, as required by 6 NYCRR 375-1.5(a) and also provide NYSDEC with a certified copy by the recording officer.

## 6.0 REFERENCES

Delta Environmental Consultants, Inc., October 5, 2005, *Supplemental PSA Work Plan*

Delta Environmental Consultants, Inc., May 25, 2006, *Preliminary Site Assessment and Supplemental Site Assessment Report*

Delta Environmental Consultants, Inc., February 26, 2008, *Remedial Investigation / Feasibility Study Work Plan*

GeoTrans, Inc. August 5, 2009, *Remedial Investigation Report*

GeoTrans, Inc., April 16, 2010, *Feasibility Study Report*

InteGreyted International, LLC, April 4, 2004, *Preliminary Site Assessment Work Plan*

InteGreyted International, LLC, September 29, 2004, *Preliminary Site Assessment Report*

New York State Department of Environmental Conservation, May, 2008, *Fact Sheet: Crouse-Hinds Landfills Site Investigation Underway*

New York State Department of Environmental Conservation, October 6, 2009, *Remedial Investigation Report Approval*

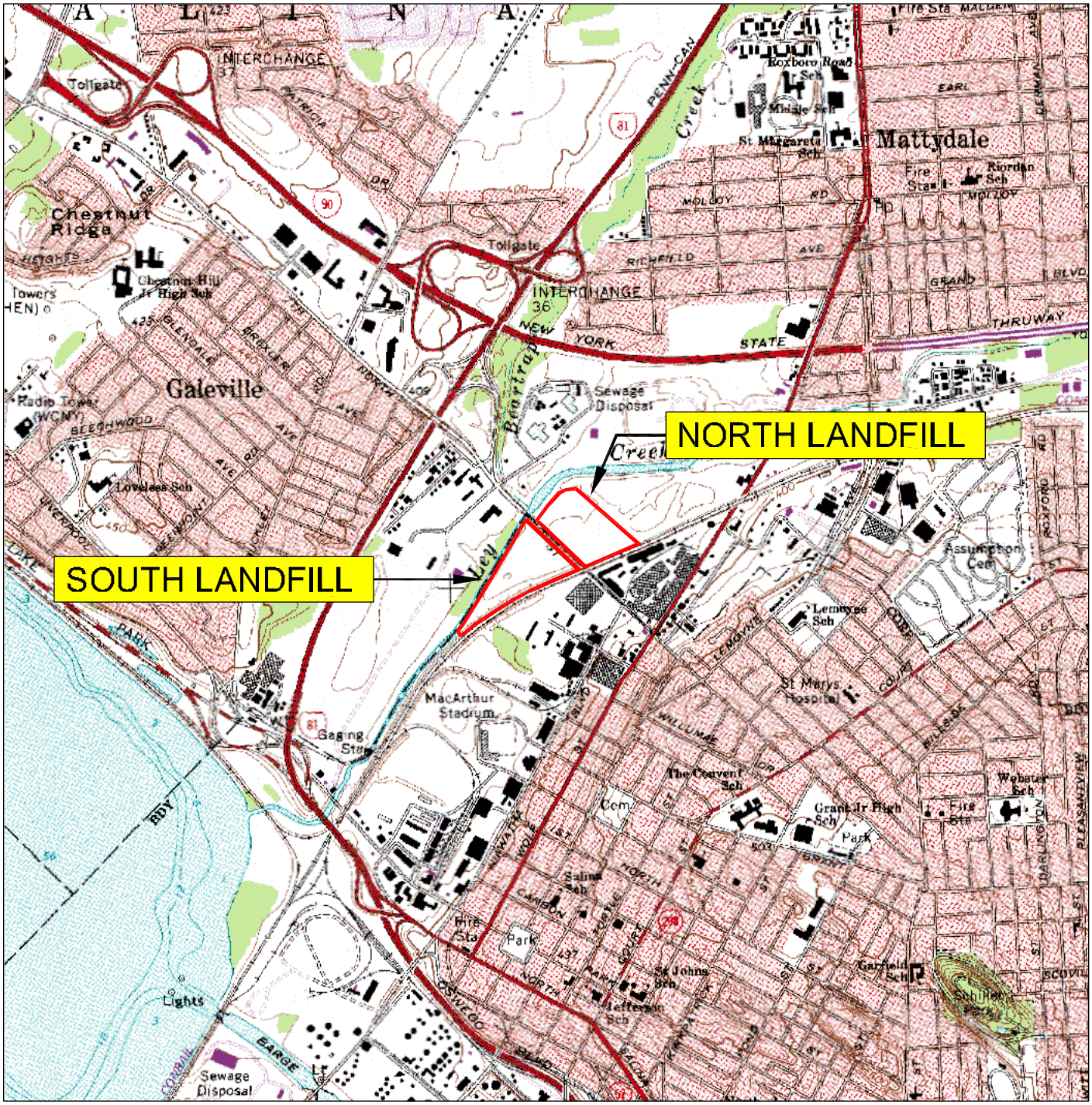
New York State Department of Environmental Conservation, October 13, 2010, *Feasibility Study Report Acceptance*

New York State Department of Environmental Conservation, February, 2011, *Fact Sheet: Remedy Proposed for the Crouse-Hinds Landfills State Superfund Site; Public Comment Period and Public Meeting Announced*

New York State Department of Environmental Conservation, February, 2011, *Proposed Remedial Action Plan*

New York State Department of Environmental Conservation, March 31, 2011, *Record of Decision, Crouse-Hinds Landfills State Superfund Project Syracuse, Onondaga County, Site No. 734004*

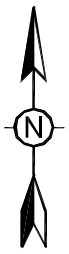
New York State Department of Environmental Conservation, August 29, 2011, *Remedial Design/Remedial Action Order on Consent and Administrative Settlement, Index No. R7-0666-05-11, Site No. 7-34-004, Cooper Crouse-Hinds, LLC, Respondent*




National Geodetic Vertical Datum of 1929
Contour Interval 10 Feet

SCALE
0 5000
FEET


QUADRANGLE LOCATION




Base map from U.S.G.S. 7.5' SYRACUSE WEST, NEW YORK topographic quadrangle map.

| | |
|---|---|
| COOPER CROUSE-HINDS, LLC LANDFILL FACILITY<br>SYRACUSE, NEW YORK | DATE: 8/23/10 |
| | DESIGNED: HJW |
| | CHECKED: MRN |
| SITE LOCATION MAP | APPROVED: MRN |
| | DRAWN: HJW |
| | PROJ.: 117-2202036 |
| TETRA TECH | Figure 1 |

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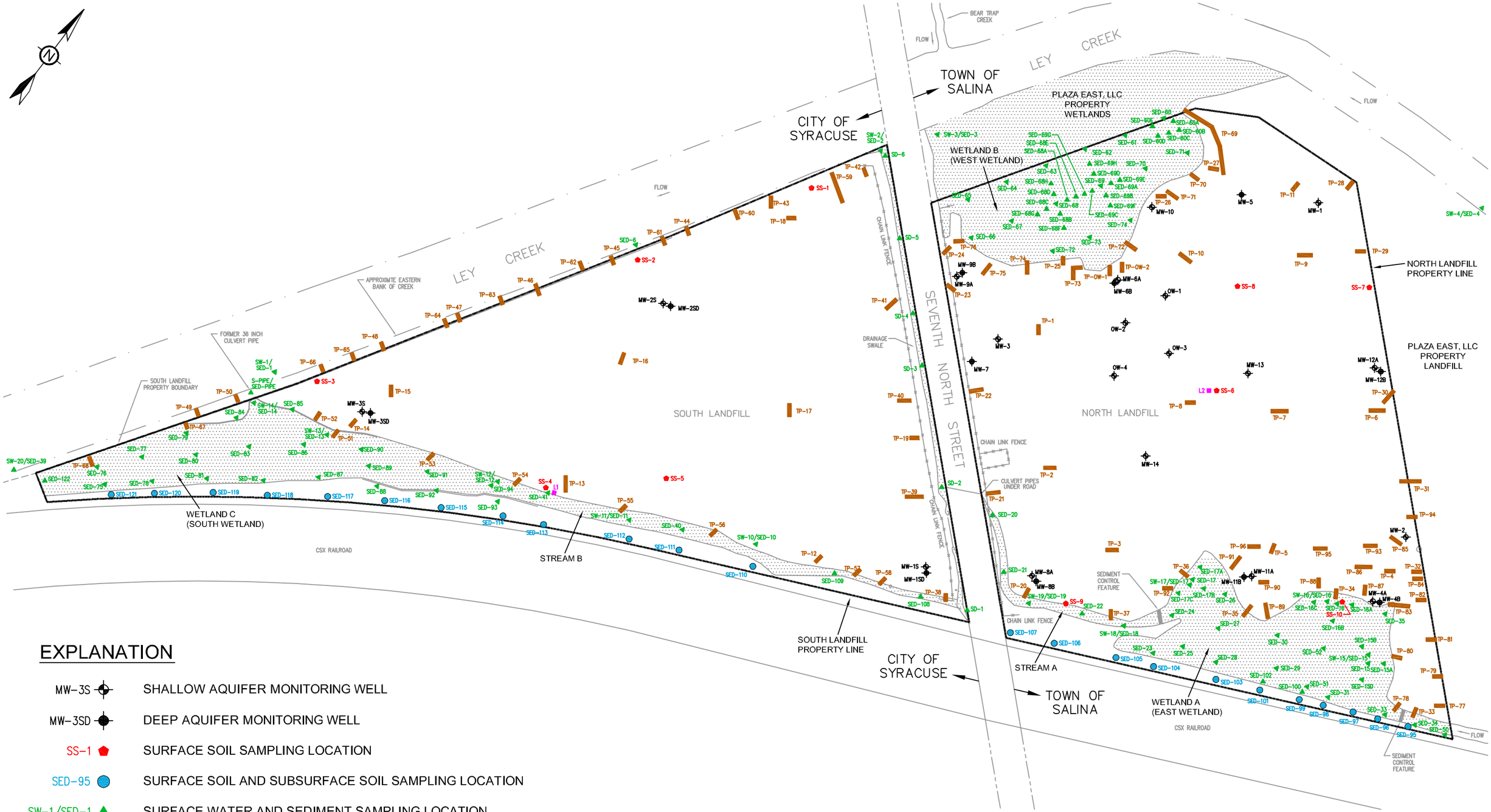


## EXPLANATION

| | |
|---|---|
| MW-3S | SHALLOW AQUIFER MONITORING WELL |
| MW-3SD | DEEP AQUIFER MONITORING WELL |
| SS-1 | SURFACE SOIL SAMPLING LOCATION |
| SED-95 | SURFACE SOIL AND SUBSURFACE SOIL SAMPLING LOCATION |
| SW-1/SED-1 | SURFACE WATER AND SEDIMENT SAMPLING LOCATION |
| SED-27 | SEDIMENT SAMPLING LOCATION |
| TP-13 | TEST PIT LOCATION |
| L1 | LEACHATE SAMPLING LOCATION |

0 180 360

SCALE IN FEET

TITLE: COOPER CROUSE-HINDS, LLC LANDFILL FACILITY SITE PLAN

LOCATION: SYRACUSE, NEW YORK

TETRA TECH

| | |
|---|---|
| CHECKED | MRN |
| DRAFTED | HJW |
| PROJECT | 117-2202036 |
| DATE | 8/23/10 |

FIGURE: 2

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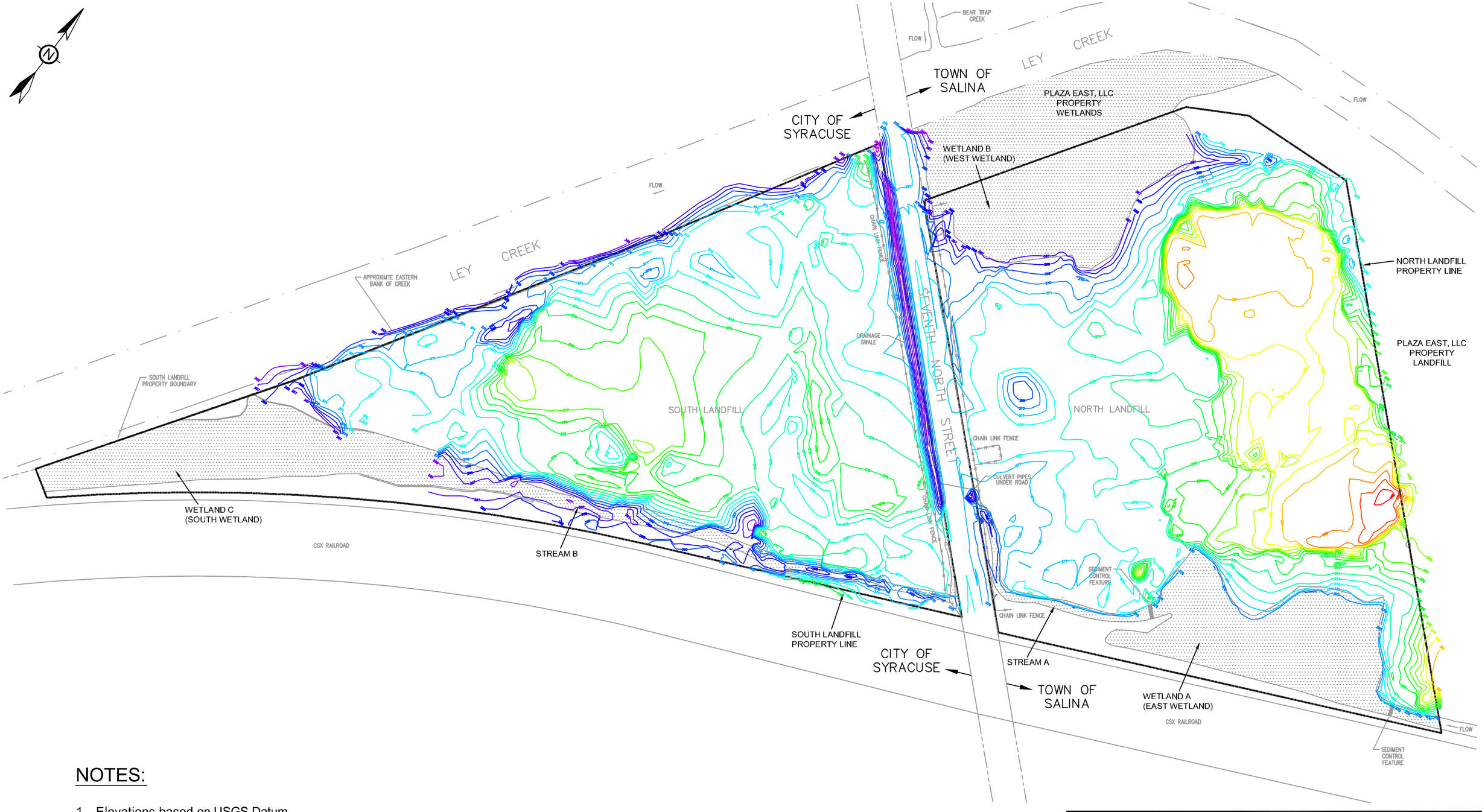



## NOTES:

1. Elevations based on USGS Datum.
2. Boundaries on south side of Seventh North Street based on best available records and deed to Crouse Hinds bk. 1350 pg. 623.

0 180 360

SCALE IN FEET

TITLE: COOPER CROUSE-HINDS, LLC LANDFILL FACILITY SITE TOPOGRAPHIC MAP

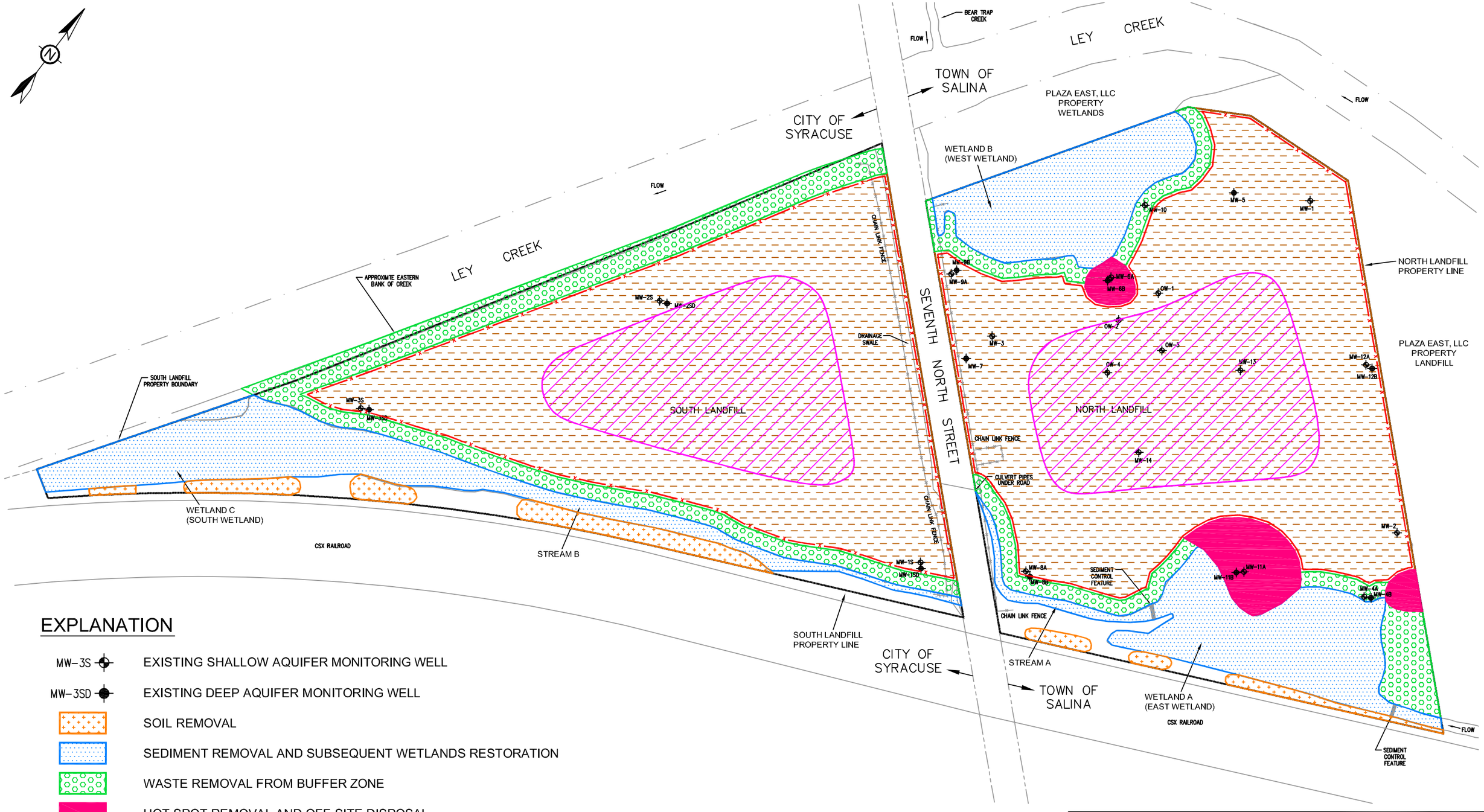
LOCATION: SYRACUSE, NEW YORK

TETRA TECH

| | |
|---|---|
| CHECKED | MRN |
| DRAFTED | HJW |
| PROJECT | 117-2202036 |
| DATE | 8/23/10 |

FIGURE: 3

S:\CAD\Cooper\Syracuse\12-11-09\2202036Fig3.dwg 12/14/2009 10:13:52




## EXPLANATION

- MW-3S — EXISTING SHALLOW AQUIFER MONITORING WELL
- MW-3SD — EXISTING DEEP AQUIFER MONITORING WELL
- SOIL REMOVAL
- SEDIMENT REMOVAL AND SUBSEQUENT WETLANDS RESTORATION
- WASTE REMOVAL FROM BUFFER ZONE
- HOT SPOT REMOVAL AND OFF-SITE DISPOSAL
- SEDIMENT / WASTE CONSOLIDATION
- 6 NYCRR PART 360 CAP
- -x-x-x-x- FENCE

0 180 360

SCALE IN FEET

TITLE: COOPER CROUSE-HINDS LANDFILL FACILITY
ROD REMEDIAL ACTION PLAN

LOCATION: SYRACUSE, NEW YORK

TETRA TECH

| | |
|---|---|
| CHECKED | MRN |
| DRAFTED | HJW |
| PROJECT | 117-2202036 |
| DATE | 4/12/10 |

FIGURE: 4

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**Preliminary Jurisdictional Determination for On-Site Wetlands**

**DEPARTMENT OF THE ARMY**
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
Regulatory Branch

June 19, 2009

SUBJECT: Determination of No Permit Required for Application No. 2009-00241, New York State Department of Environmental Conservation No. 7-3148-0002/00079

Cooper-Crouse Hinds
Wolf and 7th North Streets
Syracuse, New York 13221
Attn: Thomas Bonk

Dear Mr. Bonk:

This pertains to your proposal to construct a check dam across Wetland B on property known as the Cooper Crouse-Hinds Landfill located at Wolf and 7th North Streets, Syracuse, New York 13221.

Under Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has regulatory authority over construction, excavation, or deposition of materials in, over, or under navigable waters of the United States. Under Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the United States, including freshwater wetlands. Certain types of activities, such as land clearing using mechanized equipment and/or side casting, in a jurisdictional water would likely be regulated under Section 404 of the Clean Water Act.

However, the revised information received June 1, 2009, indicates that the proposed work will not involve a discharge of dredged or fill material into waters of the United States and entails only the placement of silt fence and hay bales. Therefore, I have determined that this is not a regulated activity and a Department of the Army permit is not required.

Should you modify your proposal to entail a discharge of dredged or fill material into a water of the United States you must contact this office regarding Department of the Army permit requirements. Although a permit is not required, we request that proper measures be taken to prevent unintentional discharges from entering the waterway. You are encouraged to contact the appropriate state and local governmental officials to ensure that the proposed work complies with their requirements.

I have evaluated the wetland delineation map submitted by your agent and have determined that the wetland and water boundaries shown on the map accurately represent on-site conditions. Please note that this is a Preliminary Jurisdictional Determination (JD). Preliminary JDs are non-binding written indications that there may be waters of the United States on your parcel and approximate locations of those waters. Preliminary JDs are advisory in nature and may not be appealed.

Regulatory Branch
SUBJECT: Determination of No Permit Required for Application No. 2009-00241, New York State Department of Environmental Conservation No. 7-3148-0002/00079

Pursuant to Regulatory Guidance Letter 08-02, any permit application made in reliance on this Preliminary JD will be evaluated as though all wetlands or waters on the site are regulated by the Corps. Further, all waters, including wetlands will be used for purposes of assessing the area of project related impacts and compensatory mitigation. If you require a definitive response regarding Department of the Army jurisdiction for any or all of the waters identified on the submitted drawings, you may request an approved jurisdictional determination from this office. If an approved jurisdictional determination is requested, please be aware that this is often a lengthy process and we may require the submittal of additional information.

I have enclosed the signed Preliminary JD Form with this letter. The form and attached table identifies the extent of waters on the site and specific terms and conditions of the Preliminary JD.

In accordance with Regulatory Guidance Letter 05-02, "Preliminary jurisdictional determinations are not definitive determinations of areas within regulatory jurisdiction and do not have expirations dates." However, I strongly recommend that the boundaries of waters of the United States be re-evaluated by a qualified wetland biologist after five years of the date of this letter. This will ensure that any changes are appropriately identified and you do not inadvertently incur a violation of Federal law while constructing your project or working on your project site.

Lastly, this determination has been conducted only to identify the limits of waters that may be subject to Corps Clean Water Act or Rivers and Harbors Act jurisdiction. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local Natural Resource Conservation Service office prior to starting work.

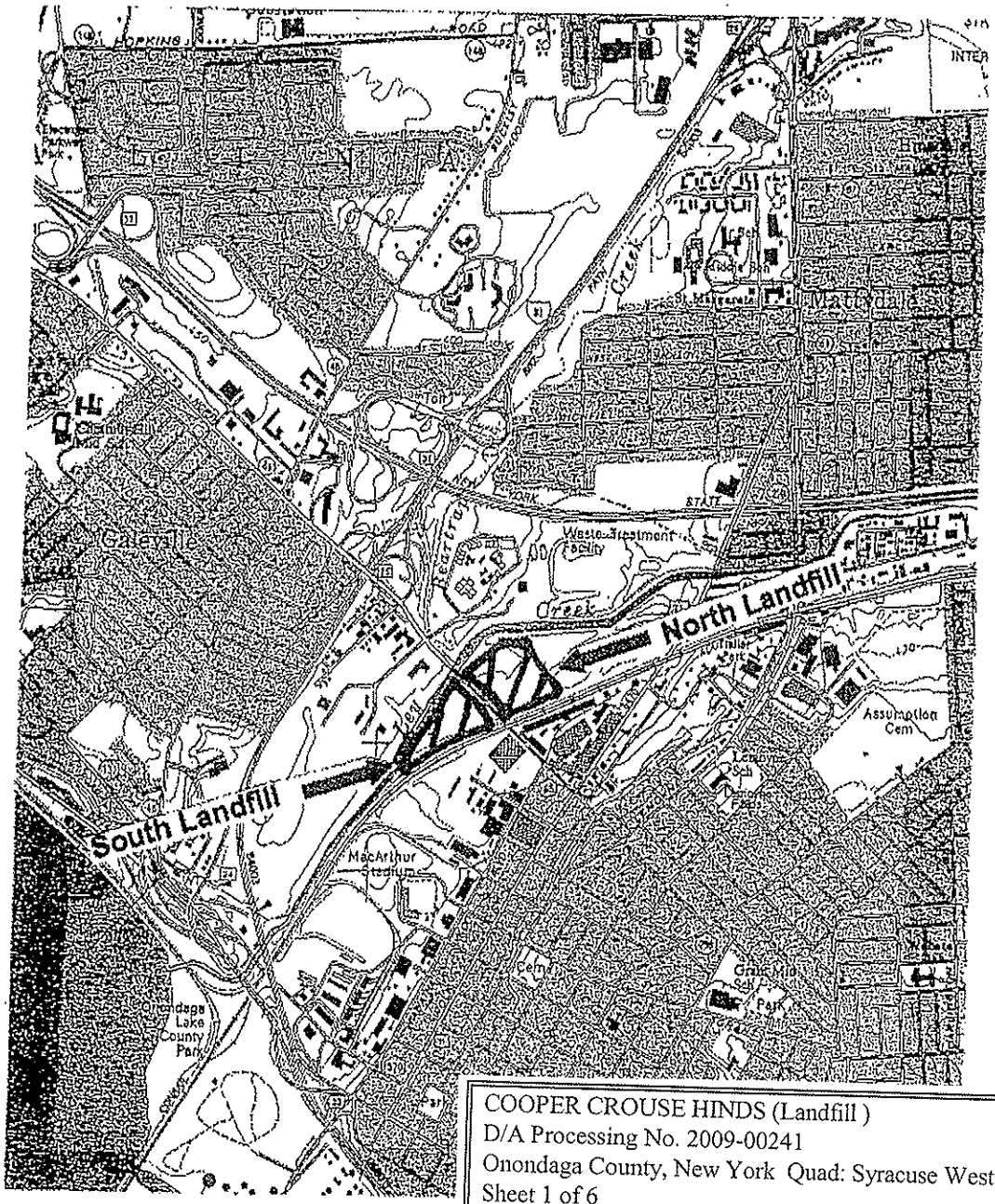
A copy of this correspondence has been sent to Brad Schaeffer (Tetra-Tech), Mark Schumacher (Delta Consultants), and Joanne March (NYSDEC).

Questions pertaining to this matter should be directed to me at (315) 704-0255, by writing to the following address: U.S. Army Corps of Engineers, 7413 County House Road, Auburn, New York 13021, or by e-mail at: judy.a.robinson@usace.army.mil

Sincerely,

SIGNED
Judy A. Robinson
Biologist

Enclosures




COOPER CROUSE HINDS (Landfill )
D/A Processing No. 2009-00241
Onondaga County, New York Quad: Syracuse West
Sheet 1 of 6

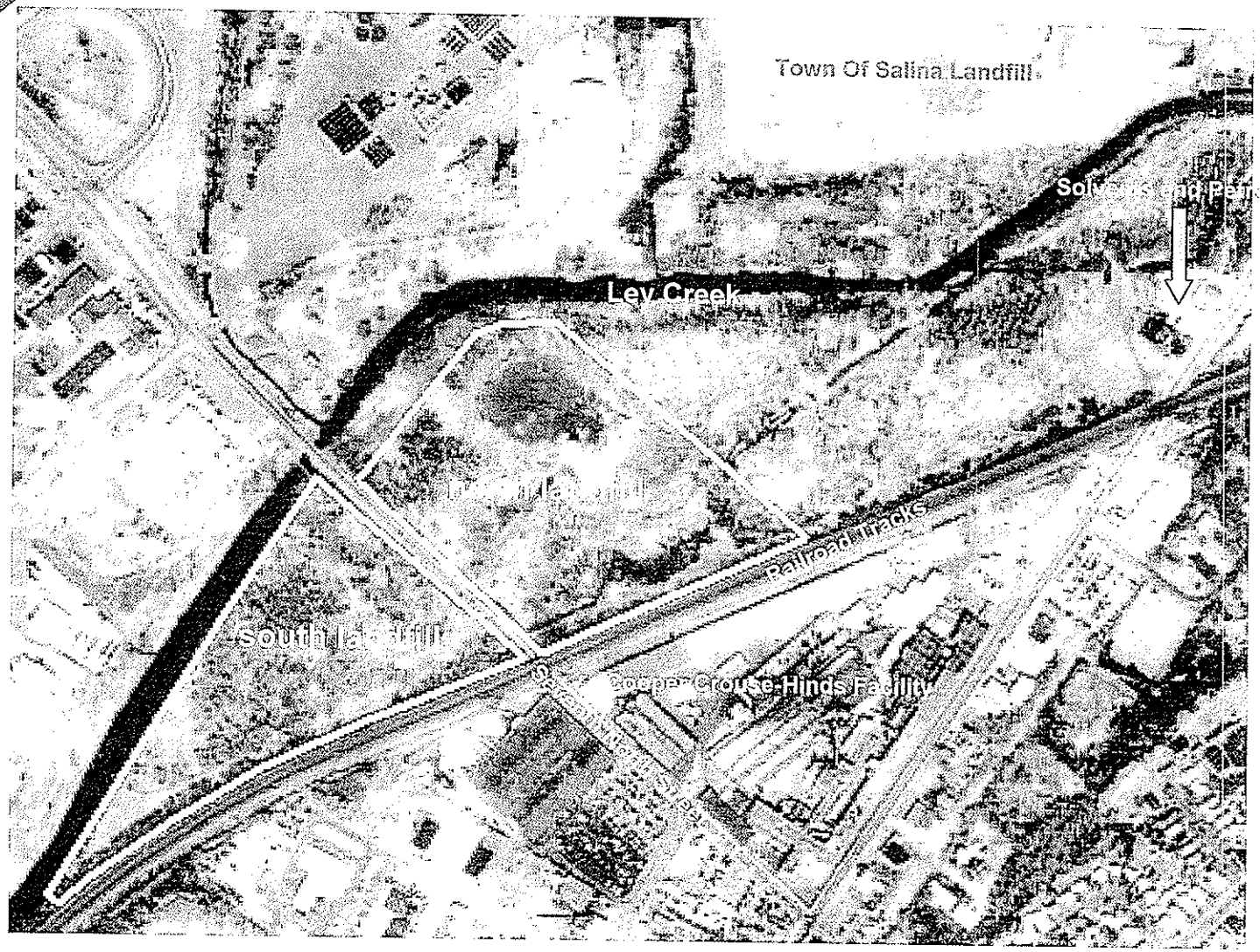
Syracuse West, NY Quadrangles (1990)

DELTA

| | | | |
|---|---|---|---|
| DRAWN BY: MJS | Site Location Map<br>North and South Landfills<br>Cooper Crouse-Hinds Facility<br>Syracuse, New York | | |
| CAD FILE: fig 1 | | | |
| DATE: 6/07 | | | |
| SCALE: 1" = 2,000 | PREPARED FOR: Cooper Crouse-Hinds | FIGURE: 2-1 | |

DELTA

# Site Location




COOPER CROUSE HINDS (Landfill )
D/A Processing No. 2009-00241
Onondaga County, New York Quad: Syracuse West
Sheet 2 of 6

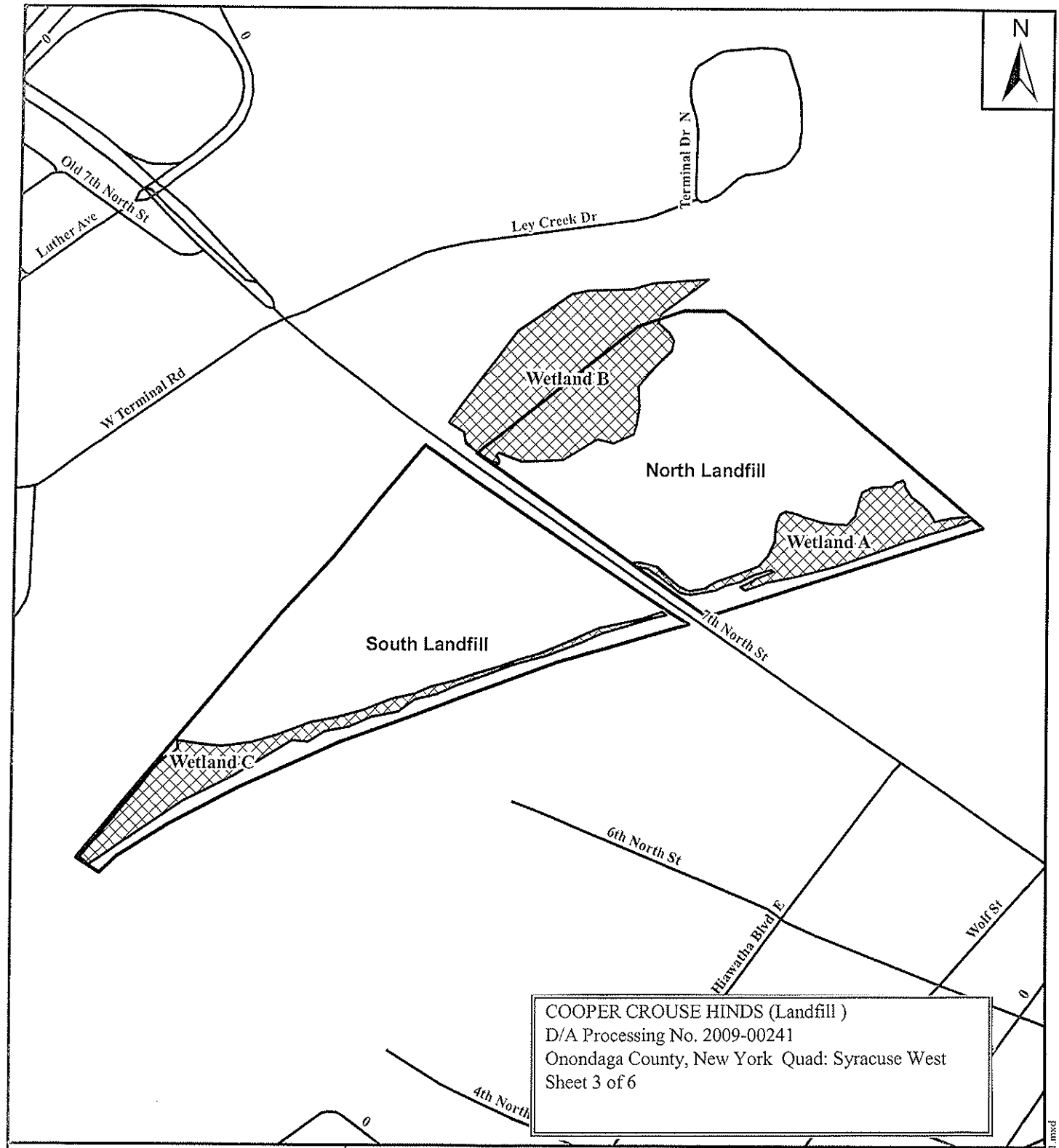



**Figure 1b. Site Boundary with Wetland Boundaries, Cooper Crouse-Hinds Facility, Onondaga County, Syracuse, New York.**

Prepared For: CC-H

Prepared By:

Date: 6/09

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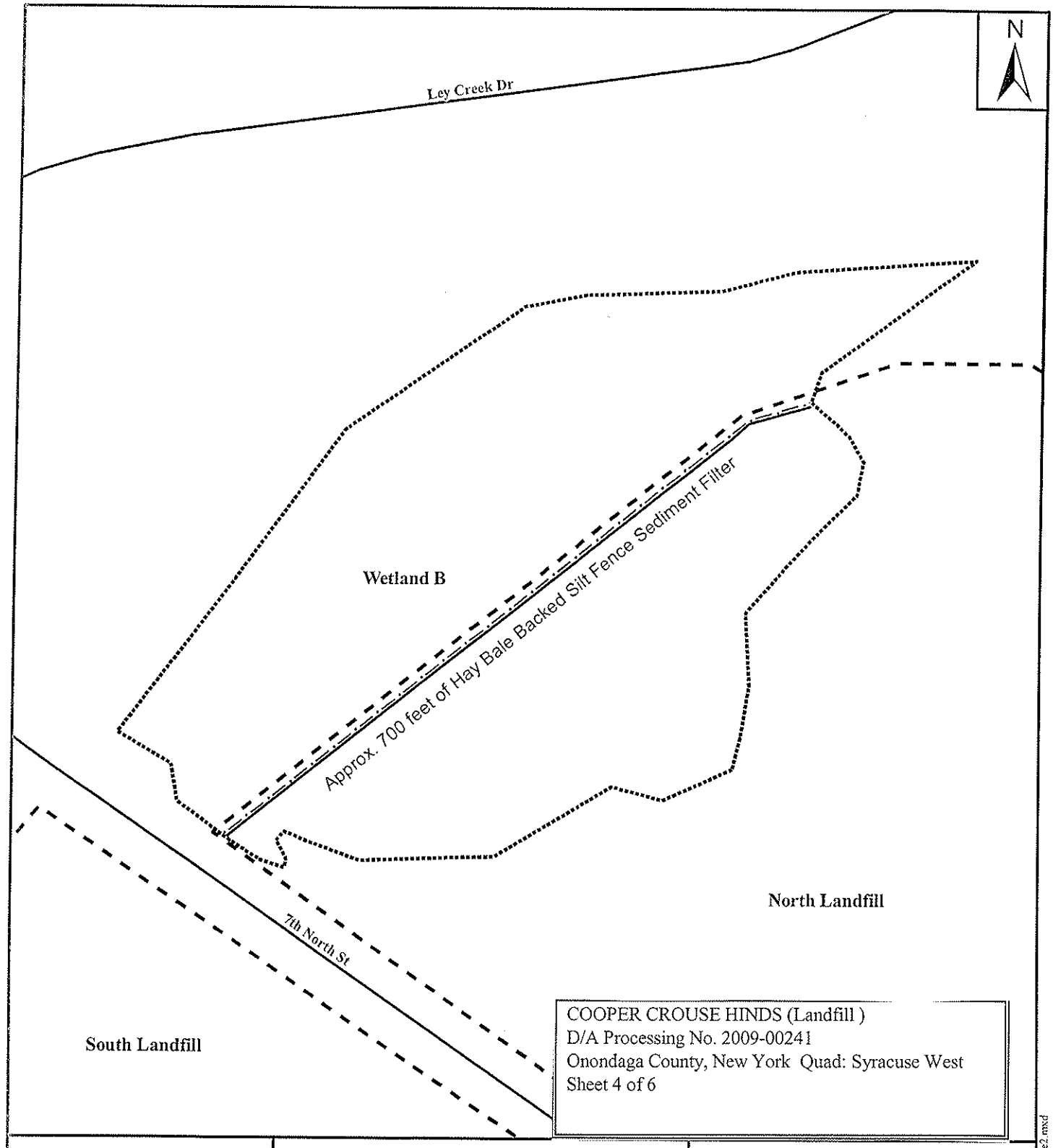



COOPER CROUSE HINDS (Landfill )
D/A Processing No. 2009-00241
Onondaga County, New York Quad: Syracuse West
Sheet 4 of 6

**Legend**

- Hay Bale
- Silt Fence
- Wetlands
- Property Line
- Roads

0 75 150 Feet

0 20 40 Meters

**Figure 2b. Project Location Map for Cooper Crouse-Hinds Facility, Onondaga County, Syracuse, New York.**

Prepared For: CC-H

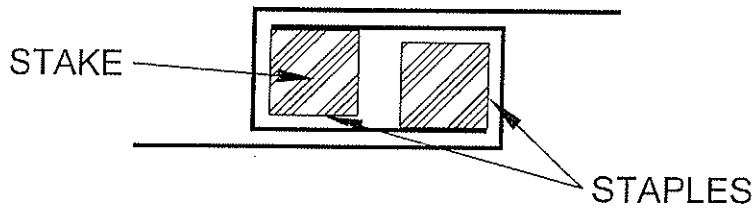
Prepared By:

Date: 6/09

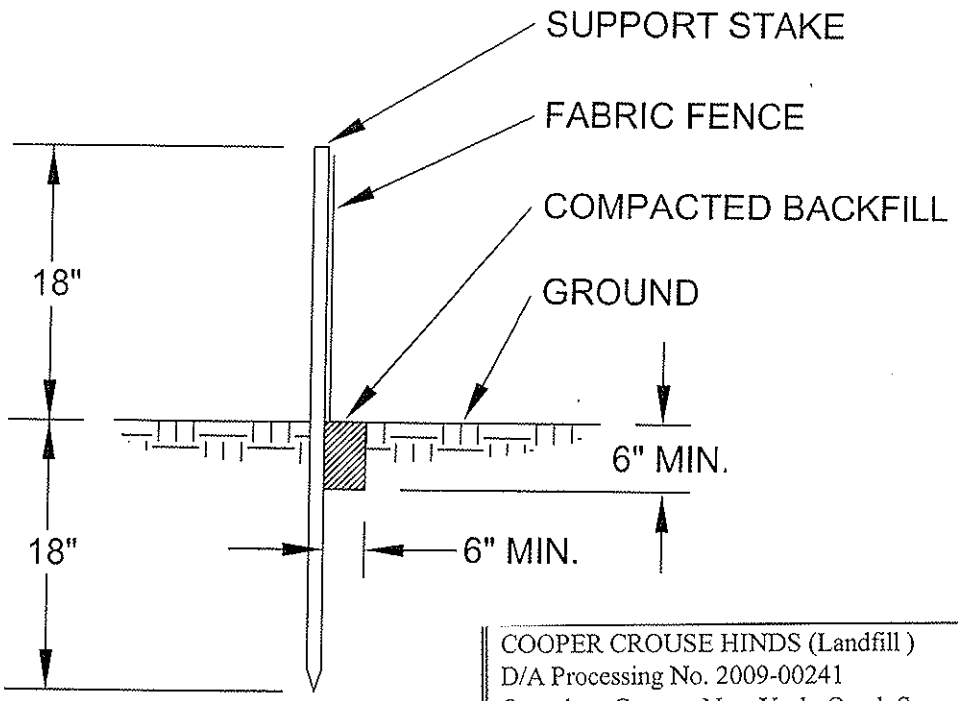
P:\GIS\Projects\T24288-CooperLandfill\AVXD\Figure2.mxd

# DETAIL C-1

# FILTER FABRIC FENCE DETAIL




JOINING FENCE SECTIONS



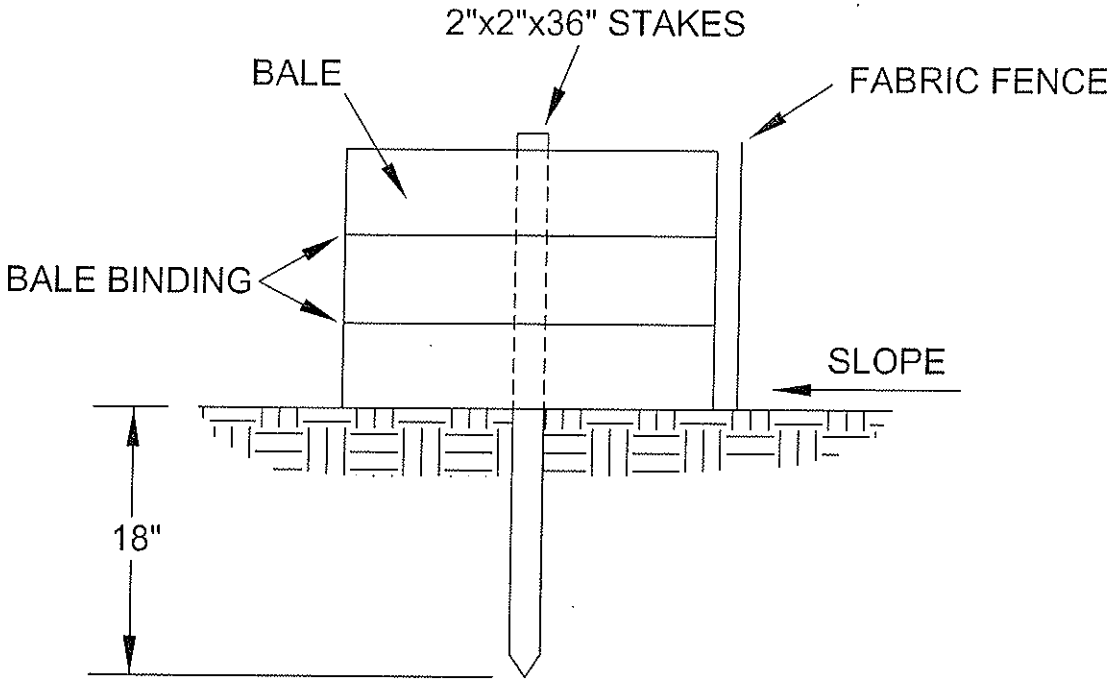

COOPER CROUSE HINDS (Landfill )
D/A Processing No. 2009-00241
Onondaga County, New York Quad: Syracuse West
Sheet 5 of 6

NOTES:

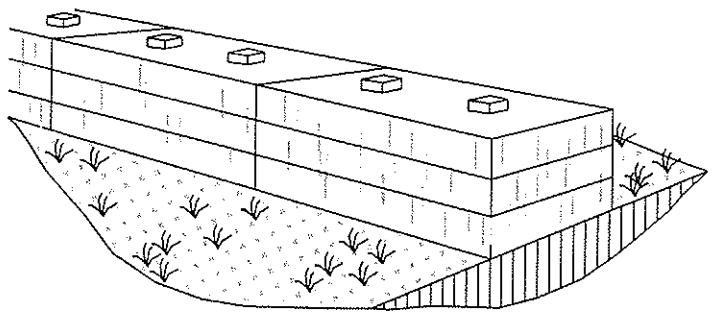
1) STAKES SPACED @ 8' MAXIMUM. USE 2"x2" WOOD OR EQUIVALENT STEEL STAKES.
2) FILTER FABRIC FENCE WILL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE BARRIER WILL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.
3) TRENCH SHALL BE BACKFILLED AND COMPACTED TO PREVENT RUNOFF FROM CUTTING UNDERNEATH THE FENCE.
4) SEDIMENT WILL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.
5) ANY SECTION OF FILTER FABRIC FENCE THAT HAS BEEN UNDERMINED OR TOPPED WILL BE IMMEDIATELY REPLACED.

# DETAIL C-2

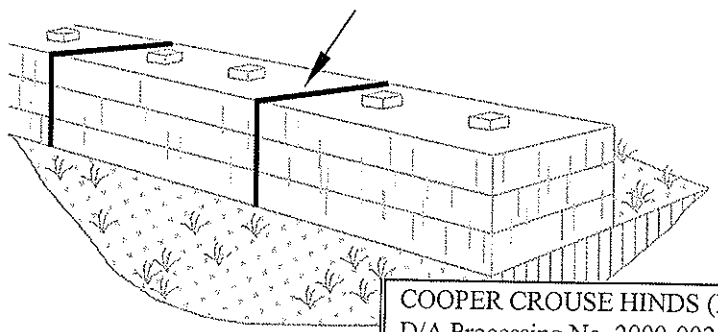
## STRAW BALE BARRIER DETAIL




1. PLACE AND STAKE STRAW BALES



2. WEDGE LOOSE STRAW BETWEEN BALES



COOPER CROUSE HINDS (Landfill )
D/A Processing No. 2009-00241
Onondaga County, New York Quad: Syracuse West
Sheet 6 of 6

# PRELIMINARY JURISDICTIONAL DETERMINATION FORM

## BACKGROUND INFORMATION

**A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** April 8, 2009

**B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**
Cooper Crouse-Hinds
Wolf and 7th North Streets
Syracuse, New York 13221
Attn: Thomas Bonk

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Buffalo District, Auburn Field Office, Cooper Crouse-Hinds Landfill, File No.: 2009-00241

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:** Cooper Crouse-Hinds Landfill located at Wolf and 7th North Streets, Syracuse, New York 13221. This is a hazardous waste site from which PCB is entering Ley Creek via sediment from the abutting wetlands.

**State:** NY **County**: Onondaga **City:** Syracuse and Salina

**Center coordinates of site:** **lat:** 43.0248 **long:** -76.1608

**Universal Transverse Mercator:** Y = 4770894.5896 X=405513.0800
**Name of nearest waterbody:** Ley Creek

Identify (estimate) amount of waters in the review area:

**Non-wetland waters:**

Stream A: 675 linear feet - (perennial)
Stream B: 1825 linear feet - (perennial)
Ditch 1: 1075 linear feet - (perennial)

**Wetlands:**
Wetland A: 2.63 acres (PEM)
Wetland B: 2.61 acres (PEM)
Wetland C: 1.29 acres (PEM)

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: **None**
Non-Tidal: **None**

## E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: April 8, 2009
☐ Field Determination. Date(s):

1. The Corps of Engineers believes that there *may be* jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following:

(1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters;

(2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions;

(3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization;

(4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary;

(5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable;

(6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and

(7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable.

Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R.

331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant. Barbara Reuter, The Environmental Collaborative
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .

☐ Corps navigable waters' study: .

☐ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name: 24000; Syracuse West NY Quad
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:
☒ National wetlands inventory map(s). Cite name: Syracuse West/ Onondaga Co.
☒ State/Local wetland inventory map(s): Syracuse West

☐ FEMA/FIRM maps: .

☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

☐ Photographs: ☐ Aerial (Name & Date): .

or ☐ Other (Name & Date): .

☐ Previous determination(s). File no. and date of response letter: .

☐ Other information (please specify): .

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

Judy A. Robinson
Signature and date of
Regulatory Project Manager
(REQUIRED)

Person M Olmsted
Duly of Environmental
Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

| Site number | Latitude | Longitude | Cowardin Class | Estimated amount of aquatic resource in review area | Class of aquatic resource |
|---|---|---|---|---|---|
| Stream A | 43.0248 | -76.1608 | | 675 lf | 404 |
| Stream B | 43.0248 | -76.1608 | | 1825 lf | 404 |
| Ditch 1 | 43.0248 | -76.1608 | | 1075 lf | 404 |
| Wetland A | 43.0248 | -76.1608 | PEM | 2.63 ac | 404 |
| Wetland B | 43.0248 | -76.1608 | PEM | 2.61 ac | 404 |
| Wetland C | 43.0248 | -76.1608 | PEM | 1.29 ac | 404 |

**ARARs (Section 6.0 of the FS Report)**

## 6.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

Applicable or relevant and appropriate requirements (ARARs) for the contaminants of concern at the Cooper Crouse-Hinds North and South Landfills are identified and summarized below. Applicable requirements are defined as those promulgated federal or state requirements (e.g., drinking water standards) that specifically address a hazardous substance, pollutant, contaminant, remedial action, or other circumstance found at a CERCLA site. Relevant and appropriate requirements are those federal or state requirements that, while not directly applicable, address items that are sufficiently similar to those encountered at CERCLA sites. Collectively, these terms are commonly referred to as applicable or relevant and appropriate requirements, or ARARs. In addition to ARARs, other criteria, advisories, or guidance documents may apply to the conditions found at a site; these are referred to as To-Be Considered (TBC) items. TBCs are not legally binding but may be useful in evaluating site risks and determining site cleanup goals.

In the New York State regulations (6 NYCRR Part 375), the equivalent term for "ARARs" is "standards and criteria" and the equivalent term for "TBCs" is "guidance". Within New York State regulations, these terms are grouped together and referred to as "Standards, Criteria, and Guidance" or SCGs. Both on-site and off-site remedial actions must meet all federal ARARs and all state SCGs. The state SCGs must be followed if they are more stringent than the related federal ARARs.

A discussion of the three major types of ARARs/SCGs, location-specific, chemical-specific, and action-specific, is presented in the following sections.

### 6.1 Location Specific ARARs/SCGs

Location-specific ARARs/SCGs are restrictions placed on the type of activities to be conducted based upon site-specific characteristics or the site's location. The local characteristics of the site must be evaluated with regard to potential adverse effects that remedial activities may have on existing features (e.g., wetlands, floodplains, endangered species habitats, historically significant features, etc.). These ARARs/SCGs provide a basis for assessing restrictions during the formulation and evaluation of potential site-specific remedies.

#### 6.1.1 Wetlands

**Federal ARARs and TBCs**

The National Wetland Inventory (NWI) map identified the location of one wetland (ID No. PFO1/SS1E), including Ley Creek, within or adjacent to the CC-H site. Two additional wetlands, two stream segments and a drainage ditch were also delineated during the RI. Figure 2 depicts wetlands on and adjacent to the site. The Army Corps of Engineers provided a preliminary Jurisdictional Determination (JD) dated June 19, 2009

that these may be waters of the United States. Therefore, federal wetland regulations are considered ARARs and include:

- Executive Order 11990, Protection of Wetlands;
- 40 CFR Part 6, Appendix A, Statement of Procedures on Floodplain Management and Wetlands Protection; and
- 40 CFR Parts 230 and 231 (associated with the Clean Water Act, Section 404).

These federal regulations require preparation of a wetlands assessment and avoidance or minimization of adverse impacts to wetlands. The Corps of Engineers will require that a comprehensive functional assessment and impact analysis be completed during the design phase project as part of their issuance of a permit for disturbance of the wetlands.

**State SCGs**
No wetlands mapped by the New York State Department of Environmental Conservation (NYSDEC) were identified within the site. State regulations which set requirements for freshwater and tidal wetlands and the mapping, classification, and permit process include:

- NYSDEC, 6 NYCRR Part 663, Freshwater Wetland Permit Requirements.
- NYSDEC, 6 NYCRR Part 664, Freshwater Wetland Maps and Classification.
- NYSDEC, 6 NYCRR Part 665, Local Government Implementation of the Freshwater Wetlands Act and Statewide Minimum Land Use Regulations for Freshwater Wetlands.
- New York State Freshwater Wetlands Law.

In addition, the following NYSDEC guidance document will be considered a SCG:

- Freshwater Wetlands Regulations, Guidelines on Compensatory Mitigation, (October 1993)

### 6.1.2 Surface Water

**Federal ARARs and TBCs**
Federal ARARs for this location include the Fish and Wildlife Coordination Act, which requires the coordination of various federal and state regulatory agencies in the event of control or structural modification to a surface water body.

- Fish and Wildlife Coordination Act (16 USC 661 et seq.; 40 CFR 122.49)

**State SCGs**
Ley Creek flows along the western boundary of the South Landfill. The entire section of Ley Creek adjacent to the landfill is identified as Class C water, and therefore, is protected. The best usage of Class C waters is fishing. Class C waters are considered suitable for fish, shellfish, and wildlife propagation and survival. The water quality is considered suitable for primary and secondary contact recreation, although other factors

may limit the use for these purposes. Human ingestion would only be incidental during recreation, as Class C water bodies are not considered potable water sources.

- NYSDEC, 6 NYCRR Part 608, Use and Protection of Waters.

These regulations require permitting of actions that disturb the stream or stream bank.

### 6.1.3 Floodplains

**Federal ARARs and TBCs**
Flood insurance maps indicate that the CC-H Site is located within the 100 year flood plain of Ley Creek as defined by the Federal Emergency Management Agency (FEMA). Therefore, federal floodplain regulations are considered ARARs and must be considered for potential remedial actions located within the floodplain:

- Executive Order 11988, Protection of Floodplains
- 40 CFR Part 6, Appendix A, Statement of Procedures on Floodplain Management and Wetlands Protection.

**State SCGs**
New York State regulates activities in floodplains and floodways and is considered an SCG:

- NYSDEC, 6 NYCRR Part 500, Floodplain Management Regulations and Development Permits.

Disposal at the CC-H North and South Landfills occurred within the 100-year and 500-year floodplains before FEMA delineated the floodplain. In addition, the Consent Order for the site (May 2004) supersedes the requirements under 6 NYCRR Part 500. For these reasons, this SCG is not considered applicable. It is, however, considered relevant and appropriate and will be taken into account during the evaluation of potential remedial actions and during remedial design.

During the remedial design, a floodplain assessment will be performed to reduce or avoid the adverse effects of a 100-year event, as well as to protect against the potential spread of contaminants and the long-term disabling of remedial components and systems.

### 6.1.4 Habitat Critical to Endangered or Threatened Species

**Federal ARARs and TBCs**
No state or federally listed threatened or endangered species were identified on-site during the ecological assessment. In addition, no "special concern species" were identified on-site. Therefore, potential remedial actions are not restricted by requirements relative to ecological habitat preservation:

- Endangered Species Act of 1973.

- NYSDEC, 6 NYCRR Part 182, Endangered and Threatened Species of Wildlife; Species of Special Concern.

**State SCGs**
A Fish & Wildlife Impact Assessment (FWIA) was completed for the Site through Step IIB to identify ecological resources on and in the vicinity of the Site, and to evaluate the potential significance of exposure pathways for ecological receptors located at the CC-H Landfill site. Steps III, IV and V of the FWIA will need to be completed as part of the FS, remedial design (RD) and remedial action (RA), respectively, and is therefore an SCG:

- NYSDEC, Division of Fish and Wildlife, Fish and Wildlife Impact Analysis (FWIA) for Inactive Hazardous Waste Sites (October 1994).

### 6.1.5 Archaeological/Historical Sites

**Federal ARARs and TBCs**
The CC-H Landfill is not in an area where potential remedial action could cause irreparable harm, loss, or destruction of significant artifacts. Therefore, ARARS related to historical or archaeological sites do not apply (e.g., National Archaeological and Historical Preservation Act, 16 USC Section 469, 36 CFR Part 65). Should scientific, prehistorical, or historical artifacts be found at the site, then this ARAR would become applicable.

## 6.2 Chemical Specific ARARs/SCGs

Chemical-specific ARARs/SCGs set health or risk-based concentration limits or ranges for various environmental media for specific substances. These requirements provide protective site cleanup levels or a basis for the calculation of cleanup levels. These ARARs/SCGs are also used to indicate an acceptable level of discharge, to determine treatment and disposal requirements, and to assess the effectiveness of the remedy. The chemical-specific ARARs/SCGs identified for the CC-H Landfill are discussed below by media.

### 6.2.1 Groundwater

**Federal ARARs and TBCs**
Federal standards include the National Primary Drinking Water Standards promulgated by the USEPA as authorized by Safe Drinking Water Act (1974, amended 1986 and 1996) for the regulation of contaminants in all surface water or groundwater utilized as potable water supplies. The primary standards include both Maximum Contaminant Levels (MCLs) and Maximum Contaminant Level Goals (MCLGs). MCLs are enforceable standards for specific contaminants based on human health factors and the technical and economic feasibility of removing contaminants from the water supply. MCLGs are nonenforceable standards that do not consider the feasibility of contaminant removal. The federal standards also include secondary MCLs that are nonenforceable

guidelines for those contaminants that may adversely affect the aesthetic quality of drinking water, such as taste, color, and odor. Federal ARARs include:

- 40 CFR 141, National Primary Drinking Water Regulations
- 40 CFR 143, National Secondary Drinking Water Regulations

**State SCGs**
The aquifer underlying the site is designated as Class GA groundwater. The best usage of Class GA waters is as a source of potable water supply (6 NYCRR Part 701.15). Therefore, the Class GA groundwater standards are intended for protection of human health where groundwater is used as drinking water. The Class GA groundwater standards are equivalent to criteria established by the New York State Department of Health (NYSDOH) for public water supplies. The NYSDEC's Division of Water regulates point source discharges to Class GA groundwater primarily through the use of effluent limitations that have been established statewide. The effluent limitations are set at concentrations that should prevent contaminants from exceeding New York State ambient groundwater standards and guidance values.

- NYSDEC, 6 NYCRR Part 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.
- NYSDEC Technical and Operational Series (TOGS) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1) (June 1998).
- New York State Department of Health (NYSDOH), NYCRR Title 10 Part 5, Drinking Water Supplies.

### 6.2.2 Surface Water

**Federal ARARs and TBCs**
US EPA has developed the National Recommended Water Quality Criteria (NRWQC) for priority toxic pollutants in accordance with Section 304(a) of the Clean Water Act. These criteria are not legally enforceable, but may be referenced by states when developing enforceable water quality standards. NRWQCs are available for both the protection of human health from exposure to contaminants in drinking water and for the protection of aquatic life:

- Section 304(a) of the Clean Water Act

**State SCGs**
Adjacent to the landfill, Ley Creek has been identified as a Class C surface water body by the NYSDEC. The water quality of Class C surface water is considered suitable for primary and secondary contact recreation. Numerical surface water standards and guidance values set to protect the surface water quality of New York State water bodies are presented in the following SCGs:

- NYSDEC, 6 NYCRR Part 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.
- NYSDEC Technical and Operational Series (TOGS) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1) (June 1998).
- US EPA Region III Biological Technical Assistance Group (BTAC) Freshwater Screening Benchmarks. July 2006.

### 6.2.3 Sediment

**State SCGs**
The NYSDEC's *Technical Guidance for Screening Contaminated Sediments*, is considered a SCG. This guidance document is intended for use in identifying areas of sediment contamination and evaluating the potential risks posed by the contamination. However, the values listed in the document, and derived in accordance with the guidance, do not necessarily represent the final sediment cleanup levels for the site. Therefore, the Feasibility Study will evaluate remediation of sediments to the unrestricted SCOs for soil specified in Part 375-6 (Section 6.2.4).

- NYSDEC Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments.

### 6.2.4 Soil

**State SCGs**
State soil cleanup objectives (SCOs) have been established for the protection of groundwater, ecological resources and public health. The unrestricted SCOs represent the lowest of the three values for protection of groundwater, ecological resources and public health. The unrestricted use SCOs represent the concentration of a contaminant in soil which, when achieved at a site, will require no use restrictions on the site for the protection of public health, groundwater and ecological resources due to the presence of contaminants in the soil. Restricted use SCOs have also been established for residential, commercial and industrial land uses. Although the CC-H Landfill site is currently zoned industrial the Feasibility Study will evaluate remediation to the unrestricted SCOs per NYSDEC requirements.

- NYSDEC, 6 NYCRR Part 375-6, Remedial Program Soil Cleanup Objectives

When an SCO is not available NYSDEC recommends using the following guidance for comparison purposes:

- NYSDEC, Technical and Administrative Guidance Memorandum (TAGM) 4046, Determination of Soil Cleanup Objectives and Cleanup Levels.

This guidance document outlines the basis and procedure for determining soil cleanup levels at state Superfund sites. Soil cleanup objectives are based on the protection of

human health and groundwater quality, and are dependent on soil total organic carbon (TOC) content for organic compounds. TAGM 4046 also includes eastern U.S. native soil concentration ranges for metals.

**Federal ARARs and TBCs**
The US EPA web site http://rais.ornl.gov/epa/ssl1.shtml can be used to calculate generic soil screening levels if state SCOs are not available.

- US EPA, Soil Screening Guidance, EPA540/R-96/018.

### 6.3 Action Specific ARARs/SCGs

Action-specific ARARs/SCGs are triggered by particular activities that are selected to accomplish the remedy. They govern the design, construction, and operation of remedial actions. Action-specific ARARs/SCGs provide a basis for assessing the implementability and effectiveness of the potential remedial alternatives. Remedial activities potentially subject to action-specific ARAR/SCGs include:

- Site grading, excavation, and capping
- Removal and off-site disposal of solid and hazardous waste
- Groundwater collection and discharge
- Wetlands restoration

Major action-specific ARARs/SCGs that must be considered are summarized below.

**State SCGs**
The requirements of 6 NYCRR Part 360 regulate all aspects of solid waste management facilities, including construction, operation, and closure. This regulation contains prescriptive requirements for the final cover system. The most pertinent requirements of 6 NYCRR Part 360 are those relating to closure and post-closure procedures. The regulations state that all regulated facilities must develop a closure plan defining the nature and extent of current and potential release or migration of contaminants from the site. A closure investigation report must be submitted as part of this requirement. Gas collection systems may also be required under circumstances where gas poses a risk to health, safety, or property. This might be more necessary for the South Landfill which received more municipal waste than the North Landfill. In addition, a 30- year post-closure monitoring and maintenance plan is required.

- NYSDEC, 6 NYCRR Part 360, Solid Waste Management Requirements for Non-Hazardous Waste

New York State hazardous waste regulations are considered SCGs and affect the treatment, storage, and disposal of hazardous waste originating from the site.

- NYSDEC, 6 NYCRR Parts 370-374, Hazardous Waste Management Requirements

6 NYCRR Part 375 governs the investigation and remediation of inactive hazardous waste sites. These regulations provide the framework for conducting this feasibility study.

- NYSDEC, 6 NYCRR Part 375, Environmental Remediation Programs.

New York State water quality regulations for surface water and groundwater apply to remedial alternatives that involve groundwater collection, treatment, and discharge to surface water or groundwater. The State Pollution Discharge Elimination System (SPDES) permitting program is also considered a SCG.

- NYSDEC, 6 NYCRR Parts 700 to 706, Classes and Standards of Quality and Purity for Surface Water and Groundwater
- NYSDEC, 6 NYCRR Part 750, SPDES Permitting

Alternatives that involve excavation and potential air emissions from treatment facilities are subject to the applicable state air quality regulations.

- NYSDEC, 6 NYCRR Parts 200,201, and 257, Air Resources

**Federal ARARs and TBCs**
Federal Section 404 permits administered by the Army Corp of Engineers may be required as part of any wetlands restoration work.

- 40 CFR Parts 230 and 231 (associated with the Clean Water Act, Section 404).

Federal Occupational Safety and Health Act (OSHA) requirements that regulate worker safety and employee records must be followed during all site work.

- 29 CFR Part 1910, Occupational Safety and Health Standards
- 29 CFR Part 1926, Safety and Health Regulations for Construction

If materials containing hazardous wastes are to be transported offsite, federal manifest and transportation requirements apply.

- 49 CFR Parts 171-173, Hazardous Materials Transportation Regulations

Hot spot soils removed from the site for off-site disposal may include listed or characteristic hazardous waste. Federal hazardous waste management requirements under RCRA Subtitle C related to identification, transportation and disposal of hazardous wastes must be followed.

- 40 CFR Part 261, Identification and Listing of Hazardous Waste
- 40 CFR Part 262, RCRA Manifesting, Transport, and Recordkeeping Requirements

- 40 CFR Part 263, Standards for Hazardous Waste Transporters
- 40 CFR Part 268, RCRA Land Disposal Restrictions

Materials containing 50 parts per million (ppm) or greater of PCBs are subject to regulations under the Toxic Substances Control Act (TSCA) relative to their storage, disposal, and marking.

- US EPA, Disposal of Polychlorinated Biphenyls (PCBs); 40 CFR Part 761. Polychlorinated Biphenyl (PCB) Site Revitalization Guidance Under the Toxic Substances Control Act (TSCA) (November 2005)

**Delineation of PCB, VOC and NAPL Oil Areas in the North Landfill**

TETRA TECH

September 7, 2011

Mr. Nelson Olavarria
Cooper Industries
600 Travis Street, Suite 5600
Houston, Texas 77002-1001

RE: North Landfill Hot Spot Source Delineation and North and South Landfill Methane Gas Survey, Cooper Crouse-Hinds, LLC (CC-H) Landfill Site, Syracuse, New York Site No. 7-34-004

Dear Nelson,

This letter report presents the results of sampling conducted in November 2010 to delineate the hot spot areas that are targeted for remediation in the North Landfill at the Cooper Crouse-Hinds, LLC (CC-H) Landfill site. The hot spot sampling work was performed in accordance with the NYSDEC-approved Work Plan dated August 5, 2010. This report also presents the results of the landfill methane gas survey conducted on the North and South Landfills to determine the level of methane being generated at each landfill. The need for a gas venting layer as a component of proposed landfill cap remedial design is dependent upon whether or not landfill gas is being produced at the landfills. The landfill gas survey was performed in accordance with the NYSDEC-approved Work Plan dated October 18, 2010.

## North Landfill Hot Spot Delineation Work

The hot spot areas in the North Landfill include 1) a polychlorinated biphenyl (PCB) hot spot containing greater than 50 ppm PCBs, 2) a volatile organic compound (VOC) hot spot containing greater than 100 ppm of total VOCs and 3) an oil hot spot that is visibly saturated with oil. The three areas that required delineation were identified as follows and shown on Figure 1:

- Area 1- PCB Hot Spot (TP-82, 65 ppm PCB) and VOC Hot Spot (TP-4, 114 ppm TVOCs)
- Area 2- VOC Hot Spot (TP-89, 466 ppm TVOCs; TP-90, 330 ppm TVOCs)
- Area 3- Oil Hot Spot (MW-6A, visible non-aqueous phase liquid (NAPL) oil)

### *Investigation Methods*

Boreholes were installed around each hot spot area. Field screening methods were used to define the vertical and horizontal limits of each hot spot and to select samples that were sent to a laboratory for analysis and confirmation. The PCB hot spot area around TP-82 was screened with Clor-N-Soil® test kits. The VOC hot spot areas around TP-89/TP-90 and TP-4 were screened with a PID meter. The Oil hot spot area around MW-6A was screened with OIL STICKS™ and visual indications.

Three to five initial borings were installed around each of the hot spot area on a 25-foot grid (see Figure 1). Based on the results of field screening, additional step-out borings were installed to define the horizontal and vertical extent of the hot spots. Step-out boreholes were installed until 1) the field screening results indicated PCBs <50 ppm, PID >250 instrument units (IUs), and visible oil was not observed, 2) the property boundary of the CC-H site and Plaza East Landfill was reached or 3) the boundary between the waste and wetlands were reached. A total of 7 borings were installed at the PCB/VOC hot spot area, 9 borings were installed at the VOC hot spot area and 14 borings were installed at the oil hot spot area.

The boreholes were drilled by Empire Geo-Services, Inc. out of Buffalo, NY utilizing the hollow stem auger method of drilling. Continuous fill/soil samples were collected from the boreholes at 2-foot intervals using the split-spoon sampling method. The boreholes were advanced until native soil/peat was intersected. The fill and soil samples were logged in the field by an environmental scientist. If the sample recovery from the split-spoon samples was poor, the fill/soil cuttings brought to the surface by the hollow stem augers were used to log and sample the boreholes. The cuttings were placed back into the boreholes at the end of sampling activities. The hollow stem augers, other down-hole drilling equipment and the split-spoon sampling equipment were decontaminated in accordance with the procedures described in the work plan.

Field screening included the following methods that were described in the August 5, 2010 Work Plan:

- PCBs - Clor-N-Soil® PCBs field screening kit to detect >50 ppm PCBs
- VOCs - Photoionization detector (PID) meter equipped with a 10.6 eV lamp
- Oil – OIL STICKS™ field screening kit and visual indication of NAPL oil

*PCB Field Screening*

In Area 1, PCB hot spot samples were collected from the boreholes at approximately 2-foot intervals for PCB screening using Clor-N-Soil®. The Clor-N-Soil® PCB field screening kit uses a fixed endpoint colorimetric detection method to determine whether the sample being tested contains greater or less than 50 ppm PCBs. The testing procedures provided with the Clor-N-Soil® PCBs field screening kits were used to screen the samples for PCBs.

*VOC Field Screening*

In Areas 1 and 2, VOC hot spot samples were collected from the boreholes at approximately 2-foot intervals for VOC screening using a PID meter. The samples screened in the field for VOCs were placed in 16-ounce glass canning jars. The jars were half-filled with soil and the top of each jar was sealed with aluminum foil and a canning jar screw-on metal retaining ring. The headspace in the jars was allowed to equilibrate for a minimum of 10 minutes inside a heated vehicle to allow any organic compounds to off-gas. The headspace of the container was then measured for volatile compounds using the PID meter. The peak PID meter response and the PID meter reading after 15 seconds were recorded on field PID meter data sheets. The PID meter was calibrated at the start of each work day by the environmental scientist. The PID meter was calibrated in accordance with the manufacturer's calibration procedures using 100 parts per million isobutylene calibration gas. The PID meter calibration results were recorded on an equipment calibration record form. A PID meter response greater than 250 IUs was considered representative of VOCs greater than 100 ppm.

*Oil Field Screening*
In Area 3, oil hot spot samples were collected from the boreholes at approximately 2-foot intervals for oil screening using OIL STICKS™. The samples screened in the field for oil were placed in 16-ounce glass canning jars. The jars were half-filled with soil and distilled water was added to cover the sample and then stirred with a clean stirrer. After waiting one minute the soil/water mixture was stirred with an OIL STICKS™ strip, making sure the strip touched the sides of the sample container where oil attracts at the meniscus. If the strip turned deep blue or deep blue spots occurred on the blue strip, oil or hydrocarbon was present. Soil sensitivity is estimated to be about 1,000 to 2,000 ppm.

*Laboratory Analysis*
For the PCB and VOC hot spot areas (Areas 1 and 2), split portions of each 2-foot sampling interval were retained for possible laboratory analysis pending evaluation of the field screening results. Samples were selected for laboratory analysis after the sampling of each borehole was completed and the field screening of the samples collected from the borehole was completed. If one or more of the sample intervals from a borehole indicated the presence of contaminants above one or more target screening levels, a sample of the material exceeding the screening levels was submitted for laboratory analysis for confirmation. If none of the sample intervals from a borehole indicated the presence of contaminants above any target screening level, one sample from the borehole was submitted for laboratory analysis (VOCs and/or PCBs) to document the degree of impacts at that location. The samples collected were submitted to Pace Analytical in Greensburg, PA, a NYSDOH ELAP-certified laboratory, for analyses for VOCs (EPA Method 8260) and/or PCBs (EPA Method 8082).

The samples submitted for laboratory analyses were collected in sample containers provided by Pace Analytical. The samples were submitted following standard chain-of-custody procedures. Each sample submitted for laboratory analysis was assigned a unique sample identification consisting of the borehole identification and depth in feet from which the sample was collected.

## *Hot Spot Sampling Results*

*Area 1 PCB/VOC Hot Spot*
A total of 7 borings (HS3-B1 through B7) were installed at the PCB/VOC hot spot area at the locations indicated on Figure 2. Borehole logs are included in Attachment A. Field screening PID results are provided on Table 1 and laboratory VOC analyses are summarized on Table 2. PCB field screening results are provided on Table 4 and laboratory PCB analyses are summarized on Table 5. Laboratory reports are included in Attachment B.

The PID measurements were generally low with the highest measurement at 160 ppm (HS3-B1 @ 10-12') shown on Table 1 for Area 1, well under the PID standard of 250 ppm. The laboratory analysis shows one sample exceeded the 100 ppm VOC standard with total VOCs at 148 ppm (HS3-B1 @ 8-10') which is close to the highest PID reading. Based on past sampling results and the recent hot spot sampling results the delineated area with elevated VOCs is approximately 500 $ft^2$ (Figure 2). The average thickness of VOC-impacted waste is approximately 10 feet resulting in a calculated volume of approximately 185 $yd^3$ or 275 tons.

The PCB field screening indicated PCB concentrations greater than the 50 ppm excavation standard at 3 boring locations (HS3-B1, HS3-B3 and HS3-B4). However, the laboratory analysis shows none of the waste samples contained total PCBs greater than 2.0 ppm. Comparison between the PCB field screening results and the laboratory analyses shows the test kits provided several false positive results. According to the manufacturer the Clor-N-Soil test method is based on detecting the chlorine part of the PCB molecule. Because PCBs were chlorinated at specific amounts, the amount of chlorine is directly proportional to the amount of PCBs. However, if there are other chlorinated organic compounds in the soil such as chlorinated solvents, this would cause a positive interference for these kits.

Because of the false positive field screening results the delineation was based on the lab results alone. Based on past sampling results at TP-82 and the recent hot spot sampling results the delineated area with elevated PCBs is approximately 250 $ft^2$ (Figure 2). The average thickness of PCB-impacted waste is approximately 9 feet resulting in a calculated volume of approximately 85 $yd^3$ or 125 tons. Post-excavation samples will be collected at the time of hot spot removal to confirm PCB concentrations greater than 50 ppm have been removed.

*Area 2 VOC Hot Spot*
A total of 9 borings (HS2-B1 through B9) were installed at the VOC hot spot area at the locations indicated on Figure 3. Borehole logs are included in Attachment A. Field screening PID results are provided on Table 1 and laboratory VOC analyses are summarized on Table 3. Laboratory reports are included in Attachment B.

PID measurements for Area 2 in Table 1 were generally low and only one measurement had a reading over the PID standard of 250 ppm (290 ppm; HS2-B1 @ 10-12'). The laboratory analyses in Table 3 show three samples contained total VOCs greater than 100 ppm (HS2-B1 @ 8-10', HS2-B6 @ 2-4' and HS2-B10 @ 4-6'). Comparison of the PID and lab results indicates a PID reading over 50 ppm (instead of 250 ppm) represents the VOC hot spot materials. Based on past sampling results (TP-89 and TP-90) and the recent hot spot sampling results the delineated area with elevated VOCs is approximately 3,300 $ft^2$ (Figure 3). The average thickness of VOC-impacted waste is approximately 8.5 feet resulting in a calculated volume of approximately 1,040 $yd^3$ or 1,560 tons. Post-excavation samples will be collected at the time of hot spot removal to confirm VOC concentrations greater than 100 ppm have been removed.

*Area 3 Oil Hot Spot*
A total of 14 borings (HS1-B1 through B14) were installed in the oil hot spot area at the locations indicated on Figure 4. Borehole logs are included in Attachment A. The OIL STICKS™ did not respond at all to the observed cutting oils, so the delineation of the oil hot spot was performed by visual indication of NAPL oil. The area of observed NAPL oil is shown on Figure 4. According to the manufacturer of the test strips the oil should have been detected but acknowledged the test strips had not been tested on cutting oils.

NAPL oil was only observed at two borings (HS1-B7 and HS1-B8). An oil sheen was observed on the augers or split spoon sampler at an additional 8 borings but no NAPL oil was observed at theses borings. Routine monitoring at OW-1 through OW-4 also found no indication of a NAPL

oil layer or sheen while past monitoring of MW-6A has indicated the presence of a very thin NAPL oil layer to a sheen. Based on routine monitoring and hot spot sampling there are two delineated areas with NAPL oil; one associated with MW-6A is approximately 125 $ft^2$ and the other associated with HS1-B7 and HS1-B8 is approximately 475 $ft^2$ (Figure 4). The average thickness of the NAPL oil-saturated area is approximately 8 feet resulting in a total calculated volume of approximately 175 $yd^3$ or 265 tons. Post-excavation observations at the time of hot spot removal will be used to confirm NAPL oil saturated materials have been removed.

## Landfill Gas Survey

A landfill methane gas bar hole survey was also conducted as part of pre-design activities for the proposed landfill caps on the North and South Landfills at the Cooper Crouse-Hinds, LLC (CC-H) Landfill site. Material encountered in test pits excavated in the North and South Landfills during the RI consisted primarily of foundry sand, core butts, foundry molds, metal debris, wood debris and industrial debris. Test pits across the South Landfill and along the boundary between the North landfill and the Plaza East Landfill also encountered a lot of municipal wastes which included paper, glass bottles, plastic, wood, metal cans, metal debris and general municipal refuse. The need for a gas venting layer as a component of proposed landfill caps is dependent upon whether or not landfill gas is being produced at the landfills.

### *Landfill Gas Investigation Methods*

A bar hole landfill gas survey was conducted on the North and South Landfills to provide a preliminary evaluation of landfill gas generation. Samples were collected at an initial grid spacing of 250 feet (Figure 1). At 10 percent of the locations a second step out (SO) sample was collected 5 feet away (to evaluate reproducibility of the results. Additional samples were collected as needed to confirm or better define areas of landfill gas generation.

Bar hole probes were constructed by driving a ½-inch diameter rod approximately 2.5-3 feet into the soil. The rod was extracted and a ½-inch diameter, 18-inch long PVC pipe was inserted approximately 6-12 inches into the bar hole to prevent soil from falling into the hole and/or entering the gas meter tip. The exposed end of the PVC pipe was fitted with a length of tygon tubing using a gas tight connection. The PVC and tubing sealed the hole from ambient air. The tip of the gas meter was inserted into the tubing allowing gas to be sampled with the instrument directly from the fill that lies below the pipe.

A Landtec GA-90 landfill gas meter (Attachment A) was used to analyze methane (0 to 100%), carbon dioxide (0 to 50%), and oxygen (0 to 21%) levels in the landfill gas. Static and barometric pressure were also recorded along with temperature (Table 6). The meter was field calibrated on-site following manufacturer's instructions after the instrument had stabilized at the working temperature. The instrument was recalibrated each day if ambient temperature changed by more than 10 degrees during the day.

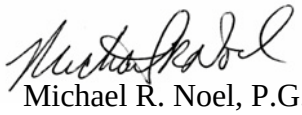
***Landfill Gas Survey Results***

A total of 39 bar hole probes were installed on the North (22 probes) and South (17 probes) Landfills at the locations indicated on Figure 5. Methane gas measurements collected at these probes are provided on Figure 5 and Table 6. On the North Landfill, methane gas concentrations were observed at three probes (NLFG-12, NLFG-20SO and NLFG-20) located in a small area near the south entrance gate to the North Landfill (Figure 5), where peak methane measurements ranged from 8.2 to 23.5 % and sustained methane measurements ranged from 7.8 to 17 %. Test pits excavated during the Remedial Investigation did not indicate the presence of municipal waste in this area of the North Landfill, so the presence of methane gas may be due to gas migration from the South Landfill. On the South Landfill, methane gas measurements were observed at six probes (SLFG-8, SLFG-8SO, SLFG-11, SLFG-12, SLFG-13 and SLFG-13SO) across a large portion of the South Landfill (Figure 5), where peak methane measurements ranged from 7.0 to 79 % and sustained methane measurements ranged from 6.9 to 79 %.

These results indicate that a landfill gas venting layer will be needed for the South Landfill as expected due to the greater amounts of municipal refuse from the City of Syracuse landfilling operations that occurred from 1960 through 1965. For the North Landfill there does not appear to be a need to install a gas venting layer due to the greater amount of foundry sand and lower municipal waste volume. It is recommended that another round of landfill methane gas measurements be collected from the bar hole probes near the entrance to the North Landfill to evaluate the source of methane gas in that area.

Sincerely,

Tetra Tech GEO

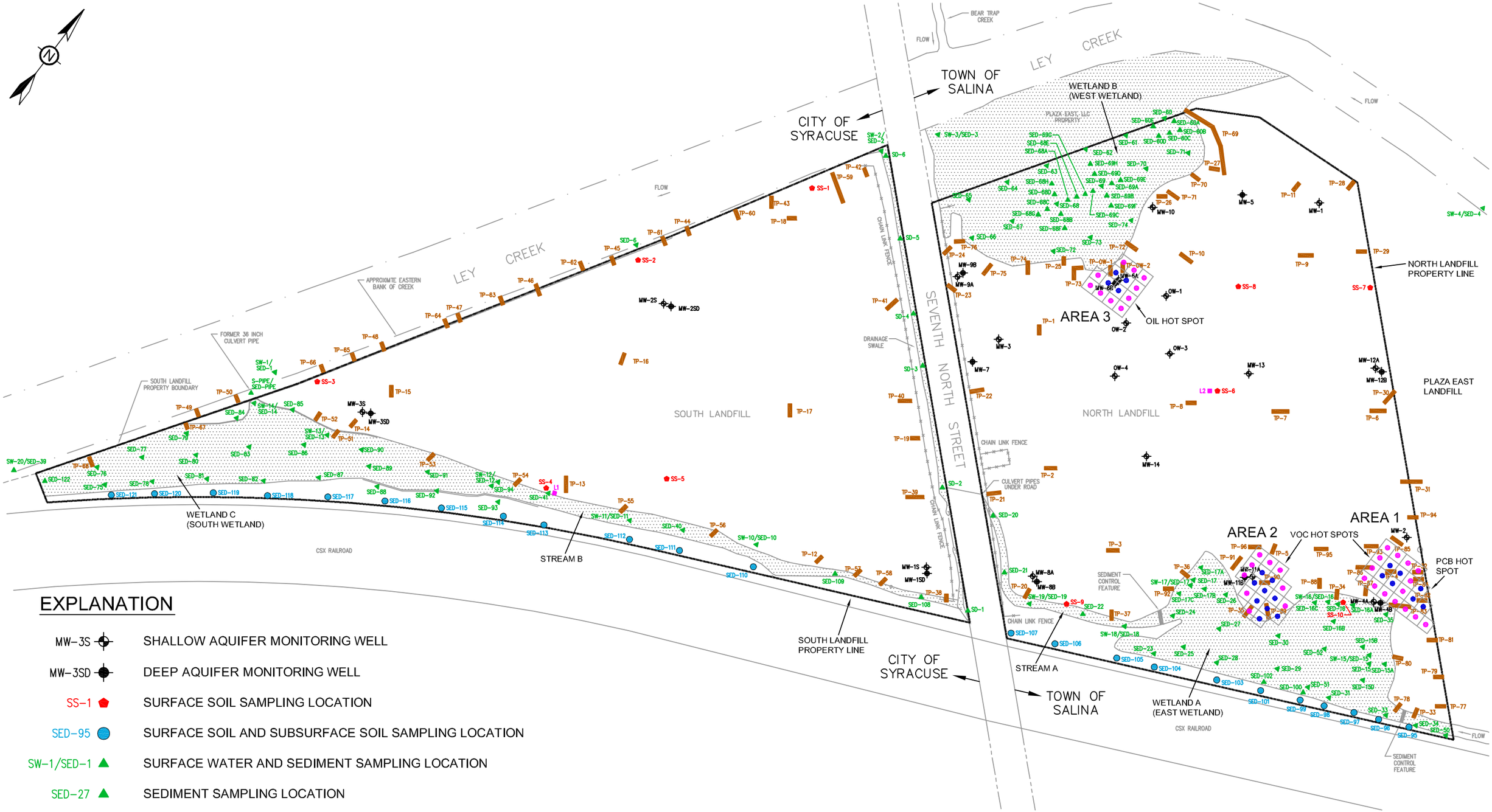


Michael R. Noel, P.G.
Vice President, Principal Hydrogeologist

Attachments

cc: Gary Gengel, Latham & Watkins

FIGURES




## EXPLANATION

| | |
|---|---|
| MW-3S | SHALLOW AQUIFER MONITORING WELL |
| MW-3SD | DEEP AQUIFER MONITORING WELL |
| SS-1 | SURFACE SOIL SAMPLING LOCATION |
| SED-95 | SURFACE SOIL AND SUBSURFACE SOIL SAMPLING LOCATION |
| SW-1/SED-1 | SURFACE WATER AND SEDIMENT SAMPLING LOCATION |
| SED-27 | SEDIMENT SAMPLING LOCATION |
| TP-13 | TEST PIT LOCATION |
| L1 | LEACHATE SAMPLING LOCATION |
| | PROPOSED INITIAL BOREHOLES |
| | PROPOSED STEPOUT BOREHOLES |

0 180 360

SCALE IN FEET

TITLE: COOPER CROUSE-HINDS LANDFILL FACILITY
PROPOSED HOT SPOT DELINEATION BOREHOLES

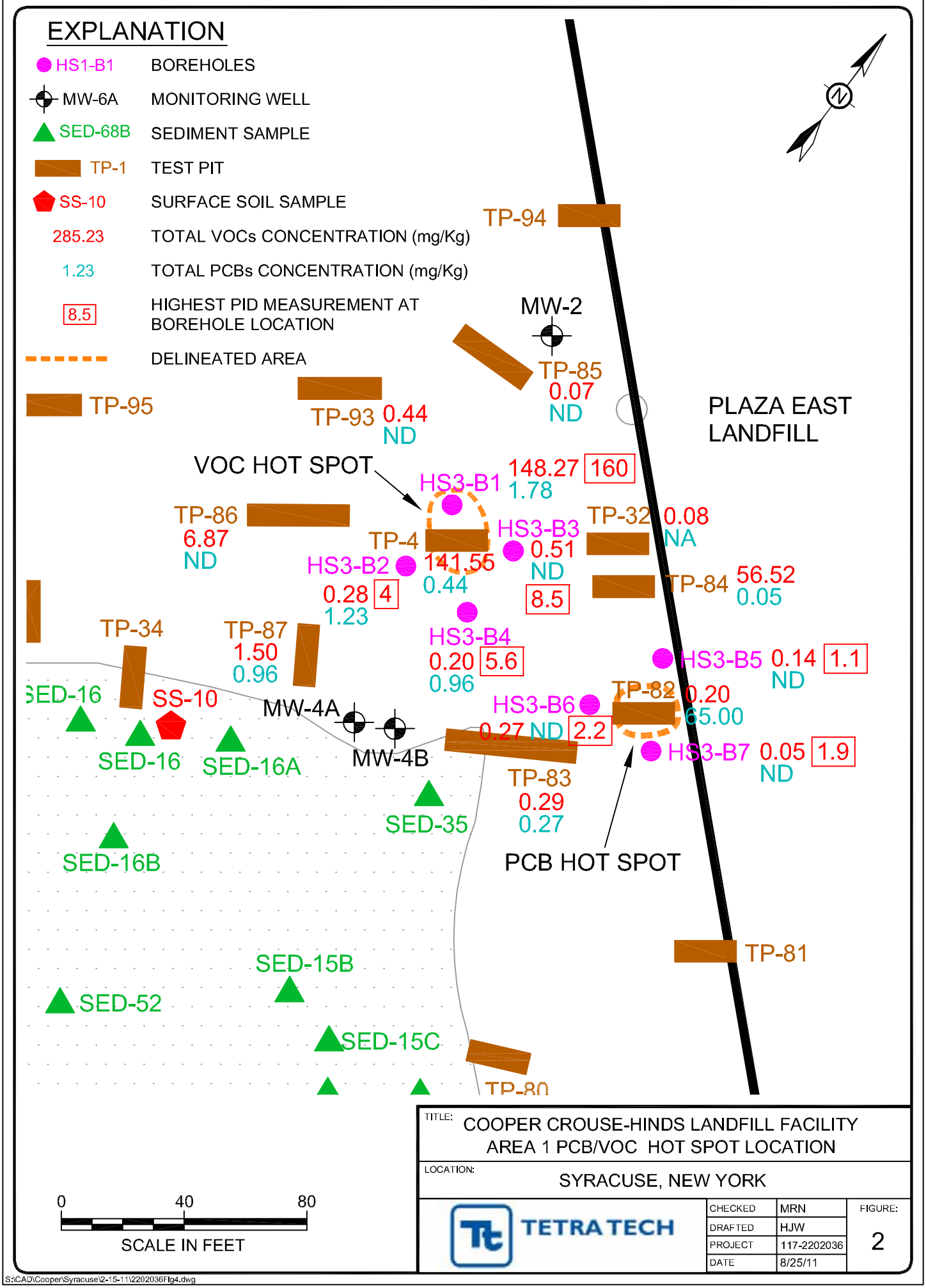
LOCATION: SYRACUSE, NEW YORK

TETRA TECH

| | |
|---|---|
| CHECKED | MRN |
| DRAFTED | HJW |
| PROJECT | 117-2202036 |
| DATE | 8/25/11 |

FIGURE: 1

S:\CAD\Cooper\Syracuse\8-5-10\2202036Fig2.dwg




TITLE: COOPER CROUSE-HINDS LANDFILL FACILITY
AREA 1 PCB/VOC HOT SPOT LOCATION

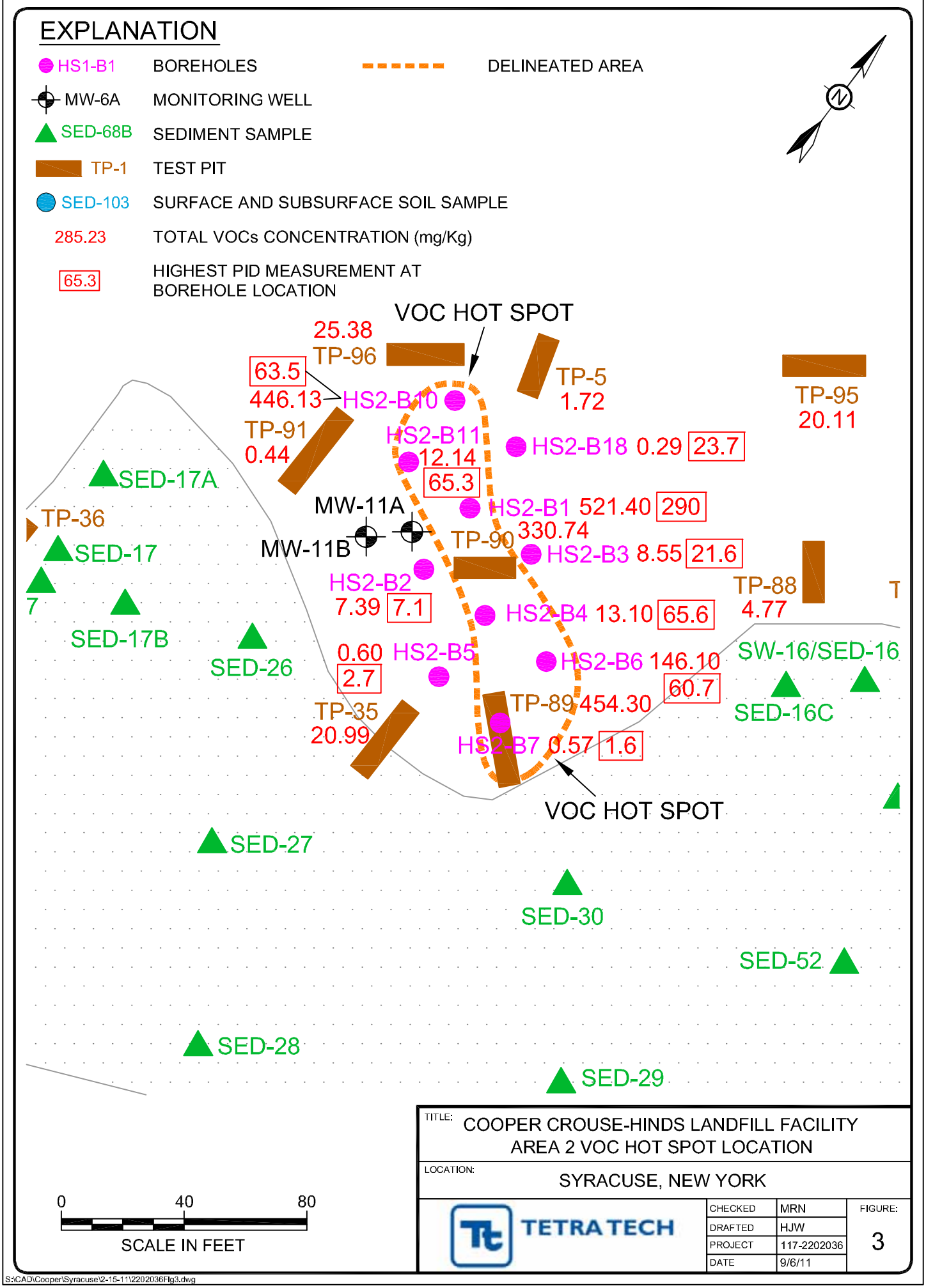
LOCATION: SYRACUSE, NEW YORK

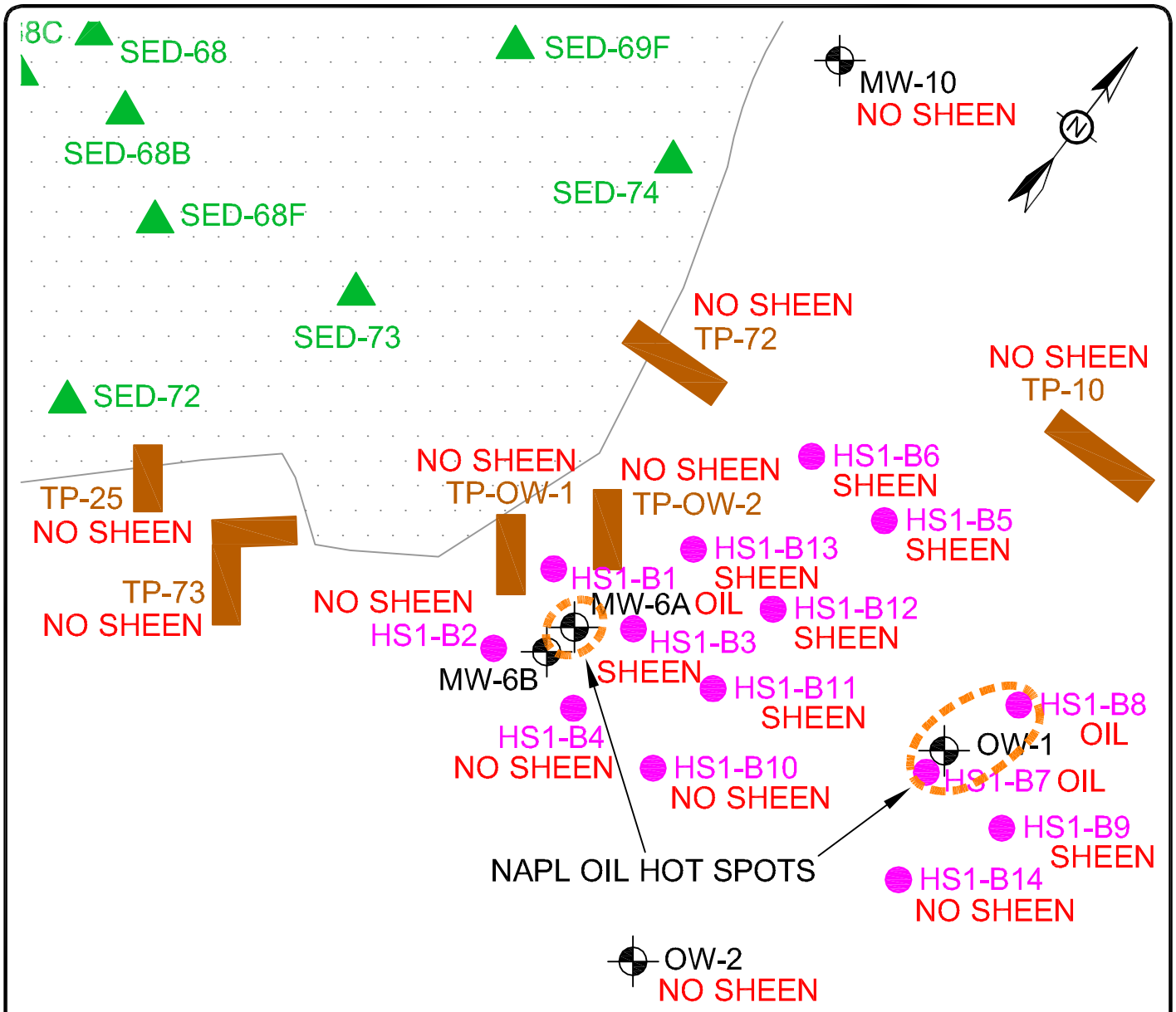
TETRA TECH

| | |
|---|---|
| CHECKED | MRN |
| DRAFTED | HJW |
| PROJECT | 117-2202036 |
| DATE | 8/25/11 |

FIGURE: 2

S:\CAD\Cooper\Syracuse\2-15-11\2202036Fig4.dwg


EXPLANATION
HS1-B1 BOREHOLES
DELINEATED AREA
MW-6A MONITORING WELL
SED-68B SEDIMENT SAMPLE
TP-1 TEST PIT
SED-103 SURFACE AND SUBSURFACE SOIL SAMPLE
285.23 TOTAL VOCs CONCENTRATION (mg/Kg)
65.3 HIGHEST PID MEASUREMENT AT BOREHOLE LOCATION
VOC HOT SPOT
25.38
TP-96
63.5
446.13
HS2-B10
TP-5
1.72
TP-95
20.11
TP-91
0.44
HS2-B11
12.14
65.3
HS2-B18 0.29 23.7
SED-17A
MW-11A
HS2-B1 521.40 290
330.74
TP-36
MW-11B
TP-90
HS2-B3 8.55 21.6
SED-17
HS2-B2
7.39 7.1
TP-88
4.77
7
HS2-B4 13.10 65.6
SED-17B
SED-26
0.60
2.7
HS2-B5
HS2-B6 146.10
60.7
SW-16/SED-16
TP-89 454.30
SED-16C
TP-35
20.99
HS2-B7 0.57 1.6
VOC HOT SPOT
SED-27
SED-30
SED-52
SED-28
SED-29
0
40
80
SCALE IN FEET
TITLE: COOPER CROUSE-HINDS LANDFILL FACILITY
AREA 2 VOC HOT SPOT LOCATION
LOCATION: SYRACUSE, NEW YORK
TETRA TECH
CHECKED MRN
DRAFTED HJW
PROJECT 117-2202036
DATE 9/6/11
FIGURE: 3
S:\CAD\Cooper\Syracuse\2-15-11\2202036Fig3.dwg




TITLE: COOPER CROUSE-HINDS LANDFILL FACILITY
AREA 3 OIL HOT SPOT LOCATION

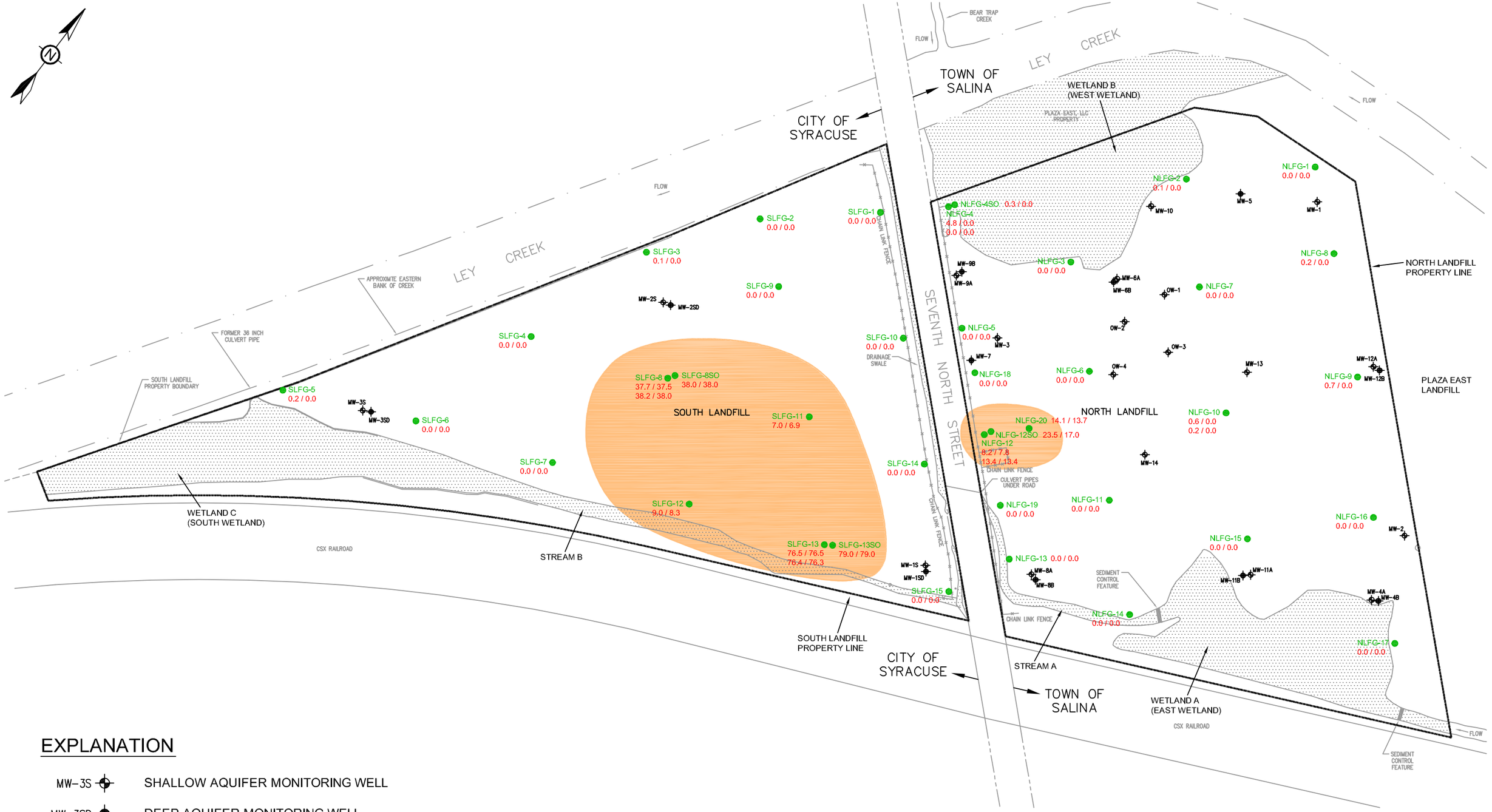
LOCATION: SYRACUSE, NEW YORK

TETRA TECH

| | |
|---|---|
| CHECKED | MRN |
| DRAFTED | HJW |
| PROJECT | 117-2202036 |
| DATE | 8/25/11 |

FIGURE: 4

S:\CAD\Cooper\Syracuse\2-15-11\2202036Fig2.dwg




## EXPLANATION

| | |
|---|---|
| MW-3S | SHALLOW AQUIFER MONITORING WELL |
| MW-3SD | DEEP AQUIFER MONITORING WELL |
| NLFG-1 | BARHOLE SAMPLING LOCATION |
| 8.2 / 7.8 | PEAK / STABLE METHANE PERCENTAGE |
| | AREAS OF HIGHEST METHANE GAS DETECTION |

0 180 360

SCALE IN FEET

TITLE: COOPER CROUSE-HINDS LANDFILL FACILITY
LANDFILL GAS RESULTS

LOCATION: SYRACUSE, NEW YORK

TETRA TECH

| | |
|---|---|
| CHECKED | MRN |
| DRAFTED | HJW |
| PROJECT | 117-2202036 |
| DATE | 9/6/11 |

FIGURE: 5

S:\CAD\Cooper\Syracuse\2-15-11\2202036Fig5.dwg

# TABLES

Table 1. Waste Material PID Screening
North Landfill Hot Spot Areas 1 and 2
Cooper-Crouse Hinds Landfill

Area 1 PCB/VOC Hot Spot Boreholes

| | | |
|---|---|---|
| HS3-B1 | 2-4' | 3.9 |
| HS3-B1 | 4-6' | 3.5 |
| HS3-B1 | 6-8' | 5 |
| HS3-B1 | 8-10' | 4 |
| HS3-B1 | 10-12' | 160 |

| | | |
|---|---|---|
| HS3-B2 | 2-4' | 1.9 |
| HS3-B2 | 4-6' | 1.9 |
| HS3-B2 | 6-8' | 4 |
| HS3-B2 | 8-10' | |
| HS3-B2 | 10-12' | |

| | | |
|---|---|---|
| HS3-B3 | 2-4' | 1.4 |
| HS3-B3 | 4-6' | 3.4 |
| HS3-B3 | 6-8' | 8.5 |
| HS3-B3 | 8-10' | 6.3 |
| HS3-B3 | 10-12' | 2.7 |

| | | |
|---|---|---|
| HS3-B4 | 2-4' | 1.9 |
| HS3-B4 | 4-6' | 5.6 |
| HS3-B4 | 6-8' | 2.3 |
| HS3-B4 | 8-10' | 3.2 |
| HS3-B4 | 10-12' | |

| | | |
|---|---|---|
| HS3-B5 | 2-4' | 0.9 |
| HS3-B5 | 4-6' | 1.1 |
| HS3-B5 | 6-8' | 0.9 |
| HS3-B5 | 8-10' | 0.7 |
| HS3-B5 | 10-12' | |
| | | |

| | | |
|---|---|---|
| HS3-B6 | 2-4' | 2.2 |
| HS3-B6 | 4-6' | 0.6 |
| HS3-B6 | 6-8' | 1.4 |
| HS3-B6 | 8-10' | |
| HS3-B6 | 10-12' | |
| | | |

| | | |
|---|---|---|
| HS3-B7 | 2-4' | 1.9 |
| HS3-B7 | 4-6' | 0.5 |
| HS3-B7 | 6-8' | |
| HS3-B7 | 8-10' | 1.7 |
| HS3-B7 | 10-12' | |
| HS3-B7 | 12-14' | |

Area 2 VOC Hot Spot Boreholes

| Borehole | Depth (feet bgs) | PID (ppm) |
|---|---|---|
| HS2-B1 | 2-4' | 0.5 |
| HS2-B1 | 4-6' | 6.9 |
| HS2-B1 | 6-8' | 8.4 |
| HS2-B1 | 8-10' | 9.0 |
| HS2-B1 | 10-12' | 290 |

| Borehole | Depth (feet bgs) | PID (ppm) |
|---|---|---|
| HS2-B2 | 2-4' | 4.1 |
| HS2-B2 | 4-6' | 7.1 |
| HS2-B2 | 6-8' | 5.6 |
| HS2-B2 | 8-10' | 6.0 |
| | | |

| Borehole | Depth (feet bgs) | PID (ppm) |
|---|---|---|
| HS2-B3 | 2-4' | 21.6 |
| HS2-B3 | 4-6' | 14.7 |
| HS2-B3 | 6-8' | |
| HS2-B3 | 8-10' | 2.2 |
| HS2-B3 | 10-12' | 2.8 |

| Borehole | Depth (feet bgs) | PID (ppm) |
|---|---|---|
| HS2-B4 | 2-4' | 11 |
| HS2-B4 | 4-6' | 24 |
| HS2-B4 | 6-8' | 65.6 |
| HS2-B4 | 8-10' | 8.2 |
| HS2-B4 | 10-12' | 53.2 |

| | | |
|---|---|---|
| HS2-B5 | 2-4' | 0.5 |
| HS2-B5 | 4-6' | 2.7 |
| HS2-B5 | 6-8' | 2.0 |
| HS2-B5 | 8-10' | 1.5 |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| HS2-B6 | 2-4' | 3.1 |
| HS2-B6 | 4-6' | 60.7 |
| HS2-B6 | 6-8' | 37.3 |
| HS2-B6 | 8-10' | 13 |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| HS2-B7 | 2-4' | 1.1 |
| HS2-B7 | 4-6' | 1.4 |
| HS2-B7 | 6-8' | 1.6 |
| | | |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| HS2-B10 | 2-4' | 2.4 |
| HS2-B10 | 4-6' | 26.1 |
| HS2-B10 | 6-8' | 142 |
| HS2-B10 | 8-10' | 20.6 |
| HS2-B10 | 10-12' | 63.5 |
| HS2-B10 | 12-14' | 11.4 |
| HS2-B10 | 14-16' | 2.4 |

| | | |
|---|---|---|
| HS2-B11 | 2-4' | 65.3 |
| HS2-B11 | 4-6' | 36.6 |
| HS2-B11 | 6-8' | 9.4 |
| HS2-B11 | 8-10' | 7.4 |
| HS2-B11 | 10-12' | 27.3 |
| HS2-B11 | 12-14' | 4.4 |

| | | |
|---|---|---|
| HS2-B18 | 2-4' | 19.3 |
| HS2-B18 | 4-6' | 10.4 |
| HS2-B18 | 6-8' | 23.7 |
| HS2-B18 | 8-10' | 5.9 |
| HS2-B18 | 10-12' | 8.6 |
| | | |

Table 2. Waste Material VOC Analysis
North Landfill Hot Spot Area 1
Cooper-Crouse Hinds Landfill

| | Units | HS3-B1 8-10' | HS3-B2 4-6' | HS3-B3 4-6' | HS3-B4 2-4' | HS3-B5 2-4' | HS3-B6 0-2' | HS3-B7 0-2' |
|---|---|---|---|---|---|---|---|---|
| Percent Moisture | % | 25.4 | 18.5 | 24.1 | 20.4 | 19.3 | 26 | 17 |
| 1,1,1-Trichloroethane | mg/kg | ND | 0.018 | ND | ND | ND | ND | ND |
| 1,1,2,2-Tetrachloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloroethene (Total) | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloropropane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,3-Dichlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 1,4-Dichlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 2-Butanone (MEK) | mg/kg | ND | ND | 0.032 | 0.026 | 0.017 | 0.025 | 0.011 |
| 2-Hexanone | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| 4-Methyl-2-pentanone (MIBK) | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Acetone | mg/kg | 0.562 | 0.066 | 0.437 | 0.161 | 0.122 | 0.236 | 0.043 |
| Benzene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Bromodichloromethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Bromoform | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Bromomethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Carbon disulfide | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Carbon tetrachloride | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Chlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Chloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Chloroform | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Chloromethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| cis-1,2-Dichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| cis-1,3-Dichloropropene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Dibromochloromethane | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Ethylbenzene | mg/kg | 9.31 | 0.045 | 0.008 | 0.009 | ND | ND | ND |
| m&p-Xylene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Methylene Chloride | mg/kg | 77.3 | 0.080 | 0.014 | ND | ND | ND | ND |
| Methyl-tert-butyl ether | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| o-Xylene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Styrene | mg/kg | 0.602 | ND | ND | ND | ND | ND | ND |
| Tetrachloroethene | mg/kg | ND | ND | ND | ND | ND | 0.008 | ND |
| Toluene | mg/kg | 60.5 | 0.074 | 0.020 | 0.006 | ND | ND | ND |
| TOTAL BTEX | mg/kg | 69.8 | 0.119 | ND | ND | ND | ND | ND |
| trans-1,2-Dichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| trans-1,3-Dichloropropene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Trichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Vinyl chloride | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| Xylene (Total) | mg/kg | ND | ND | ND | ND | ND | ND | ND |
| TOTAL VOCs | mg/kg | 148.27 | 0.28 | 0.51 | 0.20 | 0.14 | 0.27 | 0.05 |
| Field PID | ppm | 4 | 1.9 | 3.4 | 1.9 | 0.9 | | |

Table 3. Waste Material VOC Analysis
North Landfill Hot Spot Area 2
Cooper-Crouse Hinds Landfill

| Parameter | Units | HS2-B1 8-10' | HS2-B2 2-4' | HS2-B3 0-2' | HS2-B4 2-4' | HS2-B5 2-4' | HS2-B6 2-4' | HS2-B7 4-6' | HS2-B10 4-6' | HS2-B11 0-2' | HS2-B18 4-6' |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | % | 14.9 | 17.4 | 14.7 | 17.8 | 24.6 | 18.9 | 61.7 | 14.9 | 13.7 | 14.7 |
| 1,1,1-Trichloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,2,2-Tetrachloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloroethene (Total) | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloropropane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,3-Dichlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,4-Dichlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-Butanone (MEK) | mg/kg | ND | ND | ND | ND | ND | ND | 0.0743 | ND | ND | 0.0394 |
| 2-Hexanone | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 4-Methyl-2-pentanone (MIBK) | mg/kg | 0.0121 | ND | ND | 0.688 | ND | ND | ND | ND | ND | 0.012 |
| Acetone | mg/kg | 0.07 | ND | ND | ND | ND | ND | 0.462 | ND | 0.0395 | 0.0826 |
| Benzene | mg/kg | 0.0135 | 0.278 | 0.303 | 0.376 | ND | 0.279 | 0.0157 | 0.264 | ND | 0.0173 |
| Bromodichloromethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromoform | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromomethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Carbon disulfide | mg/kg | 0.0058 | ND | ND | ND | ND | ND | ND | ND | ND | 0.0076 |
| Carbon tetrachloride | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chlorobenzene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloroethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloroform | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloromethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| cis-1,2-Dichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| cis-1,3-Dichloropropene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dibromochloromethane | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethylbenzene | mg/kg | 521 | 2.8 | 4 | 4.78 | 0.6 | 131 | 0.0206 | 439 | 12.1 | 0.108 |
| m&p-Xylene | mg/kg | 0.0106 | 1.2 | 0.943 | 2.13 | ND | 2.11 | ND | 0.861 | ND | ND |
| Methylene Chloride | mg/kg | ND | ND | ND | ND | ND | ND | ND | 0.258 | ND | ND |
| Methyl-tert-butyl ether | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| o-Xylene | mg/kg | ND | 0.294 | 0.292 | 0.926 | ND | 0.766 | ND | 0.362 | ND | 0.0058 |
| Styrene | mg/kg | 0.0114 | 0.331 | 0.726 | 0.269 | ND | 1.44 | ND | 3.15 | ND | ND |
| Tetrachloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | mg/kg | 0.261 | 0.994 | 1.06 | 0.883 | ND | 7.62 | ND | 1.01 | ND | 0.0149 |
| TOTAL BTEX | mg/kg | 522 | 5.56 | 6.61 | 9.09 | ND | 142 | ND | 442 | ND | 0.146 |
| trans-1,2-Dichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| trans-1,3-Dichloropropene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Trichloroethene | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Vinyl chloride | mg/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Xylene (Total) | mg/kg | 0.0143 | 1.49 | 1.23 | 3.05 | ND | 2.88 | ND | 1.22 | ND | ND |
| TOTAL VOCs | mg/kg | 521.40 | 7.39 | 8.55 | 13.10 | 0.60 | 146.10 | 0.57 | 446.13 | 12.14 | 0.29 |
| Field PID | ppm | 9 | 4.1 | | 11 | 0.5 | 3.1 | 1.4 | 26.1 | | 10.4 |

Table 4. Waste Material PCB Field Screening
North Landfill Hot Spot Area 3
Cooper-Crouse Hinds Landfill

| | | Depth | Clor-N-Soil Test Strip | | PCB Lab Result |
|---|---|---|---|---|---|
| Borehole | Date | (feet bgs) | Color | Indication | (ppm) |
| HS3-B1 | 12/8/2010 | 0-2' | Orange/Yellow | >50 ppm | ND |
| HS3-B1 | 12/8/2010 | 2-4' | Light Yellow | >50 ppm | |
| HS3-B1 | 12/8/2010 | 4-6' | Yellow | >50 ppm | |
| HS3-B1 | 12/8/2010 | 6-8' | Orange/Yellow | >50 ppm | |
| HS3-B1 | 12/8/2010 | 8-10' | Yellow | >50 ppm | 1.78 |
| HS3-B2 | 12/9/2010 | 0-2' | Purple | <50 ppm | |
| HS3-B2 | 12/9/2010 | 2-4' | Purple | <50 ppm | |
| HS3-B2 | 12/9/2010 | 4-6' | Orange | <50 ppm | 1.23 |
| HS3-B3 | 12/9/2010 | 0-2' | Purple | <50 ppm | |
| HS3-B3 | 12/9/2010 | 2-4' | Yellow | >50 ppm | ND |
| HS3-B3 | 12/9/2010 | 4-6' | Yellow | >50 ppm | ND |
| HS3-B3 | 12/9/2010 | 6-8' | Yellow | >50 ppm | ND |
| HS3-B3 | 12/9/2010 | 8-10' | Purple | <50 ppm | |
| HS3-B4 | 12/9/2010 | 0-2' | Purple | <50 ppm | |
| HS3-B4 | 12/9/2010 | 2-4' | Yellow | >50 ppm | 0.96 |
| HS3-B4 | 12/9/2010 | 4-6' | Light Pink | <50 ppm | |
| HS3-B4 | 12/9/2010 | 6-8' | Yellow | >50 ppm | ND |
| HS3-B5 | 12/9/2010 | 0-2' | Purple | <50 ppm | |
| HS3-B5 | 12/9/2010 | 2-4' | Pink | <50 ppm | ND |
| HS3-B5 | 12/9/2010 | 4-6' | Purple | <50 ppm | |
| HS3-B6 | 12/10/2010 | 0-2' | Dark Purple | <50 ppm | |
| HS3-B6 | 12/10/2010 | 2-4' | Purple | <50 ppm | |
| HS3-B6 | 12/10/2010 | 4-6' | Purple | <50 ppm | ND |
| HS3-B7 | 12/10/2010 | 0-2' | Purple | <50 ppm | ND |
| HS3-B7 | 12/10/2010 | 2-4' | Pink | <50 ppm | |
| HS3-B7 | 12/10/2010 | 6-8' | Dark Purple | <50 ppm | |

Table 5. Waste Material PCB Analysis
North Landfill Hot Spot Area 3
Cooper-Crouse Hinds Landfill

| | Units | HS3-B2 4-6' | HS3-B3 2-4' | HS3-B3 4-6' | HS3-B3 6-8' | HS3-B4 2-4' | HS3-B4 6-8' | HS3-B5 2-4' | HS3-B6 4-6' | HS3-B7 0-2' | HS3-B1 0-2' | HS3-B1 8-10' |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB-1016 (Aroclor 1016) | ug/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| PCB-1221 (Aroclor 1221) | ug/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| PCB-1232 (Aroclor 1232) | ug/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| PCB-1242 (Aroclor 1242) | ug/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1780 |
| PCB-1248 (Aroclor 1248) | ug/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| PCB-1254 (Aroclor 1254) | ug/kg | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| PCB-1260 (Aroclor 1260) | ug/kg | 1230 | ND | ND | ND | 959 | ND | ND | ND | ND | ND | ND |
| PCB, Total | mg/kg | 1.23 | ND | ND | ND | 0.96 | ND | ND | ND | ND | ND | 1.78 |

Table 6. Landfill Gas Survey
North and South Landfills
Cooper-Crouse Hinds Landfill

| North Landfill | | | (Barometric Pressure 29.28, Temperature 26° F) | | | |
|---|---|---|---|---|---|---|
| Location | Date | Time | % $CH_4$ (Peak) | % $CH_4$ (Stable) | % $CO_2$ | % $O_2$ |
| Background | 12/5/2010 | 8:20 | 0.0 | 0.0 | 0.1 | 21.2 |
| NLFG-1 | 12/5/2010 | 10:37 | 0.0 | 0.0 | 3.0 | 18.3 |
| NLFG-2 | 12/5/2010 | 10:30 | 0.1 | 0.0 | 1.9 | 19.0 |
| NLFG-3 | 12/5/2010 | 9:45 | 0.0 | 0.0 | 2.1 | 19.1 |
| NLFG-4 | 12/5/2010 | 9:37 | 4.8 | 0.0 | 0.9 | 18.8 |
| NLFG-4 | 12/5/2010 | 16:43 | 0.0 | 0.0 | 1.7 | 20.2 |
| NLFG-4 SO | 12/5/2010 | 16:40 | 0.3 | 0.0 | 1.1 | 18.9 |
| NLFG-5 | 12/5/2010 | 9:30 | 0.0 | 0.0 | 0.1 | 20.5 |
| NLFG-6 | 12/5/2010 | 9:53 | 0.0 | 0.0 | 0.3 | 20.7 |
| NLFG-7 | 12/5/2010 | 10:20 | 0.0 | 0.0 | 3.1 | 9.1 |
| NLFG-8 | 12/5/2010 | 10:43 | 0.2 | 0.0 | 4.5 | 9.5 |
| NLFG-9 | 12/5/2010 | 10:50 | 0.7 | 0.0 | 1.3 | 16.1 |
| NLFG-10 | 12/5/2010 | 11:15 | 0.6 | 0.0 | 0.3 | 21.0 |
| NLFG-10 | 12/5/2010 | 16:30 | 0.2 | 0.0 | 0.2 | 19.5 |
| NLFG-11 | 12/5/2010 | 9:00 | 0.0 | 0.0 | 0.3 | 20.1 |
| NLFG-12 | 12/5/2010 | 8:30 | 8.2 | 7.8 | 0.7 | 8.0 |
| NLFG-12 | 12/5/2010 | 16:51 | 13.4 | 13.4 | 0.8 | 5.9 |
| NLFG-12 SO | 12/5/2010 | 16:48 | 23.5 | 17.0 | 0.3 | 0.0 |
| NLFG-13 | 12/5/2010 | 8:40 | 0.0 | 0.0 | 0.2 | 21.2 |
| NLFG-14 | 12/5/2010 | 8:50 | 0.0 | 0.0 | 1.9 | 21.3 |
| NLFG-15 | 12/5/2010 | 11:10 | 0.0 | 0.0 | 0.1 | 21.4 |
| NLFG-16 | 12/5/2010 | 11:00 | 0.0 | 0.0 | 0.6 | 20.6 |
| NLFG-17 | 12/5/2010 | 11:05 | 0.0 | 0.0 | 3.2 | 18.9 |
| NLFG-18 | 12/10/2010 | 13:07 | 0.0 | 0.0 | 0.5 | 19.6 |
| NLFG-19 | 12/10/2010 | 13:17 | 0.0 | 0.0 | 0.5 | 20.5 |
| NLFG-20 | 12/10/2010 | 13:22 | 14.1 | 13.7 | 0.3 | 4.3 |

| South Landfill | | | (Barometric Pressure 29.26, Temperature 28° F) | | | |
|---|---|---|---|---|---|---|
| Location | Date | Time | % $CH_4$ (Peak) | % $CH_4$ (Stable) | % $CO_2$ | % $O_2$ |
| Background | 12/5/2010 | 12:44 | 0.0 | 0.0 | 0.1 | 20.3 |
| SLFG-1 | 12/5/2010 | 14:40 | 0.0 | 0.0 | 1.3 | 17.9 |
| SLFG-2 | 12/5/2010 | 14:15 | 0.0 | 0.0 | 0.5 | 21.3 |
| SLFG-3 | 12/5/2010 | 13:54 | 0.1 | 0.0 | 1.3 | 16.5 |
| SLFG-4 | 12/5/2010 | 13:45 | 0.0 | 0.0 | 1.8 | 20.1 |
| SLFG-5 | 12/5/2010 | 13:37 | 0.2 | 0.0 | 0.3 | 21.3 |
| SLFG-6 | 12/5/2010 | 13:30 | 0.0 | 0.0 | 10.6 | 9.5 |
| SLFG-7 | 12/5/2010 | 13:23 | 0.0 | 0.0 | 2.5 | 19.2 |
| SLFG-8 | 12/5/2010 | 14:04 | 37.7 | 37.5 | 8.5 | 0.1 |
| SLFG-8 | 12/6/2010 | 9:30 | 38.2 | 38.0 | 8.3 | 0.0 |
| SLFG-8 SO | 12/6/2010 | 9:27 | 38.0 | 38.0 | 7.4 | 0.0 |
| SLFG-9 | 12/5/2010 | 14:20 | 0.0 | 0.0 | 3.4 | 18.0 |
| SLFG-10 | 12/5/2010 | 14:50 | 0.0 | 0.0 | 2.1 | 16.1 |
| SLFG-11 | 12/5/2010 | 14:30 | 7.0 | 6.9 | 13.4 | 0.0 |
| SLFG-12 | 12/5/2010 | 13:15 | 9.0 | 8.3 | 5.9 | 10.8 |
| SLFG-13 | 12/5/2010 | 12:53 | 76.5 | 76.5 | 19.3 | 0.0 |
| SLFG-13 | 12/6/2010 | 9:13 | 76.4 | 76.3 | 19.1 | 0.0 |
| SLFG-13 SO | 12/6/2010 | 9:10 | 79.0 | 79.0 | 18.6 | 0.0 |
| SLFG-14 | 12/5/2010 | 15:00 | 0.0 | 0.0 | 0.8 | 20.1 |
| SLFG-15 | 12/5/2010 | 12:45 | 0.0 | 0.0 | 0.8 | 19.7 |

$CH^4$: Methane

$CO^2$: Carbon Dioxide

$O^2$: Oxygen

# ATTACHMENT A

# BOREHOLE LOGS

GeoTrans, Inc

LOG OF: **HS1-B1**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **8.0** | Elev GS: Datum: | Completion Date: | **November 30, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown peat-like topsoil with roots. SILT WITH FINE SAND FILL. Blackish gray silt with fine sand foundry fill . Pieces of wood, slag, yellow cinders (core butts), and metal shavings. Moist. No odor. | | | |
| SS | 2 3 4 5 | 71 | FOUNDRY SAND FILL. Blackish gray fine foundry sand fill, yellow and orange cinders (core butts). Moist. No odor. | 2 | | |
| SS | 3 3 2 2 | 67 | PEAT. Dark grayish brown organic peat. Moist. No odor. | 4 | | |
| SS | 0/24 | 58 | NO RECOVERY | 6 | | |
| SS | 0/24 | 0 | Boring terminated at 8 ft | 8 | | |
| | | | | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

Telephone:
Fax:

LOG OF: **HS1-B2**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **6.0** | Elev GS: Datum: | Completion Date: | **November 30, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown peat-like topsoil with roots. FOUNDRY SANDY SILT FILL. Black sandy silt foundry sand fill, with cinders. Moist. No odor. | 2 | | |
| SS | 0/12<br>5<br>7 | 29 | | 4 | | |
| SS | 4<br>5<br>6<br>3 | 29 | PEAT. Dark brown peat with roots. Moist. No odor. | 6 | | |
| SS | 0/12<br>2<br>2 | 67 | Boring terminated at 6 ft | 8 | | |
| | | | | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS1-B3**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: **SJB Services** | |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: **Steve Wolkiewicz** | |
| Location: **Syracuse, NY** | | Boring Method: **hollow stem auger** | |
| North: | East: | Logged By: **Ashley A. Weimer** | |
| Total Depth **12.0** Elev GS: | Datum: | Completion Date: **December 1, 2010** | |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown peat-like topsoil with roots and leaves. FOUNDRY SILT WITH SAND FILL. Dark brown silt and sand foundry fill with trace fine gravel. Pink and yellow well compacted sand pieces (core butts). Moist. No odor. | 2 | | |
| SS | 1 3 2 1 | 50 | NO RECOVERY | 4 | | |
| SS | 2 2 2 2 | 0 | FOUNDRY SILT WITH SAND FILL. Very dark brown silt with little sand foundry fill, with trace fine gravel. Pieces of rubber. Wet. Heavy sheen on spoon. Petroleum odor. | 6 | | |
| SS | 3 1/12 1 | 50 | FOUNDRY FINE SAND WITH SILT FILL. Very dark gray fine sand with little silt foundry fill. Wet. Sheen on spoon. Petroleum odor. | 8 | | |
| SS | 1 1 1 1 | 13 | PEAT. Dark brown peat. PEAT. Light brown peat with snail shells. | | | |
| SS | 0/24 | 100 | PEAT. Dark brown peat. | 10 | | |
| SS | 0/24 | 25 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS1-B4**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **10.0** | Elev GS: Datum: | Completion Date: | **December 1, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown peat-like topsoil with roots. FOUNDRY SANDY SILT FILL. Blackish brown sandy silt foundry fill with trace fine gravel, and yellow cinders (core butts). Moist. No odor. | | | |
| SS | 3 4 6 3 | 42 | FOUNDRY FINE SAND FILL. Light brown fine foundry sand fill. Moist. No odor. | 2 | | |
| SS | 2 2 2 2 | 25 | FOUNDRY SANDY SILT FILL. Blackish gray sandy silt foundry fill with pieces of plastic. Moist. No odor. FOUNDRY SANDY SILT FILL. Brownish gray sandy silt foundry fill with trace fine gravel. Moist. No odor. | 4 | | |
| SS | 1 1 1 1 | 67 | FOUNDRY SANDY SILT FILL. Blackish gray sandy silt foundry fill with trace cinders. Moist to (6 FT BGS) Wet at (6 FT BGS). No odor. | 6 | | |
| SS | 6 4 2 2 | 13 | FOUNDRY SILT WITH SAND FILL. Blackish gray foundry silt with sand fill with trace pieces of plastic, wood, metal chips, and few fine gravel. Wet. No odor. PEAT. Dark brown peat. Wet. No odor. | 8 | | |
| SS | 2/12 1 1 | 25 | Boring terminated at 10 ft | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS1-B5**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **10.0** | Elev GS: Datum: | Completion Date: | **December 2, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown topsoil with pieces of wood. FOUNDRY SAND FILL. Black foundry sand fill. Pink and yellow sand lenses (0.2-2 FT BGS), plywood and yellow sand lenses (2-4 FT BGS), pink, yellow and brown sand lenses (4-6 FT BGS). Moist, wet at ~6 FT BGS. No odor. Colored lenses from core butts. | 2 | | |
| SS | 3 4 2 2 | 63 | | 4 | | |
| SS | 8 6 6 2 | 38 | | 6 | | |
| SS | 6 2 3 5 | 75 | FOUNDRY SAND FILL. Black fine foundry sand fill. Wet. Light sheen on inside of spoon. No odor. | 8 | | |
| SS | 4 3 4 4 | 63 | PEAT. Dark brown peat. Moist. No odor. | 10 | | |
| SS | 4 1 1 2 | 67 | Boring terminated at 10 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS1-B6**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **8.0** | Elev GS: / Datum: | Completion Date: | **December 2, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Brown topsoil with roots. | | | |
| | | | FOUNDRY SAND FILL. Black fine foundry sand fill, with trace pieces of wood and trace pink and yellow sand lenses (from core butts). Moist. No odor. | | | |
| SS | 2<br>3<br>5<br>6 | 79 | FOUNDRY SAND FILL. Gray fine foundry sand fill with plastic and metal shavings. Moist. Cutting oil odor. | 2 | | |
| SS | 2<br>2<br>4<br>3 | 38 | FOUNDRY SAND FILL. Black fine foundry sand fill. Wet. Cutting oil odor. Bright sheen on inside of spoon. | 4 | | |
| SS | 1<br>1<br>1<br>2 | 17 | | 6 | | |
| | | | PEAT. Brownish gray peat. | | | |
| SS | 1/12<br>1<br>1 | 100 | Boring terminated at 8 ft | 8 | | |
| | | | | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

Telephone:
Fax:

LOG OF: **HS1-B7**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: | **SJB Services** |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: | **Steve Wolkiewicz** |
| Location: **Syracuse, NY** | | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **12.0** Elev GS: | Datum: | Completion Date: | **December 2, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown topsoil<br>FOUNDRY SAND FILL. Black to brown fine foundry sand fill. Yellow sand lenses from core butts. Piece of porcelin. Moist. No odor. | | | |
| SS | 5<br>7<br>9<br>9 | 88 | FOUNDRY SAND FILL. Black fine foundry sand fill with coarser grained gray slag. Moist. No odor. | 2 | | |
| SS | 23<br>13<br>6<br>6 | 79 | | 4 | | |
| SS | 6<br>3<br>4<br>6 | 50 | FILL. Gray fine grained solidified metal shavings. Moist. Cutting oil odor. Residual oil left on sampling gloves. Piece of wood stuck in spoon (6-8 FT BGS), oil dripping off augers when pulled out of ground (6-8 FT BGS). | 6 | | |
| SS | 17<br>5<br>3<br>3 | 21 | FOUNDRY SILT FILL. Black foundry silt fill with pieces of plastic, a piece of wood, and a piece of metal. Moist. Cutting oil odor. | 8 | | |
| SS | 5<br>5<br>3<br>1 | 17 | PEAT. Dark brown peat. | 10 | | |
| SS | 3<br>1<br>1<br>1 | 33 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

Telephone:
Fax:

LOG OF: **HS1-B8**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: / Datum: | Completion Date: | **December 3, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown top soil with roots. FOUNDRY SAND FILL. Black fine foundry sand fill with yellow sand lens (from core butts). Moist. No odor. | | | |
| SS | 1 3 3 5 | 67 | FOUNDRY SAND FILL. Black fine foundry sand fill, with pieces of slag, pieces of wood (4-6 FT BGS). Sheen on inside of spoon. Moist. No odor. | 2 | | |
| SS | 31 9 7 6 | 67 | | 4 | | |
| SS | 9 1/18 | 42 | FOUNDRY SAND FILL. Black fine foundry sand fill. Wood, plastic and red and white fiberglass pieces (8-10 FTBGS), pieces of plastic and white fiberglass and metal shavings (10-12 FT BGS). Wet. Strong cutting oil odor. 6-8 FT BGS augers had oil on them. | 6 | | |
| SS | 0/12 2 2 | 42 | | 8 | | |
| SS | 6 5 4 3 | 25 | | 10 | | |
| | | | PEAT. Dark brownish gray peat. Moist. No odor. | | | |
| SS | 5 3 2 2 | 88 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS1-B9**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **10.0** | Elev GS: / Datum: | Completion Date: | **December 3, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Black topsoil. FOUNDRY SAND FILL. Black fine foundry sand fill. Moist. No odor. | | | |
| SS | 1 3 5 9 | 46 | FOUNDRY SAND FILL. Black fine foundry sand fill, with yellow sand lenses (from core butts), trace slag, and pieces of wood. Moist. No odor. | 2 | | |
| SS | 6 5 4 3 | 67 | FOUNDRY SAND FILL. Black fine foundry sand fill, with slag and pieces of white fiberglass. Wet. No odor. | 4 | | |
| SS | 5 4 3 5 | 71 | FOUNDRY SAND FILL. Black fine foundry sand fill, with pieces of white fiberglass, slag, wood, and 4 metal washers, along with trace solidified yellow lenses (from core butts). Wet. No odor. Sheen on inside of spoon at 8-10 FT BGS. | 6 | | |
| SS | 4 3 2 3 | 67 | PEAT. Olive brown peat with roots. Moist. | 8 | | |
| SS | 1 1 1 1 | 58 | Boring terminated at 10 ft | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS1-B10**
(1 of 1)

Telephone:
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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: / Datum: | Completion Date: | **December 2, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown moist topsoil with roots. | | | |
| | | | FOUNDRY SAND FILL. Black fine foundry sand fill, with orange and yellow sand lenses (from core butts). Moist. No odor. Light sheen on inside of spoon at 2-4 FT BGS. | 2 | | |
| SS | 4<br>3<br>5<br>4 | 67 | | 4 | | |
| SS | 6<br>6<br>8<br>10 | 67 | FOUNDRY SAND FILL. Dark brown to black fine foundry sand fill. Wet at ~6 FT BGS. No odor. | 6 | | |
| SS | 7<br>5<br>4<br>4 | 21 | | 8 | | |
| SS | 5<br>4<br>3<br>3 | 63 | NO RECOVERY | 10 | | |
| SS | 2<br>1<br>1<br>2 | 0 | PEAT. Very dark brown peat. Moist. No odor. | 12 | | |
| SS | 2<br>2<br>2<br>2 | 67 | Boring terminated at 12 ft | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS1-B11**
**(1 of 1)**

Telephone:
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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **10.0** | Elev GS: / Datum: | Completion Date: | **December 2, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown organic topsoil with roots and few coarse gravel. FOUNDRY SAND FILL. Black fine foundry sand fill, with yellow sand lens (from core butts). Moist. No odor. | | | |
| SS | 0 1 3 7 | 42 | FOUNDRY SAND FILL. Black fine foundry sand fill, with pieces of slag. Pieces of plastic and white fiberglass in the top 2 inches. Wet. Cutting oil odor. Sheen on inside of spoon at 2-4 FT BGS. | 2 | | |
| SS | 1 3 4 4 | 38 | FOUNDRY SAND FILL. Dark brown to gray fine foundry sand fill with pieces of plastic, fiberglass and metal shavings. Small gray area with grayish silver in the middle (~1.5 in). Wet. Cutting oil odor. | 4 | | |
| SS | 2 4 5 5 | 50 | NO RECOVERY | 6 | | |
| SS | 3 2 2 2 | 0 | PEAT. Dark brown peat. Moist. Sheen on inside of spoon above sample. No odor. | 8 | | |
| SS | 4 1 2 2 | 50 | Boring terminated at 10 ft | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

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LOG OF: **HS1-B12**
**(1 of 1)**

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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: / Datum: | Completion Date: | **December 2, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Brown topsoil with trace pieces of wood. | | | |
| | | | FOUNDRY SAND FILL. Brown to black fine foundry sand fill with brown and pink lenses (from core butts). Moist. No odor. | 2 | | |
| SS | 1 6 8 9 | 71 | NO RECOVERY (Spoon appeared wet. Silverish gray foundry sand on sides of spoon. Residual sheen on inside of spoon.) | 4 | | |
| SS | 6 7 8 9 | 0 | FOUNDRY SAND FILL. Black fine foundry sand fill with pieces of brick, wood, yellow and orange well cemented sand lenses (from core butts). Top 5 inches was a piece of wood. Moist to wet. No odor. Sheen above sample in spoon at 6-8 FT BGS. | 6 | | |
| SS | 9 6 3 3 | 50 | | 8 | | |
| SS | 9 6 5 5 | 67 | NO RECOVERY | 10 | | |
| SS | 7 2 2 2 | 0 | PEAT. Dark brown peat with few shells. Moist. No odor. | 12 | | |
| SS | 5 2 2 2 | 25 | Boring terminated at 12 ft | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

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LOG OF: **HS1-B13**
**(1 of 1)**

Telephone:
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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: Datum: | Completion Date: | **December 1, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Brown silt with few fine sand topsoil, with roots. | | | |
| | | | FOUNDRY SAND FILL. Black fine foundry sand fill, with yellow and reddish brown sand lenses (from core butts), trace pieces of metal. Moist. No odor. | | | |
| SS | 2 3 4 4 | 67 | FOUNDRY SAND FILL. Gray with a metallic silver sheen foundry sand with silt fill. Pieces of metal shavings, wood and plastic. Moist to wet. Weak cutting oil odor. | 2 | | |
| SS | 2 2 3 4 | 50 | PEAT. Brown peat. Moist. No odor. | 4 | | |
| SS | 5 1 1 2 | 17 | NO RECOVERY. Silver sheen in spoon at 6-8 FT BGS. | 6 | | |
| SS | 3 2 2 2 | 0 | | 8 | | |
| SS | 4 2 1 2 | 0 | PEAT. Brown to light brown peat with snail shells. Moist. No odor. | 10 | | |
| SS | 2 1 1 1 | 50 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

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LOG OF: **HS1-B14**
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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **10.0** | Elev GS: Datum: | Completion Date: | **December 3, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown topsoil with roots. FOUNDRY SAND FILL. Black to light brown fine foundry sand fill, with trace pieces of wood and slag. Moist. No odor. | 2 | | |
| SS | 0 3 5 12 | 71 | | 4 | | |
| SS | 5 3 6 3 | 46 | FOUNDRY SAND FILL. Dark black fine foundry sand fill, with trace pieces of wood, slag, metal, metal shavings, and solidified pieces of yellow sand (from core butts). Wet. Weak cutting oil odor. | 6 | | |
| SS | 4 6 3 3 | 54 | | 8 | | |
| SS | 2 2 3 4 | 100 | PEAT. Grayish brown peat with trace pieces of wood and roots. Moist. No odor. | 10 | | |
| SS | 3 2 2 1 | 58 | Boring terminated at 10 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

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LOG OF: **HS2-B1**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **10.0** | Elev GS: Datum: | Completion Date: | **December 3, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark black topsoil with roots. FOUNDRY SAND FILL. Black, fine, foundry sand fill. Roots and pieces of metal (0.1-2.0 FT BGS), slag, wood, and plastic (2.0-2.4 FT BGS), and yellow and orange sand lenses (from core butts, 2.4-4.0 FT BGS). Moist. No odor. | 2 | | |
| SS | 12<br>7<br>9<br>11 | 50 | | | 0.5 | |
| SS | 8<br>6<br>6<br>6 | 67 | FOUNDRY SAND FILL. Black, fine, foundry sand fill. Trace wood and brown sand lens. Wet. No odor. | 4 | 6.9 | |
| SS | 6<br>9<br>2<br>2 | 67 | FOUNDRY SAND FILL. Black, fine, foundry sand fill, with pieces of white fiberglass, slag, wood, and metal. Yellow sand lens (6-8 FT BGS). Wet. Cutting oil odor. | 6 | 8.4 | |
| SS | 4<br>3<br>3<br>4 | 100 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with yellow and brown lenses (from core butts). Wet. Cutting oil odor. | 8 | 9.0 | |
| SS | 4<br>5<br>4<br>2 | 71 | PEAT. Dark brown peat. Moist. No odor. Boring terminated at 10 ft | 10 | 290 | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

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LOG OF: **HS2-B2**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **8.0** | Elev GS: Datum: | Completion Date: | **December 6, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Brown topsoil. FOUNDRY SAND FILL. Black, fine, foundry sand fill, with yellow sand lenses (from core butts), and trace pieces of metal. Moist. No odor. | 2 | | |
| SS | 2 3 6 4 | 63 | | | 4.1 | |
| SS | 3 3 2 4 | 50 | Chunk of wood, and a piece of metal. Sheen on inside of spoon. | 4 | 7.1 | |
| SS | 2 3 1 3 | 21 | FOUNDRY SILT FILL. Black, silt to fine sand foundry fill, with some wood. Wet. No odor. PEAT. Black peat with roots and some wood. Moist. No odor. | 6 | 5.6 | |
| SS | 4 1 1 2 | 50 | Boring terminated at 8 ft | 8 | 6.0 | |
| | | | | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

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LOG OF: **HS2-B3**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: | **SJB Services** |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: | **Steve Wolkiewicz** |
| Location: **Syracuse, NY** | | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **10.0** Elev GS: | Datum: | Completion Date: | **December 6, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown topsoil. | | | |
| | | | FOUNDRY SAND FILL. Black to brown, fine foundry sand fill with yellow sand lenses (from core butts). Moist. No odor. | | | |
| | | | Brownish black slag. | 2 | | |
| SS | 0<br>4<br>3<br>9 | 100 | FOUNDRY SAND FILL. Black, fine foundry sand fill, with brown and yellow sand lenses (from core butts), few metal shavings and trace wood. Moist. Weak cutting oil odor. Sheen on inside of spoon at 2-4 FT BGS. | | 21.6 | |
| SS | 3<br>3<br>6<br>6 | 50 | NO RECOVERY | 4 | 14.7 | |
| SS | 5<br>4<br>4<br>3 | 0 | FOUNDRY SAND FILL. Black, fine, foundry sand fill, with pices of wood and plastic. Wet. Weak cutting oil odor. Sheen on inside of spoons. | 6 | | |
| SS | 7<br>7<br>4<br>3 | 75 | | 8 | 2.2 | |
| | | | PEAT. Dark brown peat. Moist. No odor. | | | |
| SS | 2<br>1<br>1<br>2 | 46 | Boring terminated at 10 ft | 10 | 2.8 | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07_COOPER C-H LANDFILL.GPJ_LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS2-B4**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: | **SJB Services** |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: | **Steve Wolkiewicz** |
| Location: **Syracuse, NY** | | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **12.0** Elev GS: | Datum: | Completion Date: | **December 6, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown topsoil with roots. FOUNDRY SAND FILL. Black and brown, fine, foundry sand fill. Metal shaving, pieces of metal, red and white fiberglass at bottom. Moist. No odor. | | | |
| SS | 1 4 5 5 | 71 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with pieces of plastic and metal shavings, yellow sand lens (from core butts). Moist. No odor. | 2 | 11.0 | |
| SS | 3 5 6 10 | 50 | WOOD. 6 inch piece of wood in spoon. Sheen on inside of spoon. No odor. | 4 | 24.0 | |
| SS | 7 6 4 3 | 25 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with metal shavings. Wet. No odor. SILT. Black silt. Wet (saturated). No odor. | 6 | 65.6 | |
| SS | 3 2 2 2 | 92 | NO RECOVERY | 8 | 8.2 | |
| SS | 3 1/12 2 | 0 | PEAT. Dark brown peat. Moist. No odor. | 10 | 53.2 | |
| SS | 0/18 2 | 83 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS2-B5**
**(1 of 1)**

Telephone:
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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **8.0** | Elev GS: Datum: | Completion Date: | **December 7, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown silt and sand topsoil. | | | |
| | | | FOUNDRY SAND FILL. Black, fine, foundry sand fill with trace pink fibers, wood, plastic, and yellow and brown lens (from core butts). Moist. No odor. | | | |
| SS | 2<br>2<br>3<br>4 | 58 | FOUNDRY SAND FILL. Black, fine, foundry sand fill, with trace plastic and wood. Wet. No odor. | 2 | 0.5 | |
| SS | 2<br>1<br>1<br>1 | 21 | SILT. Black silt with trace fine sand foundry fill. Trace plastic. Wet. No odor. | 4 | 2.7 | |
| SS | 0/24 | 17 | PEAT. Dark brown peat. Wet. No odor. | 6 | 2.0 | |
| SS | 0/3<br>1 | 50 | Boring terminated at 8 ft | 8 | 1.5 | |
| | | | | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS2-B6**
**(1 of 1)**

Telephone:
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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **8.0** | Elev GS: Datum: | Completion Date: | **December 7, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Brown silty topsoil with roots. | | | |
| | | | FOUNDRY SAND FILL. Black, fine, foundry sand fill with wood and trace pieces of slag. Yellow sand lens (from core butts). Moist. No odor. | 2 | | |
| SS | 2 3 3 4 | 71 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with pieces of plastic, wood, yellow and brown lenses (from core butts), trace styrafoam, and few metal shavings. Wet at ~4 FT BGS.. No odor. | | 3.1 | |
| SS | 3 4 6 9 | 100 | | 4 | 60.7 | |
| SS | 4 4 3 3 | 79 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with piece of plastic, and a grayish brown lens. Sheen on inside of spoon. Wet. No odor. | 6 | 37.3 | |
| | | | PEAT. Blackish brown peat with trace wood. Moist. No odor. | 8 | | |
| SS | 4 1 1 1 | 71 | Boring terminated at 8 ft | | 13.0 | |
| | | | | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS2-B7**
**(1 of 1)**

Telephone:
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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **8.0** | Elev GS: Datum: | Completion Date: | **December 7, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Brown silt with roots and trace gravel. Moist. No odor. | | | |
| SS | 2<br>2<br>2<br>2 | 38 | NO RECOVERY. Brown silt with roots and trace red fiberglass in auger cuttings. Moist. No odor. | 2 | 1.1 | |
| SS | 2<br>2<br>0<br>0 | 0 | PEAT. Black peat with wood. Sheen on tip of spoon. Wet. No odor. | 4 | 1.4 | |
| SS | 1/12<br>1/12 | 46 | PEAT. Dark brown peat with wood. Moist. No odor. | 6 | 1.6 | |
| SS | 0/12<br>1<br>1 | 29 | Boring terminated at 8 ft | 8 | | |
| | | | | 10 | | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

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LOG OF: **HS2-B10**
**(1 of 1)**

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Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **16.0** Elev GS: | Datum: | Completion Date: | **December 8, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | FOUNDRY SAND FILL. Black, fine, foundry sand fill with pieces of slag, and few metal shavings at ~4 FT BGS. Moist. No odor. | 2 | | |
| SS | 3 5 6 8 | 58 | | | 2.4 | |
| SS | 5 6 6 7 | 79 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with trace pieces of metal. Yellow, brown and grayish brown sand lenses (from core butts). Moist. No odor. | 4 | 26.1 | |
| SS | 4 6 7 5 | 100 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with pieces of metal and plastic, trace gravel and slag. Few metal shavings at ~8 FT BGS, and wood at ~8.5 FT BGS. Wet. Sheen on inside of spoon. No odor. | 6 | 142 | |
| SS | 6 6 6 3 | 50 | | 8 | 20.6 | |
| SS | 9 3 4 3 | 25 | | 10 | 63.5 | |
| SS | 4 2 1 1 | 21 | NO RECOVERY. Sheen on inside of spoon. Auger cuttings collected for sample and PID. | 12 | 11.4 | |
| SS | 7 2 1 1 | 0 | SILT. Dark brown silt. Wet. No odor.<br>PEAT. Dark brown peat, with trace wood. Moist. No odor. | 14 | 2.4 | |
| SS | 2 1 1 2 | 46 | Boring terminated at 16 ft | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS2-B11**
(1 of 1)

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: / Datum: | Completion Date: | **December 8, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Very dark brown organic topsoil. FOUNDRY SAND FILL. Black, fine, foundry sand fill with pieces of slag and paint chips. Brown lenses (from core butts). Moist. No odor. | | | |
| SS | 2 2 4 8 | 79 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with metal shavings, paint chips, and slag. Wood at bottom of spoon. Moist. Weak odor. | 2 | 65.3 | |
| SS | 4 4 2 3 | 46 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with pieces of wood, plastic, slag, and trace metal shavings. Wet. No odor. | 4 | 36.6 | |
| SS | 9 10 13 11 | 17 | | 6 | 9.4 | |
| SS | 7 6 4 2 | 54 | NO RECOVERY. Sheen on spoon. Used auger cuttings for sample and PID. | 8 | 7.4 | |
| SS | 0/18 3 | 0 | FOUNDRY SAND FILL. Black, fine, foundry sand fill. Wet. Heavy sheen on outside of spoon. No odor. SILT. Dark brown silt. Wet. Heavy sheen on outside of spoon. No odor. | 10 | 27.3 | |
| SS | 3 3 3 3 | 83 | PEAT. Dark brown peat. Moist. Heavy sheen on outside of spoon. No odor. Wood. Heavy sheen on outside of spoon. Boring terminated at 12 ft | 12 | 4.4 | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS2-B18**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **10.0** | Elev GS: Datum: | Completion Date: | **December 8, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown topsoil with roots. FOUNDRY SAND FILL. Black, fine, foundry sand fill with pieces of plastic, metal shavings, pieces of core butts and yellow and brown lenses (from core butts). Moist. No odor. | 2 | | |
| SS | 4 4 4 4 | 58 | | | 19.3 | |
| SS | 5 7 6 9 | 46 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with trace paint chips and trace pieces of plastic. Moist to wet. No odor. | 4 | 10.4 | |
| SS | 5 5 6 6 | 67 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with slag, pieces of plastic, and yellow and neon green sand lenses. Wet. No odor. | 6 | 23.7 | |
| SS | 4 6 5 6 | 67 | Wood. Sheen on inside of spoon. FOUNDRY SAND FILL. Black, fine, foundry sand fill. Wet. Sheen on sand sample. No odor. PEAT. Black peat with some wood. Moist. No odor. | 8 | 5.9 | |
| SS | 5 4 2 2 | 88 | Boring terminated at 10 ft | 10 | 8.6 | |
| | | | | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

Telephone:
Fax:

LOG OF: **HS3-B1**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: | **SJB Services** |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: | **Steve Wolkiewicz** |
| Location: **Syracuse, NY** | | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **12.0** Elev GS: | Datum: | Completion Date: | **December 8, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown organic topsoil. FOUNDRY SAND FILL. Dark black with brown, fine, foundry sand fill. Trace wood, metal and roots. Moist. No odor. | | | |
| SS | 4 4 4 4 | 75 | FOUNDRY SAND FILL. Black, fine, foundry sand fill. Wet. Weak odor. 4" of wood and fiberglass caught in bottom of spoon (had very little recovery). Used auger cuttings for description, sample and PID. | 2 | 3.9 | |
| SS | 1 2 2 2 | 21 | FOUNDRY SAND FILL. Black, fine, foundry sand fill. Wet. No odor. 2" of wood at bottom of spoon. | 4 | 3.5 | |
| SS | 2 2 2 10 | 25 | FOUNDRY SAND FILL. Black, fine, foundry sand fill. Wet. No odor. Had little recovery due to plastic sheeting caught on the outside-bottom of spoon. | 6 | 5.0 | |
| SS | 3 2 1 2 | 13 | | 8 | 4.0 | |
| SS | 0/24 | 17 | PEAT. Dark brown peat. Moist. No odor. | 10 | 160 | |
| SS | 1 1 1 2 | 42 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS3-B2**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: / Datum: | Completion Date: | **December 9, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown organic topsoil. FOUNDRY SAND FILL. Black, fine, foundry sand fill, with trace slag, yellow sand lenses, a piece of rubber, a piece of reddish-pink fiberglass. Moist. No odor. | | | |
| SS | 3 7 4 4 | 67 | FOUNDRY SAND FILL. Black, fine, foundry sand fill. Wet. No odor. Had very little recovery, used auger cuttings for description, sample and PID. | 2 | 1.9 | |
| SS | 8 2 1 1 | 8 | | 4 | 1.9 | |
| SS | 1/12 1/12 | 4 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with trace plastic, wood and pink fiberglass. Wet. No odor. Plastic bags or plastic sheeting wrapped around bottom of the augers. | 6 | 4.0 | |
| SS | 1 1 2 2 | 25 | PEAT. Dark brown peat. Moist. No odor. Large foam sponge at bottom of spoon and in auger cuttings. | 8 | | |
| SS | 0/24 | 13 | | 10 | | |
| SS | 2 2 2 2 | 46 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

Telephone:
Fax:

LOG OF: **HS3-B3**
**(1 of 1)**

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: / Datum: | Completion Date: | **December 9, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown organic topsoil. FOUNDRY SAND FILL. Black, fine, foundry sand fill with roots. Moist. No odor. | | | |
| SS | 1 3 5 4 | 50 | NO RECOVERY- large piece of gravel stuck in tip of spoon. Sample and PID from auger cuttings. | 2 | 1.4 | |
| SS | 4 4 4 4 | 0 | FOUNDRY SAND WITH SILT FILL. Black, fine to medium grained, foundry sand with silt fill with roots and few coarse grained sand. Moist to wet, wet at ~6 FT BGS. No odor. PID from auger cuttings. | 4 | 3.4 | |
| SS | 4 2 1 1 | 21 | | 6 | 8.5 | |
| SS | 4 2 1 1 | 21 | CLAY. Pinkish clay fill with few coarse grained sand. Moist. NO odor. FILL. Plastic, paper, metal and glass fill (municipal waste/refuse). Moist-wet. Garbage odor. | 8 | 6.3 | |
| SS | 1 2 2 1 | 21 | PEAT. Blackish gray peat with wood. Moist. No odor. | 10 | 2.7 | |
| SS | 2 2 2 2 | 71 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS3-B4**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: | **Cooper** | Drilling Company: | **SJB Services** |
| Project: | **Cooper Crouse-Hinds Landfill** | Driller: | **Steve Wolkiewicz** |
| Location: | **Syracuse, NY** | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth: **12.0** | Elev GS: / Datum: | Completion Date: | **December 9, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Black, organic topsoil. | | | |
| | | | FOUNDRY SAND FILL. Black to brown, fine foundry sand fill, with trace fine gravel, wood at bootom of spoon. Moist. No odor. | 2 | | |
| SS | 3<br>4<br>6<br>7 | 71 | FOUNDRY SAND FILL. Dark gray, fine foundry sand fill, with some slag and trace metal and wood. Moist to wet. No odor. | | 1.9 | |
| SS | 7<br>7<br>7<br>5 | 29 | FOUNDRY SAND FILL. Dark gray, mixture of fine foundry sand and peat-like material, with trace wood, plastic, and metal. Wet. Weak odor. Sheen on inside of spoon. | 4 | 5.6 | |
| SS | 3<br>1<br>5<br>2 | 42 | FOUNDRY SAND FILL. Black, fine to medium grained foundry sand fill with trace wood. Wet. No odor. Sheen on inside of spoon. | 6 | 2.3 | |
| SS | 1<br>1<br>1<br>1 | 33 | PEAT. Black peat. Moist. No odor. | 8 | 3.2 | |
| SS | 1<br>1<br>2<br>2 | 33 | SILT. Light brownish yellow silt with some shells. Wet. No odor. | 10 | | |
| SS | 2<br>2<br>2<br>2 | 100 | Boring terminated at 12 ft | 12 | | |
| | | | | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS3-B5**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: **SJB Services** | |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: **Steve Wolkiewicz** | |
| Location: **Syracuse, NY** | | Boring Method: **hollow stem auger** | |
| North: | East: | Logged By: **Ashley A. Weimer** | |
| Total Depth **14.0** Elev GS: | Datum: | Completion Date: **December 9, 2010** | |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Wood.<br>FOUNDRY SILT AND SAND FILL. Black, silt and fine sand foundry fill with trace wood. Moist. No odor. | 2 | | |
| SS | 1<br>1<br>1<br>1 | 50 | FOUNDRY SAND FILL. Black, fine, foundry sand fill with few slag pieces. Moist. No odor.<br>FOUNDRY SILT AND SAND FILL. Brown, silt and sand foundry fill with plastic. Moist. No odor. Little recovery because wood was stuck in the bottom inch of the spoon. | 4 | 0.9 | |
| SS | 5<br>3<br>1<br>1 | 67 | FOUNDRY SILT AND SAND FILL. Black, silt and fine sand foundry fill. Trace glass, pieces of plastic, and fine gravel (4-6 FT BGS), and trace glass, plastic sheeting, and pieces of clothing (6-8 FT BGS). Wet. No odor. | 6 | 1.1 | |
| SS | 1<br>1<br>1<br>1 | 25 | | 8 | 0.9 | |
| SS | 2<br>2<br>2<br>2 | 8 | NO RECOVERY. Municipal waste/refuse coming up with augers (Genesee Beer can, shoes, plastic bags/sheeting) No actual soil coming up with augers. No odor. | 10 | 0.7 | |
| SS | 0/18<br>1 | 0 | PEAT. Black to dark brownish black peat. Pieces of wood (10-12 FT BGS). Moist. No odor. | 12 | | |
| SS | 0/24 | 25 | | 14 | | |
| SS | 0/24 | 38 | Boring terminated at 14 ft | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS3-B6**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: | **SJB Services** |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: | **Steve Wolkiewicz** |
| Location: **Syracuse, NY** | | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **12.0** Elev GS: | Datum: | Completion Date: | **December 10, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Dark brown, organic topsoil, with few fine gravel and few fine sand with roots. | | | |
| | | | FOUNDRY SILT AND SAND FILL. Black, silt and sand foundry fill, with trace coarse gravel and slag. Moist. No odor. | 2 | | |
| SS | 3<br>3<br>2<br>2 | 50 | NO RECOVERY. Used auger cuttings for sample and PID. Glass and fabric caught on augers. | | 2.2 | |
| SS | 2<br>2<br>2<br>2 | 0 | FOUNDRY SILT AND SAND FILL. Black, silt and sand foundry fill, with glass, fine gravel. Moist. No odor. | 4 | 0.6 | |
| SS | 5<br>3<br>2<br>2 | 17 | FILL. Municipal waste/refuse (legible writing on news paper). Wet. No odor. No cuttings available for sample or PID. Very little recovery. | 6 | 1.4 | |
| SS | 2<br>1<br>1<br>1 | 8 | SILT WITH SHELLS. Yellow silt with trace fine sand, and few shells. Wet. No odor. | 8 | | |
| SS | 1/24 | 25 | | 10 | | |
| | | | SILT WITH SHELLS. Brownish gray silt with trace fine sand, and little shells. Wet. No odor. | 12 | | |
| SS | 0/18<br>1 | 100 | CLAYEY SILT. Brown clayey silt. Little to no plasticity. Wet. No odor. | | | |
| | | | Boring terminated at 12 ft | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

GeoTrans, Inc

LOG OF: **HS3-B7**
**(1 of 1)**

Telephone:
Fax:

Project Number:

| | | | |
|---|---|---|---|
| Client: **Cooper** | | Drilling Company: | **SJB Services** |
| Project: **Cooper Crouse-Hinds Landfill** | | Driller: | **Steve Wolkiewicz** |
| Location: **Syracuse, NY** | | Boring Method: | **hollow stem auger** |
| North: | East: | Logged By: | **Ashley A. Weimer** |
| Total Depth **14.0** Elev GS: | Datum: | Completion Date: | **December 10, 2010** |

| Sample Type/No. | Blow Counts | Rec (%) | SOIL DESCRIPTION | Depth (feet) | PID (ppm) | REMARKS |
|---|---|---|---|---|---|---|
| | | | Brown, silty clay with trace wood and fine gravel. Moist. No odor. | | | |
| SS | 1 3 3 3 | 33 | NO RECOVERY. Rags, plastic, and wire wrapped around augers. Cuttings from auger for sample and PID. | 2 | 1.9 | |
| SS | 1 1 1 1 | 0 | CLAY FILL. Brown clay fill with trace fine gravel and plastic. Wet. No odor. Very little recovery. | 4 | 0.5 | |
| SS | 1 1 1 1 | 8 | Glass and plastic bags/sheeting. No cuttings available for further description. NO RECOVERY, no cuttings for description, sample or PID. | 6 | | |
| SS | 1 1 1 1 | 13 | | 8 | 1.7 | |
| SS | 1 1 1 1 | 0 | PEAT. Dark brown peat. Wet. No odor. SILT WITH SHELLS. Brownish yellow silt with trace shells. Wet. No odor. | 10 | | |
| SS | 0 0 0 0 | 33 | SILTY CLAY. Brown silty clay, with trace coarse sand. Wet. No odor. | 12 | | |
| SS | 0 1 2 2 | 50 | Boring terminated at 14 ft | 14 | | |
| | | | | 16 | | |
| | | | | 18 | | |
| | | | | 20 | | |

LOG A EWNN07 COOPER C-H LANDFILL.GPJ LOG A EWNN07.GDT 2/7/11

ATTACHMENT B

LABORATORY REPORTS

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

December 22, 2010

Mr. Nelson Olavarria
Cooper Industries
600 Travis Street
Suite 5600
Houston, TX 77002

RE: Project: Cooper C-H Landfill
Pace Project No.: 3038365

Dear Mr. Olavarria:
Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Timothy Reed

timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Mr. Michael Noel, Geotrans, Inc.

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

# CERTIFICATIONS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Pennsylvania Certification IDs**
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## SAMPLE ANALYTE COUNT

Project: Cooper C-H Landfill
Pace Project No.: 3038365

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **3038365001** | **HS2-B1 8-10'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038365002** | **HS2-B3 0-2'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038365003** | **HS2-B4 2-4'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038365004** | **HS2-B2 2-4'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038365005** | **HS2-B5 2-4'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038365006** | **HS2-B7 4-6'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038365007** | **HS2-B6 2-4'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B1 8-10'** **Lab ID: 3038365001** Collected: 12/03/10 14:45 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **70.0** | ug/kg | 8.7 | 1 | | 12/09/10 16:58 | 67-64-1 | |
| Benzene | **13.5** | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-27-4 | |
| Bromoform | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 74-83-9 | |
| TOTAL BTEX | **522000** | ug/kg | 135000 | 5000 | | 12/14/10 13:38 | | |
| 2-Butanone (MEK) | ND | ug/kg | 8.7 | 1 | | 12/09/10 16:58 | 78-93-3 | |
| Carbon disulfide | **5.8** | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-00-3 | |
| Chloroform | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 8.7 | 1 | | 12/09/10 16:58 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 10061-02-6 | |
| Ethylbenzene | **521000** | ug/kg | 22500 | 5000 | | 12/14/10 13:38 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 8.7 | 1 | | 12/09/10 16:58 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | **12.1** | ug/kg | 8.7 | 1 | | 12/09/10 16:58 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 1634-04-4 | |
| Styrene | **11.4** | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 127-18-4 | |
| Toluene | **261** | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 75-01-4 | |
| Xylene (Total) | **14.3** | ug/kg | 13.1 | 1 | | 12/09/10 16:58 | 1330-20-7 | |
| m&p-Xylene | **10.6** | ug/kg | 8.7 | 1 | | 12/09/10 16:58 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 4.4 | 1 | | 12/09/10 16:58 | 95-47-6 | |
| Toluene-d8 (S) | 100 | % | 70-130 | 1 | | 12/09/10 16:58 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 106 | % | 70-130 | 1 | | 12/09/10 16:58 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 119 | % | 70-130 | 1 | | 12/09/10 16:58 | 17060-07-0 | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B1 8-10'** **Lab ID: 3038365001** Collected: 12/03/10 14:45 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **14.9** | % | 0.10 | 1 | | 12/09/10 11:53 | | |

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(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B3 0-2'** **Lab ID: 3038365002** Collected: 12/06/10 13:30 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | ND | ug/kg | 450 | 50 | | 12/10/10 16:40 | 67-64-1 | |
| Benzene | **303** | ug/kg | 225 | 50 | | 12/10/10 16:40 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-27-4 | |
| Bromoform | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 74-83-9 | |
| TOTAL BTEX | **6610** | ug/kg | 1350 | 50 | | 12/10/10 16:40 | | |
| 2-Butanone (MEK) | ND | ug/kg | 450 | 50 | | 12/10/10 16:40 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-00-3 | |
| Chloroform | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 450 | 50 | | 12/10/10 16:40 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 10061-02-6 | |
| Ethylbenzene | **4000** | ug/kg | 225 | 50 | | 12/10/10 16:40 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 450 | 50 | | 12/10/10 16:40 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 450 | 50 | | 12/10/10 16:40 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 1634-04-4 | |
| Styrene | **726** | ug/kg | 225 | 50 | | 12/10/10 16:40 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 127-18-4 | |
| Toluene | **1060** | ug/kg | 225 | 50 | | 12/10/10 16:40 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 225 | 50 | | 12/10/10 16:40 | 75-01-4 | |
| Xylene (Total) | **1230** | ug/kg | 675 | 50 | | 12/10/10 16:40 | 1330-20-7 | |
| m&p-Xylene | **943** | ug/kg | 450 | 50 | | 12/10/10 16:40 | 179601-23-1 | |
| o-Xylene | **292** | ug/kg | 225 | 50 | | 12/10/10 16:40 | 95-47-6 | |
| Toluene-d8 (S) | 101 | % | 70-130 | 50 | | 12/10/10 16:40 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 70-130 | 50 | | 12/10/10 16:40 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 70-130 | 50 | | 12/10/10 16:40 | 17060-07-0 | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B3 0-2'** **Lab ID: 3038365002** Collected: 12/06/10 13:30 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **14.7** | % | 0.10 | 1 | | 12/09/10 11:54 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B4 2-4'** **Lab ID: 3038365003** Collected: 12/06/10 15:15 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | ND | ug/kg | 450 | 50 | | 12/10/10 17:01 | 67-64-1 | |
| Benzene | **376** | ug/kg | 225 | 50 | | 12/10/10 17:01 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-27-4 | |
| Bromoform | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 74-83-9 | |
| TOTAL BTEX | **9090** | ug/kg | 1350 | 50 | | 12/10/10 17:01 | | |
| 2-Butanone (MEK) | ND | ug/kg | 450 | 50 | | 12/10/10 17:01 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-00-3 | |
| Chloroform | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 450 | 50 | | 12/10/10 17:01 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 10061-02-6 | |
| Ethylbenzene | **4780** | ug/kg | 225 | 50 | | 12/10/10 17:01 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 450 | 50 | | 12/10/10 17:01 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | **688** | ug/kg | 450 | 50 | | 12/10/10 17:01 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 1634-04-4 | |
| Styrene | **269** | ug/kg | 225 | 50 | | 12/10/10 17:01 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 127-18-4 | |
| Toluene | **883** | ug/kg | 225 | 50 | | 12/10/10 17:01 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 225 | 50 | | 12/10/10 17:01 | 75-01-4 | |
| Xylene (Total) | **3050** | ug/kg | 676 | 50 | | 12/10/10 17:01 | 1330-20-7 | |
| m&p-Xylene | **2130** | ug/kg | 450 | 50 | | 12/10/10 17:01 | 179601-23-1 | |
| o-Xylene | **926** | ug/kg | 225 | 50 | | 12/10/10 17:01 | 95-47-6 | |
| Toluene-d8 (S) | 99 | % | 70-130 | 50 | | 12/10/10 17:01 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 70-130 | 50 | | 12/10/10 17:01 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 89 | % | 70-130 | 50 | | 12/10/10 17:01 | 17060-07-0 | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B4 2-4'** **Lab ID: 3038365003** Collected: 12/06/10 15:15 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **17.8** | % | 0.10 | 1 | | 12/09/10 11:54 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B2 2-4'** **Lab ID: 3038365004** Collected: 12/06/10 16:25 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | ND | ug/kg | 332 | 50 | | 12/10/10 17:22 | 67-64-1 | |
| Benzene | **278** | ug/kg | 166 | 50 | | 12/10/10 17:22 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-27-4 | |
| Bromoform | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 74-83-9 | |
| TOTAL BTEX | **5560** | ug/kg | 996 | 50 | | 12/10/10 17:22 | | |
| 2-Butanone (MEK) | ND | ug/kg | 332 | 50 | | 12/10/10 17:22 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-00-3 | |
| Chloroform | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 332 | 50 | | 12/10/10 17:22 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 10061-02-6 | |
| Ethylbenzene | **2800** | ug/kg | 166 | 50 | | 12/10/10 17:22 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 332 | 50 | | 12/10/10 17:22 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 332 | 50 | | 12/10/10 17:22 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 1634-04-4 | |
| Styrene | **331** | ug/kg | 166 | 50 | | 12/10/10 17:22 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 127-18-4 | |
| Toluene | **994** | ug/kg | 166 | 50 | | 12/10/10 17:22 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 166 | 50 | | 12/10/10 17:22 | 75-01-4 | |
| Xylene (Total) | **1490** | ug/kg | 498 | 50 | | 12/10/10 17:22 | 1330-20-7 | |
| m&p-Xylene | **1200** | ug/kg | 332 | 50 | | 12/10/10 17:22 | 179601-23-1 | |
| o-Xylene | **294** | ug/kg | 166 | 50 | | 12/10/10 17:22 | 95-47-6 | |
| Toluene-d8 (S) | 101 | % | 70-130 | 50 | | 12/10/10 17:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 70-130 | 50 | | 12/10/10 17:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 95 | % | 70-130 | 50 | | 12/10/10 17:22 | 17060-07-0 | |

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B2 2-4'** **Lab ID: 3038365004** Collected: 12/06/10 16:25 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **17.4** | % | 0.10 | 1 | | 12/09/10 11:55 | | |

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## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B5 2-4'** **Lab ID: 3038365005** Collected: 12/07/10 09:05 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | ND | ug/kg | 592 | 50 | | 12/10/10 17:44 | 67-64-1 | |
| Benzene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-27-4 | |
| Bromoform | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 1780 | 50 | | 12/10/10 17:44 | | |
| 2-Butanone (MEK) | ND | ug/kg | 592 | 50 | | 12/10/10 17:44 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-00-3 | |
| Chloroform | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 592 | 50 | | 12/10/10 17:44 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 10061-02-6 | |
| Ethylbenzene | **600** | ug/kg | 296 | 50 | | 12/10/10 17:44 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 592 | 50 | | 12/10/10 17:44 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 592 | 50 | | 12/10/10 17:44 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 1634-04-4 | |
| Styrene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 127-18-4 | |
| Toluene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 889 | 50 | | 12/10/10 17:44 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 592 | 50 | | 12/10/10 17:44 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 296 | 50 | | 12/10/10 17:44 | 95-47-6 | |
| Toluene-d8 (S) | 98 | % | 70-130 | 50 | | 12/10/10 17:44 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 70-130 | 50 | | 12/10/10 17:44 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 91 | % | 70-130 | 50 | | 12/10/10 17:44 | 17060-07-0 | |

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## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B5 2-4'** **Lab ID: 3038365005** Collected: 12/07/10 09:05 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **24.6** | % | 0.10 | 1 | | 12/09/10 11:56 | | |

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## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B7 4-6'** **Lab ID: 3038365006** Collected: 12/07/10 10:25 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **462** | ug/kg | 29.6 | 1 | | 12/10/10 15:57 | 67-64-1 | |
| Benzene | **15.7** | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-27-4 | |
| Bromoform | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 88.9 | 1 | | 12/10/10 15:57 | | |
| 2-Butanone (MEK) | **74.3** | ug/kg | 29.6 | 1 | | 12/10/10 15:57 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-00-3 | |
| Chloroform | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 29.6 | 1 | | 12/10/10 15:57 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 10061-02-6 | |
| Ethylbenzene | **20.6** | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 100-41-4 | IS |
| 2-Hexanone | ND | ug/kg | 29.6 | 1 | | 12/10/10 15:57 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 29.6 | 1 | | 12/10/10 15:57 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 1634-04-4 | |
| Styrene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 127-18-4 | |
| Toluene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 44.4 | 1 | | 12/10/10 15:57 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 29.6 | 1 | | 12/10/10 15:57 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 14.8 | 1 | | 12/10/10 15:57 | 95-47-6 | |
| Toluene-d8 (S) | 123 | % | 70-130 | 1 | | 12/10/10 15:57 | 2037-26-5 | IS |
| 4-Bromofluorobenzene (S) | 130 | % | 70-130 | 1 | | 12/10/10 15:57 | 460-00-4 | IS |
| 1,2-Dichloroethane-d4 (S) | 118 | % | 70-130 | 1 | | 12/10/10 15:57 | 17060-07-0 | |

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## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B7 4-6'** **Lab ID: 3038365006** Collected: 12/07/10 10:25 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **61.7** | % | 0.10 | 1 | | 12/09/10 11:57 | | |

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## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B6 2-4'** **Lab ID: 3038365007** Collected: 12/07/10 10:55 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | ND | ug/kg | 494 | 50 | | 12/10/10 18:05 | 67-64-1 | |
| Benzene | **279** | ug/kg | 247 | 50 | | 12/10/10 18:05 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-27-4 | |
| Bromoform | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 74-83-9 | |
| TOTAL BTEX | **142000** | ug/kg | 14800 | 500 | | 12/14/10 14:00 | | |
| 2-Butanone (MEK) | ND | ug/kg | 494 | 50 | | 12/10/10 18:05 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-00-3 | |
| Chloroform | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 494 | 50 | | 12/10/10 18:05 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 10061-02-6 | |
| Ethylbenzene | **131000** | ug/kg | 2470 | 500 | | 12/14/10 14:00 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 494 | 50 | | 12/10/10 18:05 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 494 | 50 | | 12/10/10 18:05 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 1634-04-4 | |
| Styrene | **1440** | ug/kg | 247 | 50 | | 12/10/10 18:05 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 127-18-4 | |
| Toluene | **7620** | ug/kg | 247 | 50 | | 12/10/10 18:05 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 247 | 50 | | 12/10/10 18:05 | 75-01-4 | |
| Xylene (Total) | **2880** | ug/kg | 741 | 50 | | 12/10/10 18:05 | 1330-20-7 | |
| m&p-Xylene | **2110** | ug/kg | 494 | 50 | | 12/10/10 18:05 | 179601-23-1 | |
| o-Xylene | **766** | ug/kg | 247 | 50 | | 12/10/10 18:05 | 95-47-6 | |
| Toluene-d8 (S) | 99 | % | 70-130 | 50 | | 12/10/10 18:05 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 70-130 | 50 | | 12/10/10 18:05 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 88 | % | 70-130 | 50 | | 12/10/10 18:05 | 17060-07-0 | |

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## ANALYTICAL RESULTS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

**Sample: HS2-B6 2-4'** **Lab ID: 3038365007** Collected: 12/07/10 10:55 Received: 12/08/10 10:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **18.9** | % | 0.10 | 1 | | 12/09/10 11:58 | | |

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## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

QC Batch: MSV/7967 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035 Low
Associated Lab Samples: 3038365001

METHOD BLANK: 246659 Matrix: Solid
Associated Lab Samples: 3038365001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,1,2-Trichloroethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,1-Dichloroethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,2-Dichlorobenzene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,2-Dichloroethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,2-Dichloropropane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,3-Dichlorobenzene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,4-Dichlorobenzene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 2-Butanone (MEK) | ug/kg | ND | 10.0 | 12/09/10 12:13 | |
| 2-Hexanone | ug/kg | ND | 10.0 | 12/09/10 12:13 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND | 10.0 | 12/09/10 12:13 | |
| Acetone | ug/kg | ND | 10.0 | 12/09/10 12:13 | |
| Benzene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Bromodichloromethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Bromoform | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Bromomethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Carbon disulfide | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Carbon tetrachloride | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Chlorobenzene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Chloroethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Chloroform | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Chloromethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| cis-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| cis-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Dibromochloromethane | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Ethylbenzene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| m&p-Xylene | ug/kg | ND | 10.0 | 12/09/10 12:13 | |
| Methyl-tert-butyl ether | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Methylene Chloride | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| o-Xylene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Styrene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Tetrachloroethene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Toluene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| trans-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| trans-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Trichloroethene | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| Vinyl chloride | ug/kg | ND | 5.0 | 12/09/10 12:13 | |
| 1,2-Dichloroethane-d4 (S) | % | 96 | 70-130 | 12/09/10 12:13 | |
| 4-Bromofluorobenzene (S) | % | 96 | 70-130 | 12/09/10 12:13 | |
| Toluene-d8 (S) | % | 97 | 70-130 | 12/09/10 12:13 | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

LABORATORY CONTROL SAMPLE: 246660

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 20 | 16.4 | 82 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 20 | 18.1 | 90 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 20 | 18.3 | 91 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 20 | 16.2 | 81 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 20 | 16.6 | 83 | 70-130 | |
| 1,2-Dichloropropane | ug/kg | 20 | 16.4 | 82 | 70-130 | |
| 1,3-Dichlorobenzene | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 20 | 18.2 | 91 | 70-130 | |
| 2-Butanone (MEK) | ug/kg | 20 | 18.1 | 91 | 70-130 | |
| 2-Hexanone | ug/kg | 20 | 19.3 | 96 | 70-130 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | 20 | 18.7 | 94 | 70-130 | |
| Acetone | ug/kg | 20 | 21.0 | 105 | 70-130 | |
| Benzene | ug/kg | 20 | 16.3 | 82 | 70-130 | |
| Bromodichloromethane | ug/kg | 20 | 14.5 | 72 | 70-130 | |
| Bromoform | ug/kg | 20 | 14.9 | 75 | 70-130 | |
| Bromomethane | ug/kg | 20 | 24.5 | 123 | 70-130 | |
| Carbon disulfide | ug/kg | 20 | 19.0 | 95 | 70-130 | |
| Carbon tetrachloride | ug/kg | 20 | 14.4 | 72 | 70-130 | |
| Chlorobenzene | ug/kg | 20 | 17.5 | 88 | 70-130 | |
| Chloroethane | ug/kg | 20 | 19.6 | 98 | 70-130 | |
| Chloroform | ug/kg | 20 | 16.3 | 81 | 70-130 | |
| Chloromethane | ug/kg | 20 | 20.9 | 105 | 70-130 | |
| cis-1,2-Dichloroethene | ug/kg | 20 | 16.1 | 80 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 20 | 16.9 | 84 | 70-130 | |
| Dibromochloromethane | ug/kg | 20 | 14.8 | 74 | 70-130 | |
| Ethylbenzene | ug/kg | 20 | 17.4 | 87 | 70-130 | |
| m&p-Xylene | ug/kg | 40 | 36.7 | 92 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 20 | 21.6 | 108 | 70-130 | |
| Methylene Chloride | ug/kg | 20 | 15.1 | 76 | 70-130 | |
| o-Xylene | ug/kg | 20 | 18.1 | 91 | 70-130 | |
| Styrene | ug/kg | 20 | 16.9 | 85 | 70-130 | |
| Tetrachloroethene | ug/kg | 20 | 17.3 | 87 | 70-130 | |
| Toluene | ug/kg | 20 | 17.0 | 85 | 70-130 | |
| trans-1,2-Dichloroethene | ug/kg | 20 | 15.6 | 78 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 20 | 15.7 | 78 | 70-130 | |
| Trichloroethene | ug/kg | 20 | 16.6 | 83 | 70-130 | |
| Vinyl chloride | ug/kg | 20 | 21.0 | 105 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 96 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 70-130 | |
| Toluene-d8 (S) | % | | | 99 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 246663 246664

| Parameter | Units | 3038216001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | ND | 13.2 | 17.8 | 11.2 | 15.6 | 85 | 88 | 70-130 | 33 | R1 |

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Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 246663 246664

| Parameter | Units | 3038216001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | ug/kg | ND | 13.2 | 17.8 | 10.4 | 15.0 | 79 | 85 | 70-130 | 36 | R1 |
| 1,1,2-Trichloroethane | ug/kg | ND | 13.2 | 17.8 | 10.8 | 15.7 | 82 | 89 | 70-130 | 37 | R1 |
| 1,1-Dichloroethane | ug/kg | ND | 13.2 | 17.8 | 11.0 | 14.9 | 84 | 84 | 70-130 | 30 | |
| 1,2-Dichlorobenzene | ug/kg | ND | 13.2 | 17.8 | 11.0 | 16.0 | 84 | 90 | 70-130 | 36 | R1 |
| 1,2-Dichloroethane | ug/kg | ND | 13.2 | 17.8 | 10.8 | 15.0 | 82 | 85 | 70-130 | 33 | R1 |
| 1,2-Dichloropropane | ug/kg | ND | 13.2 | 17.8 | 10.4 | 14.8 | 79 | 84 | 70-130 | 35 | R1 |
| 1,3-Dichlorobenzene | ug/kg | ND | 13.2 | 17.8 | 11.4 | 16.4 | 87 | 92 | 70-130 | 35 | R1 |
| 1,4-Dichlorobenzene | ug/kg | ND | 13.2 | 17.8 | 11.6 | 16.1 | 88 | 91 | 70-130 | 33 | R1 |
| 2-Butanone (MEK) | ug/kg | ND | 13.2 | 17.8 | 11.2 | 16.4 | 85 | 92 | 70-130 | 37 | R1 |
| 2-Hexanone | ug/kg | ND | 13.2 | 17.8 | 11.3 | 16.4 | 86 | 93 | 70-130 | 37 | R1 |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND | 13.2 | 17.8 | 10.4 | 14.9 | 79 | 84 | 70-130 | 35 | R1 |
| Acetone | ug/kg | 24.8 | 13.2 | 17.8 | 21.8 | 24.3 | -23 | -3 | 70-130 | 11 | M0,R1 |
| Benzene | ug/kg | ND | 13.2 | 17.8 | 10.8 | 15.2 | 82 | 86 | 70-130 | 34 | R1 |
| Bromodichloromethane | ug/kg | ND | 13.2 | 17.8 | 8.9 | 12.8 | 68 | 73 | 70-130 | 36 | M0,R1 |
| Bromoform | ug/kg | ND | 13.2 | 17.8 | 8.3 | 12.1 | 63 | 68 | 70-130 | 37 | M0,R1 |
| Bromomethane | ug/kg | ND | 13.2 | 17.8 | 15.3 | 21.7 | 116 | 122 | 70-130 | 35 | R1 |
| Carbon disulfide | ug/kg | ND | 13.2 | 17.8 | 14.1 | 19.2 | 107 | 109 | 70-130 | 31 | R1 |
| Carbon tetrachloride | ug/kg | ND | 13.2 | 17.8 | 9.3 | 13.0 | 70 | 73 | 70-130 | 33 | R1 |
| Chlorobenzene | ug/kg | ND | 13.2 | 17.8 | 11.3 | 16.0 | 86 | 90 | 70-130 | 34 | R1 |
| Chloroethane | ug/kg | ND | 13.2 | 17.8 | 14.5 | 19.2 | 110 | 109 | 70-130 | 28 | |
| Chloroform | ug/kg | ND | 13.2 | 17.8 | 10.9 | 15.1 | 82 | 85 | 70-130 | 33 | R1 |
| Chloromethane | ug/kg | ND | 13.2 | 17.8 | 14.0 | 18.7 | 106 | 106 | 70-130 | 29 | |
| cis-1,2-Dichloroethene | ug/kg | ND | 13.2 | 17.8 | 11.0 | 15.0 | 84 | 85 | 70-130 | 30 | |
| cis-1,3-Dichloropropene | ug/kg | ND | 13.2 | 17.8 | 10.5 | 14.8 | 80 | 84 | 70-130 | 34 | R1 |
| Dibromochloromethane | ug/kg | ND | 13.2 | 17.8 | 8.5 | 12.6 | 64 | 71 | 70-130 | 40 | M0,R1 |
| Ethylbenzene | ug/kg | ND | 13.2 | 17.8 | 11.4 | 16.3 | 87 | 92 | 70-130 | 35 | R1 |
| m&p-Xylene | ug/kg | ND | 26.3 | 35.4 | 23.7 | 33.4 | 90 | 94 | 70-130 | 34 | R1 |
| Methyl-tert-butyl ether | ug/kg | ND | 13.2 | 17.8 | 13.2 | 19.1 | 100 | 108 | 70-130 | 37 | R1 |
| Methylene Chloride | ug/kg | ND | 13.2 | 17.8 | 10.5 | 14.4 | 80 | 81 | 70-130 | 31 | R1 |
| o-Xylene | ug/kg | ND | 13.2 | 17.8 | 11.6 | 16.6 | 88 | 94 | 70-130 | 35 | R1 |
| Styrene | ug/kg | ND | 13.2 | 17.8 | 10.7 | 15.2 | 81 | 86 | 70-130 | 35 | R1 |
| Tetrachloroethene | ug/kg | ND | 13.2 | 17.8 | 11.4 | 15.9 | 86 | 90 | 70-130 | 34 | R1 |
| Toluene | ug/kg | ND | 13.2 | 17.8 | 11.0 | 15.4 | 84 | 87 | 70-130 | 33 | R1 |
| trans-1,2-Dichloroethene | ug/kg | ND | 13.2 | 17.8 | 10.5 | 14.5 | 80 | 82 | 70-130 | 32 | R1 |
| trans-1,3-Dichloropropene | ug/kg | ND | 13.2 | 17.8 | 9.5 | 13.8 | 73 | 78 | 70-130 | 36 | R1 |
| Trichloroethene | ug/kg | ND | 13.2 | 17.8 | 11.7 | 15.6 | 89 | 88 | 70-130 | 28 | |
| Vinyl chloride | ug/kg | ND | 13.2 | 17.8 | 14.2 | 19.3 | 108 | 109 | 70-130 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 96 | 95 | 70-130 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 100 | 99 | 70-130 | | |
| Toluene-d8 (S) | % | | | | | | 99 | 99 | 70-130 | | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 247221 247222

| Parameter | Units | 3038088004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | ND | 18.1 | 19.9 | 15.1 | 15.4 | 84 | 78 | 70-130 | 2 | |

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Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 247221 247222

| Parameter | Units | 3038088004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | ug/kg | ND | 18.1 | 19.9 | 15.6 | 15.4 | 86 | 78 | 70-130 | 1 | |
| 1,1,2-Trichloroethane | ug/kg | ND | 18.1 | 19.9 | 15.5 | 15.8 | 86 | 80 | 70-130 | 2 | |
| 1,1-Dichloroethane | ug/kg | ND | 18.1 | 19.9 | 15.0 | 15.1 | 83 | 76 | 70-130 | 1 | |
| 1,2-Dichlorobenzene | ug/kg | ND | 18.1 | 19.9 | 15.5 | 16.0 | 86 | 80 | 70-130 | 3 | |
| 1,2-Dichloroethane | ug/kg | ND | 18.1 | 19.9 | 15.6 | 15.5 | 86 | 78 | 70-130 | .6 | |
| 1,2-Dichloropropane | ug/kg | ND | 18.1 | 19.9 | 14.4 | 14.5 | 79 | 73 | 70-130 | 1 | |
| 1,3-Dichlorobenzene | ug/kg | ND | 18.1 | 19.9 | 15.7 | 16.0 | 86 | 80 | 70-130 | 2 | |
| 1,4-Dichlorobenzene | ug/kg | ND | 18.1 | 19.9 | 15.4 | 15.9 | 85 | 80 | 70-130 | 3 | |
| 2-Butanone (MEK) | ug/kg | ND | 18.1 | 19.9 | 17.3 | 16.7 | 96 | 84 | 70-130 | 4 | |
| 2-Hexanone | ug/kg | ND | 18.1 | 19.9 | 17.1 | 16.3 | 94 | 82 | 70-130 | 5 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND | 18.1 | 19.9 | 17.1 | 16.3 | 95 | 82 | 70-130 | 5 | |
| Acetone | ug/kg | 12.2 | 18.1 | 19.9 | 28.6 | 26.7 | 91 | 73 | 70-130 | 7 | |
| Benzene | ug/kg | ND | 18.1 | 19.9 | 14.9 | 14.9 | 82 | 75 | 70-130 | .3 | |
| Bromodichloromethane | ug/kg | ND | 18.1 | 19.9 | 12.7 | 12.8 | 70 | 64 | 70-130 | 1 | M0 |
| Bromoform | ug/kg | ND | 18.1 | 19.9 | 12.4 | 12.6 | 68 | 63 | 70-130 | 2 | M0 |
| Bromomethane | ug/kg | ND | 18.1 | 19.9 | 22.5 | 22.6 | 124 | 114 | 70-130 | .7 | |
| Carbon disulfide | ug/kg | ND | 18.1 | 19.9 | 18.8 | 19.1 | 103 | 96 | 70-130 | 2 | |
| Carbon tetrachloride | ug/kg | ND | 18.1 | 19.9 | 12.4 | 12.7 | 69 | 64 | 70-130 | 2 | M0 |
| Chlorobenzene | ug/kg | ND | 18.1 | 19.9 | 15.1 | 15.5 | 83 | 78 | 70-130 | 3 | |
| Chloroethane | ug/kg | ND | 18.1 | 19.9 | 20.3 | 19.8 | 112 | 100 | 70-130 | 2 | |
| Chloroform | ug/kg | ND | 18.1 | 19.9 | 14.9 | 15.0 | 82 | 76 | 70-130 | .8 | |
| Chloromethane | ug/kg | ND | 18.1 | 19.9 | 18.3 | 19.1 | 101 | 96 | 70-130 | 4 | |
| cis-1,2-Dichloroethene | ug/kg | ND | 18.1 | 19.9 | 14.9 | 15.0 | 82 | 76 | 70-130 | 1 | |
| cis-1,3-Dichloropropene | ug/kg | ND | 18.1 | 19.9 | 14.8 | 14.8 | 82 | 74 | 70-130 | .5 | |
| Dibromochloromethane | ug/kg | ND | 18.1 | 19.9 | 12.2 | 12.6 | 67 | 64 | 70-130 | 4 | M0 |
| Ethylbenzene | ug/kg | ND | 18.1 | 19.9 | 15.1 | 15.5 | 83 | 78 | 70-130 | 3 | |
| m&p-Xylene | ug/kg | ND | 36.3 | 39.8 | 31.4 | 32.3 | 87 | 81 | 70-130 | 3 | |
| Methyl-tert-butyl ether | ug/kg | ND | 18.1 | 19.9 | 19.8 | 19.5 | 109 | 98 | 70-130 | 2 | |
| Methylene Chloride | ug/kg | ND | 18.1 | 19.9 | 14.1 | 14.0 | 78 | 70 | 70-130 | .6 | |
| o-Xylene | ug/kg | ND | 18.1 | 19.9 | 15.6 | 16.0 | 86 | 80 | 70-130 | 3 | |
| Styrene | ug/kg | ND | 18.1 | 19.9 | 14.4 | 15.1 | 79 | 76 | 70-130 | 5 | |
| Tetrachloroethene | ug/kg | ND | 18.1 | 19.9 | 15.0 | 15.3 | 83 | 77 | 70-130 | 2 | |
| Toluene | ug/kg | ND | 18.1 | 19.9 | 14.7 | 15.0 | 81 | 75 | 70-130 | 2 | |
| trans-1,2-Dichloroethene | ug/kg | ND | 18.1 | 19.9 | 14.4 | 14.4 | 80 | 72 | 70-130 | .4 | |
| trans-1,3-Dichloropropene | ug/kg | ND | 18.1 | 19.9 | 13.3 | 13.8 | 73 | 69 | 70-130 | 4 | M0 |
| Trichloroethene | ug/kg | ND | 18.1 | 19.9 | 15.3 | 15.6 | 85 | 78 | 70-130 | 2 | |
| Vinyl chloride | ug/kg | ND | 18.1 | 19.9 | 19.6 | 20.4 | 108 | 102 | 70-130 | 4 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 104 | 110 | 70-130 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 99 | 99 | 70-130 | | |
| Toluene-d8 (S) | % | | | | | | 97 | 99 | 70-130 | | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

QC Batch: MSV/8003 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035 Low
Associated Lab Samples: 3038365002, 3038365003, 3038365004, 3038365005, 3038365006, 3038365007

METHOD BLANK: 248472 Matrix: Solid
Associated Lab Samples: 3038365002, 3038365003, 3038365004, 3038365005, 3038365006, 3038365007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,1,2-Trichloroethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,1-Dichloroethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,1-Dichloroethene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,2-Dichlorobenzene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,2-Dichloroethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,2-Dichloropropane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,3-Dichlorobenzene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 1,4-Dichlorobenzene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| 2-Butanone (MEK) | ug/kg | ND | 10.0 | 12/10/10 13:30 | |
| 2-Hexanone | ug/kg | ND | 10.0 | 12/10/10 13:30 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND | 10.0 | 12/10/10 13:30 | |
| Acetone | ug/kg | ND | 10.0 | 12/10/10 13:30 | |
| Benzene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Bromodichloromethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Bromoform | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Bromomethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Carbon disulfide | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Carbon tetrachloride | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Chlorobenzene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Chloroethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Chloroform | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Chloromethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| cis-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| cis-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Dibromochloromethane | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Ethylbenzene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| m&p-Xylene | ug/kg | ND | 10.0 | 12/10/10 13:30 | |
| Methyl-tert-butyl ether | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Methylene Chloride | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| o-Xylene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Styrene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Tetrachloroethene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Toluene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| TOTAL BTEX | ug/kg | ND | 30.0 | 12/10/10 13:30 | |
| trans-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| trans-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Trichloroethene | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Vinyl chloride | ug/kg | ND | 5.0 | 12/10/10 13:30 | |
| Xylene (Total) | ug/kg | ND | 15.0 | 12/10/10 13:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 94 | 70-130 | 12/10/10 13:30 | |
| 4-Bromofluorobenzene (S) | % | 98 | 70-130 | 12/10/10 13:30 | |

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

METHOD BLANK: 248472 Matrix: Solid

Associated Lab Samples: 3038365002, 3038365003, 3038365004, 3038365005, 3038365006, 3038365007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Toluene-d8 (S) | % | 97 | 70-130 | 12/10/10 13:30 | |

LABORATORY CONTROL SAMPLE: 248473

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 20 | 16.8 | 84 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 20 | 17.9 | 90 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 20 | 18.0 | 90 | 70-130 | |
| 1,1-Dichloroethene | ug/kg | 20 | 17.5 | 87 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 20 | 17.5 | 88 | 70-130 | |
| 1,2-Dichloropropane | ug/kg | 20 | 17.2 | 86 | 70-130 | |
| 1,3-Dichlorobenzene | ug/kg | 20 | 19.1 | 96 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 20 | 19.0 | 95 | 70-130 | |
| 2-Butanone (MEK) | ug/kg | 20 | 17.4 | 87 | 70-130 | |
| 2-Hexanone | ug/kg | 20 | 17.4 | 87 | 70-130 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | 20 | 16.8 | 84 | 70-130 | |
| Acetone | ug/kg | 20 | 23.6 | 118 | 70-130 | |
| Benzene | ug/kg | 20 | 18.1 | 91 | 70-130 | |
| Bromodichloromethane | ug/kg | 20 | 15.6 | 78 | 70-130 | |
| Bromoform | ug/kg | 20 | 14.4 | 72 | 70-130 | |
| Bromomethane | ug/kg | 20 | 20.1 | 100 | 70-130 | |
| Carbon disulfide | ug/kg | 20 | 18.9 | 94 | 70-130 | |
| Carbon tetrachloride | ug/kg | 20 | 15.9 | 80 | 70-130 | |
| Chlorobenzene | ug/kg | 20 | 18.8 | 94 | 70-130 | |
| Chloroethane | ug/kg | 20 | 21.6 | 108 | 70-130 | |
| Chloroform | ug/kg | 20 | 17.9 | 89 | 70-130 | |
| Chloromethane | ug/kg | 20 | 20.7 | 103 | 70-130 | |
| cis-1,2-Dichloroethene | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 20 | 18.1 | 90 | 70-130 | |
| Dibromochloromethane | ug/kg | 20 | 14.7 | 73 | 70-130 | |
| Ethylbenzene | ug/kg | 20 | 20.1 | 101 | 70-130 | |
| m&p-Xylene | ug/kg | 40 | 39.3 | 98 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 20 | 17.8 | 89 | 70-130 | |
| Methylene Chloride | ug/kg | 20 | 16.1 | 81 | 70-130 | |
| o-Xylene | ug/kg | 20 | 18.9 | 95 | 70-130 | |
| Styrene | ug/kg | 20 | 18.0 | 90 | 70-130 | |
| Tetrachloroethene | ug/kg | 20 | 19.8 | 99 | 70-130 | |
| Toluene | ug/kg | 20 | 18.5 | 93 | 70-130 | |
| TOTAL BTEX | ug/kg | | 115 | | | |
| trans-1,2-Dichloroethene | ug/kg | 20 | 17.4 | 87 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 20 | 16.2 | 81 | 70-130 | |
| Trichloroethene | ug/kg | 20 | 19.3 | 96 | 70-130 | |
| Vinyl chloride | ug/kg | 20 | 22.8 | 114 | 70-130 | |

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Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

LABORATORY CONTROL SAMPLE: 248473

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Xylene (Total) | ug/kg | 60 | 58.3 | 97 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 94 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 70-130 | |
| Toluene-d8 (S) | % | | | 98 | 70-130 | |

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## QUALITY CONTROL DATA

Project: Cooper C-H Landfill
Pace Project No.: 3038365

QC Batch: PMST/2239 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 3038365001, 3038365002, 3038365003, 3038365004, 3038365005, 3038365006, 3038365007

SAMPLE DUPLICATE: 246680

| Parameter | Units | 3038362001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 14.4 | 15.5 | 7 | |

SAMPLE DUPLICATE: 246681

| Parameter | Units | 3038362002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 17.5 | 21.1 | 19 | |

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# QUALIFIERS

Project: Cooper C-H Landfill
Pace Project No.: 3038365

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

## LABORATORIES

| | |
|---|---|
| PASI-PA | Pace Analytical Services - Greensburg |

## BATCH QUALIFIERS

Batch: MSV/8003

| | |
|---|---|
| [M5] | A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume. |

## ANALYTE QUALIFIERS

| | |
|---|---|
| IS | The internal standard response is below criteria. Results may be biased high. |
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits. |
| R1 | RPD value was outside control limits. |

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Cooper C-H Landfill
Pace Project No.: 3038365

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **3038365001** | **HS2-B1 8-10'** | EPA 8260 | MSV/7967 | | |
| **3038365002** | **HS2-B3 0-2'** | EPA 8260 | MSV/8003 | | |
| **3038365003** | **HS2-B4 2-4'** | EPA 8260 | MSV/8003 | | |
| **3038365004** | **HS2-B2 2-4'** | EPA 8260 | MSV/8003 | | |
| **3038365005** | **HS2-B5 2-4'** | EPA 8260 | MSV/8003 | | |
| **3038365006** | **HS2-B7 4-6'** | EPA 8260 | MSV/8003 | | |
| **3038365007** | **HS2-B6 2-4'** | EPA 8260 | MSV/8003 | | |
| **3038365001** | **HS2-B1 8-10'** | ASTM D2974-87 | PMST/2239 | | |
| **3038365002** | **HS2-B3 0-2'** | ASTM D2974-87 | PMST/2239 | | |
| **3038365003** | **HS2-B4 2-4'** | ASTM D2974-87 | PMST/2239 | | |
| **3038365004** | **HS2-B2 2-4'** | ASTM D2974-87 | PMST/2239 | | |
| **3038365005** | **HS2-B5 2-4'** | ASTM D2974-87 | PMST/2239 | | |
| **3038365006** | **HS2-B7 4-6'** | ASTM D2974-87 | PMST/2239 | | |
| **3038365007** | **HS2-B6 2-4'** | ASTM D2974-87 | PMST/2239 | | |

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www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1440962

**Section A** Required Client Information:

Company: GeoTrans, Inc
Address: 175 N. Corporate Dr. Suite 100, Brookfield, WI 53045
Email To:
Phone: (262)792-1282 Fax: (262)792-1310
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Mike Noel
Copy To:
Purchase Order No.:
Project Name: Cooper C-H Landfill
Project Number: 117-2202036.09

**Section C** Invoice Information:

Attention: Same as Report to
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Tim Reed
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NY

**Section D** Required Client Information

**SAMPLE ID** (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Requested Analysis Filtered (Y/N): VOCs 8260 | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HS2-B1 8-10' | SL | G | — | — | 12-3 | 14:45 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | 001 |
| 2 | HS2-B3 0-2' | | | — | — | 12-6 | 13:30 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | 002 |
| 3 | HS2-B4 2-4' | | | — | — | | 15:15 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | 003 |
| 4 | HS2-B2 2-4' | | | — | — | ↓ | 16:25 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | 004 |
| 5 | HS2-B5 2-4' | | | — | — | 12-7 | 09:05 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | 005 |
| 6 | HS2-B7 4-6' | | | — | — | | 10:25 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | 006 |
| 7 | HS2-B6 2-4' | ↓ | ↓ | — | — | ↓ | 10:55 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | 007 |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS: Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| Other Pres → Bisulfate | Ashley A. Weimer | 12-7-10 | 17:00 | | 12/8 | 1030 | 2.3 | Y | N | Y |
| DRY wt. included | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ashley A. Weimer

SIGNATURE of SAMPLER: Ashley A. Weimer DATE Signed (MM/DD/YY): 12-7-10

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

EGH

# Sample Condition Upon Receipt

Pace Analytical

Client Name: Geotrans  Project # 3038365

**Courier:** ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

**Tracking #:** 5356314805365

| Optional |
|---|
| Proj. Due Date: |
| Proj. Name: |

**Custody Seal on Cooler/Box Present:** ☐ yes ☑ no  Seals intact: ☐ yes ☐ no

**Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

**Thermometer Used** 3 (5)  **Type of Ice:** (Wet) Blue None  ☑ Samples on ice, cooling process has begun

**Cooler Temperature** 2.3  **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and Initials of person examining contents:** LR 12/8/10

**Comments:**

| | | | |
|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No | ☐N/A | 7. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | ☐Yes | ☐No | | Initial when completed LR  Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blank Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): | | | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: _____  Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** _____  **Date:** 12/9/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

December 28, 2010

Mr. Nelson Olavarria
Cooper Industries
600 Travis Street
Suite 5600
Houston, TX 77002

RE: Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

Dear Mr. Olavarria:
Enclosed are the analytical results for sample(s) received by the laboratory on December 11, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Timothy Reed

timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Mr. Michael Noel, Geotrans, Inc.

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

# CERTIFICATIONS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Pennsylvania Certification IDs**
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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## SAMPLE ANALYTE COUNT

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **3038573001** | **HS2-B10 4-6'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573002** | **HS2-B11 0-2'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573003** | **HS2-B18 4-6'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573004** | **HS3-B1 0-2'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573005** | **HS3-B1 8-10'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573006** | **HS3-B2 4-6'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573007** | **HS3-B3 2-4'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573008** | **HS3-B3 4-6'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573009** | **HS3-B3 6-8'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573010** | **HS3-B4 2-4'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573011** | **HS3-B5 2-4'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573012** | **HS3-B4 6-8'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573013** | **HS3-B7 0-2'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573014** | **HS3-B6 0-2'** | EPA 8260 | JEW | 45 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |
| **3038573015** | **HS3-B6 4-6'** | EPA 8082 | SJG | 10 | PASI-PA |
| | | ASTM D2974-87 | CDB | 1 | PASI-PA |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS2-B10 4-6'** **Lab ID: 3038573001** Collected: 12/08/10 09:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | ND | ug/kg | 469 | 50 | | 12/20/10 17:34 | 67-64-1 | |
| Benzene | **264** | ug/kg | 234 | 50 | | 12/20/10 17:34 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-27-4 | |
| Bromoform | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 74-83-9 | |
| TOTAL BTEX | **442000** | ug/kg | 141000 | 5000 | | 12/21/10 16:19 | | |
| 2-Butanone (MEK) | ND | ug/kg | 469 | 50 | | 12/20/10 17:34 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-00-3 | |
| Chloroform | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 469 | 50 | | 12/20/10 17:34 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 10061-02-6 | |
| Ethylbenzene | **439000** | ug/kg | 23400 | 5000 | | 12/21/10 16:19 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 469 | 50 | | 12/20/10 17:34 | 591-78-6 | |
| Methylene Chloride | **258** | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 469 | 50 | | 12/20/10 17:34 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 1634-04-4 | |
| Styrene | **3150** | ug/kg | 234 | 50 | | 12/20/10 17:34 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 127-18-4 | |
| Toluene | **1010** | ug/kg | 234 | 50 | | 12/20/10 17:34 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 234 | 50 | | 12/20/10 17:34 | 75-01-4 | |
| Xylene (Total) | **1220** | ug/kg | 703 | 50 | | 12/20/10 17:34 | 1330-20-7 | |
| m&p-Xylene | **861** | ug/kg | 469 | 50 | | 12/20/10 17:34 | 179601-23-1 | |
| o-Xylene | **362** | ug/kg | 234 | 50 | | 12/20/10 17:34 | 95-47-6 | |
| Toluene-d8 (S) | 92 | % | 70-130 | 50 | | 12/20/10 17:34 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 70-130 | 50 | | 12/20/10 17:34 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 70-130 | 50 | | 12/20/10 17:34 | 17060-07-0 | |

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## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS2-B10 4-6'** **Lab ID: 3038573001** Collected: 12/08/10 09:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **14.9** | % | 0.10 | 1 | | 12/13/10 11:02 | | |

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## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS2-B11 0-2'** **Lab ID: 3038573002** Collected: 12/08/10 10:25 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **39.5** | ug/kg | 8.6 | 1 | | 12/20/10 15:47 | 67-64-1 | |
| Benzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-27-4 | |
| Bromoform | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 13200 | 500 | | 12/21/10 16:40 | | |
| 2-Butanone (MEK) | ND | ug/kg | 8.6 | 1 | | 12/20/10 15:47 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-00-3 | |
| Chloroform | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 8.6 | 1 | | 12/20/10 15:47 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 10061-02-6 | |
| Ethylbenzene | **12100** | ug/kg | 2200 | 500 | | 12/21/10 16:40 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 8.6 | 1 | | 12/20/10 15:47 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 8.6 | 1 | | 12/20/10 15:47 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 1634-04-4 | |
| Styrene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 127-18-4 | |
| Toluene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 12.8 | 1 | | 12/20/10 15:47 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 8.6 | 1 | | 12/20/10 15:47 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 4.3 | 1 | | 12/20/10 15:47 | 95-47-6 | |
| Toluene-d8 (S) | 103 | % | 70-130 | 1 | | 12/20/10 15:47 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 141 | % | 70-130 | 1 | | 12/20/10 15:47 | 460-00-4 | IS,S0 |
| 1,2-Dichloroethane-d4 (S) | 118 | % | 70-130 | 1 | | 12/20/10 15:47 | 17060-07-0 | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS2-B11 0-2'** **Lab ID: 3038573002** Collected: 12/08/10 10:25 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **13.7** | % | 0.10 | 1 | | 12/13/10 11:03 | | |

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Greensburg, PA 15601
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## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS2-B18 4-6'** **Lab ID: 3038573003** Collected: 12/08/10 11:55 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **82.6** | ug/kg | 8.3 | 1 | | 12/20/10 16:51 | 67-64-1 | |
| Benzene | **17.3** | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-27-4 | |
| Bromoform | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 74-83-9 | |
| TOTAL BTEX | **146** | ug/kg | 24.9 | 1 | | 12/20/10 16:51 | | |
| 2-Butanone (MEK) | **39.4** | ug/kg | 8.3 | 1 | | 12/20/10 16:51 | 78-93-3 | |
| Carbon disulfide | **7.6** | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-00-3 | |
| Chloroform | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 8.3 | 1 | | 12/20/10 16:51 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 10061-02-6 | |
| Ethylbenzene | **108** | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 100-41-4 | IS |
| 2-Hexanone | ND | ug/kg | 8.3 | 1 | | 12/20/10 16:51 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | **12.0** | ug/kg | 8.3 | 1 | | 12/20/10 16:51 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 1634-04-4 | |
| Styrene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 127-18-4 | |
| Toluene | **14.9** | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 108-88-3 | IS |
| 1,1,1-Trichloroethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 12.4 | 1 | | 12/20/10 16:51 | 1330-20-7 | ES |
| m&p-Xylene | ND | ug/kg | 8.3 | 1 | | 12/20/10 16:51 | 179601-23-1 | |
| o-Xylene | **5.8** | ug/kg | 4.1 | 1 | | 12/20/10 16:51 | 95-47-6 | IS |
| Toluene-d8 (S) | 116 | % | 70-130 | 1 | | 12/20/10 16:51 | 2037-26-5 | IS |
| 4-Bromofluorobenzene (S) | 176 | % | 70-130 | 1 | | 12/20/10 16:51 | 460-00-4 | IS,S0 |
| 1,2-Dichloroethane-d4 (S) | 120 | % | 70-130 | 1 | | 12/20/10 16:51 | 17060-07-0 | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS2-B18 4-6'** **Lab ID: 3038573003** Collected: 12/08/10 11:55 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **14.7** | % | 0.10 | 1 | | 12/13/10 11:04 | | |

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## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B1 0-2'** **Lab ID: 3038573004** Collected: 12/08/10 16:15 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 129 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 82 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 877-09-8 | |
| Decachlorobiphenyl (S) | 89 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:11 | 2051-24-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **16.8** | % | 0.10 | 1 | | 12/13/10 11:08 | | |

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## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B1 8-10'** **Lab ID: 3038573005** Collected: 12/08/10 16:45 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | **1780** | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 11096-82-5 | |
| PCB, Total | **1780** | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 81 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 877-09-8 | |
| Decachlorobiphenyl (S) | 87 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:19 | 2051-24-3 | |
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **562** | ug/kg | 549 | 50 | | 12/20/10 18:16 | 67-64-1 | |
| Benzene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 75-27-4 | |
| Bromoform | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 74-83-9 | |
| TOTAL BTEX | **69800** | ug/kg | 16500 | 500 | | 12/20/10 18:38 | | |
| 2-Butanone (MEK) | ND | ug/kg | 549 | 50 | | 12/20/10 18:16 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 75-00-3 | |
| Chloroform | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 549 | 50 | | 12/20/10 18:16 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 10061-02-6 | |
| Ethylbenzene | **9310** | ug/kg | 275 | 50 | | 12/20/10 18:16 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 549 | 50 | | 12/20/10 18:16 | 591-78-6 | |
| Methylene Chloride | **77300** | ug/kg | 2750 | 500 | | 12/20/10 18:38 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 549 | 50 | | 12/20/10 18:16 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 1634-04-4 | |
| Styrene | **602** | ug/kg | 275 | 50 | | 12/20/10 18:16 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 127-18-4 | |

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B1 8-10'** **Lab ID: 3038573005** Collected: 12/08/10 16:45 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene | **60500** | ug/kg | 2750 | 500 | | 12/20/10 18:38 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 824 | 50 | | 12/20/10 18:16 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 549 | 50 | | 12/20/10 18:16 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 275 | 50 | | 12/20/10 18:16 | 95-47-6 | |
| Toluene-d8 (S) | 97 | % | 70-130 | 50 | | 12/20/10 18:16 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 70-130 | 50 | | 12/20/10 18:16 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 70-130 | 50 | | 12/20/10 18:16 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **25.4** | % | 0.10 | 1 | | 12/13/10 11:04 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B2 4-6'** **Lab ID: 3038573006** Collected: 12/09/10 09:00 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | **1230** | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 11096-82-5 | |
| PCB, Total | **1230** | ug/kg | 150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 87 | % | 30-150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 877-09-8 | |
| Decachlorobiphenyl (S) | 97 | % | 30-150 | 1 | 12/13/10 16:41 | 12/17/10 23:47 | 2051-24-3 | |
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **65.8** | ug/kg | 8.7 | 1 | | 12/14/10 18:35 | 67-64-1 | |
| Benzene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-27-4 | |
| Bromoform | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 74-83-9 | |
| TOTAL BTEX | **119** | ug/kg | 26.1 | 1 | | 12/14/10 18:35 | | |
| 2-Butanone (MEK) | ND | ug/kg | 8.7 | 1 | | 12/14/10 18:35 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-00-3 | |
| Chloroform | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 8.7 | 1 | | 12/14/10 18:35 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 10061-02-6 | |
| Ethylbenzene | **45.2** | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 8.7 | 1 | | 12/14/10 18:35 | 591-78-6 | |
| Methylene Chloride | **80.4** | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 8.7 | 1 | | 12/14/10 18:35 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 1634-04-4 | |
| Styrene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 127-18-4 | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B2 4-6'** **Lab ID: 3038573006** Collected: 12/09/10 09:00 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene | **73.5** | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 108-88-3 | |
| 1,1,1-Trichloroethane | **17.7** | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 13.0 | 1 | | 12/14/10 18:35 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 8.7 | 1 | | 12/14/10 18:35 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 4.3 | 1 | | 12/14/10 18:35 | 95-47-6 | |
| Toluene-d8 (S) | 108 | % | 70-130 | 1 | | 12/14/10 18:35 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 135 | % | 70-130 | 1 | | 12/14/10 18:35 | 460-00-4 | S5 |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 70-130 | 1 | | 12/14/10 18:35 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **18.5** | % | 0.10 | 1 | | 12/13/10 11:04 | | |

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## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B3 2-4'** **Lab ID: 3038573007** Collected: 12/09/10 10:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 134 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 71 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 877-09-8 | |
| Decachlorobiphenyl (S) | 83 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:28 | 2051-24-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **17.6** | % | 0.10 | 1 | | 12/13/10 11:09 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B3 4-6'** **Lab ID: 3038573008** Collected: 12/09/10 10:15 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 157 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 73 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 877-09-8 | |
| Decachlorobiphenyl (S) | 88 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:36 | 2051-24-3 | |
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **437** | ug/kg | 10.8 | 1 | | 12/14/10 18:56 | 67-64-1 | E |
| Benzene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-27-4 | |
| Bromoform | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 32.3 | 1 | | 12/14/10 18:56 | | |
| 2-Butanone (MEK) | **31.6** | ug/kg | 10.8 | 1 | | 12/14/10 18:56 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-00-3 | |
| Chloroform | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 10.8 | 1 | | 12/14/10 18:56 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 10061-02-6 | |
| Ethylbenzene | **7.7** | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 10.8 | 1 | | 12/14/10 18:56 | 591-78-6 | |
| Methylene Chloride | **14.2** | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 10.8 | 1 | | 12/14/10 18:56 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 1634-04-4 | |
| Styrene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 127-18-4 | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B3 4-6'** **Lab ID: 3038573008** Collected: 12/09/10 10:15 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene | **20.2** | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 16.2 | 1 | | 12/14/10 18:56 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 10.8 | 1 | | 12/14/10 18:56 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 5.4 | 1 | | 12/14/10 18:56 | 95-47-6 | |
| Toluene-d8 (S) | 99 | % | 70-130 | 1 | | 12/14/10 18:56 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 119 | % | 70-130 | 1 | | 12/14/10 18:56 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 70-130 | 1 | | 12/14/10 18:56 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **24.1** | % | 0.10 | 1 | | 12/13/10 11:05 | | |

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(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B3 6-8'** **Lab ID: 3038573009** Collected: 12/09/10 10:20 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 76 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 877-09-8 | |
| Decachlorobiphenyl (S) | 98 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:20 | 2051-24-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **20.8** | % | 0.10 | 1 | | 12/13/10 11:09 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B4 2-4'** **Lab ID: 3038573010** Collected: 12/09/10 11:45 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | **959** | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 11096-82-5 | |
| PCB, Total | **959** | ug/kg | 146 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 76 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 877-09-8 | |
| Decachlorobiphenyl (S) | 90 | % | 30-150 | 1 | 12/13/10 16:41 | 12/20/10 21:44 | 2051-24-3 | |
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **161** | ug/kg | 9.9 | 1 | | 12/14/10 19:17 | 67-64-1 | |
| Benzene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-27-4 | |
| Bromoform | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 29.7 | 1 | | 12/14/10 19:17 | | |
| 2-Butanone (MEK) | **26.3** | ug/kg | 9.9 | 1 | | 12/14/10 19:17 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-00-3 | |
| Chloroform | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 9.9 | 1 | | 12/14/10 19:17 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 10061-02-6 | |
| Ethylbenzene | **8.9** | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 9.9 | 1 | | 12/14/10 19:17 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 9.9 | 1 | | 12/14/10 19:17 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 1634-04-4 | |
| Styrene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 127-18-4 | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B4 2-4'** **Lab ID: 3038573010** Collected: 12/09/10 11:45 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene | **6.0** | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 14.9 | 1 | | 12/14/10 19:17 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 9.9 | 1 | | 12/14/10 19:17 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 5.0 | 1 | | 12/14/10 19:17 | 95-47-6 | |
| Toluene-d8 (S) | 100 | % | 70-130 | 1 | | 12/14/10 19:17 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 137 | % | 70-130 | 1 | | 12/14/10 19:17 | 460-00-4 | S5 |
| 1,2-Dichloroethane-d4 (S) | 111 | % | 70-130 | 1 | | 12/14/10 19:17 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **20.4** | % | 0.10 | 1 | | 12/13/10 11:06 | | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B5 2-4'** **Lab ID: 3038573011** Collected: 12/09/10 13:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 140 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 79 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 877-09-8 | |
| Decachlorobiphenyl (S) | 99 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:36 | 2051-24-3 | |
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **122** | ug/kg | 9.2 | 1 | | 12/20/10 17:12 | 67-64-1 | |
| Benzene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-27-4 | |
| Bromoform | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 27.6 | 1 | | 12/20/10 17:12 | | |
| 2-Butanone (MEK) | **17.0** | ug/kg | 9.2 | 1 | | 12/20/10 17:12 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-00-3 | |
| Chloroform | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 9.2 | 1 | | 12/20/10 17:12 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 10061-02-6 | |
| Ethylbenzene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 9.2 | 1 | | 12/20/10 17:12 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 9.2 | 1 | | 12/20/10 17:12 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 1634-04-4 | |
| Styrene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 127-18-4 | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B5 2-4'** **Lab ID: 3038573011** Collected: 12/09/10 13:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 13.8 | 1 | | 12/20/10 17:12 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 9.2 | 1 | | 12/20/10 17:12 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 4.6 | 1 | | 12/20/10 17:12 | 95-47-6 | |
| Toluene-d8 (S) | 97 | % | 70-130 | 1 | | 12/20/10 17:12 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 119 | % | 70-130 | 1 | | 12/20/10 17:12 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 119 | % | 70-130 | 1 | | 12/20/10 17:12 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **19.3** | % | 0.10 | 1 | | 12/13/10 11:36 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B4 6-8'** **Lab ID: 3038573012** Collected: 12/09/10 12:00 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 167 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 85 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 877-09-8 | |
| Decachlorobiphenyl (S) | 112 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:44 | 2051-24-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **32.1** | % | 0.10 | 1 | | 12/13/10 11:37 | | |

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B7 0-2'** **Lab ID: 3038573013** Collected: 12/10/10 09:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 141 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 76 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 877-09-8 | |
| Decachlorobiphenyl (S) | 97 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 00:52 | 2051-24-3 | |
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **43.2** | ug/kg | 8.7 | 1 | | 12/20/10 16:08 | 67-64-1 | |
| Benzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-27-4 | |
| Bromoform | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 26.0 | 1 | | 12/20/10 16:08 | | |
| 2-Butanone (MEK) | **11.1** | ug/kg | 8.7 | 1 | | 12/20/10 16:08 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-00-3 | |
| Chloroform | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 8.7 | 1 | | 12/20/10 16:08 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 10061-02-6 | |
| Ethylbenzene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 8.7 | 1 | | 12/20/10 16:08 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 8.7 | 1 | | 12/20/10 16:08 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 1634-04-4 | |
| Styrene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 79-34-5 | |
| Tetrachloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 127-18-4 | |

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## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B7 0-2'** **Lab ID: 3038573013** Collected: 12/10/10 09:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 13.0 | 1 | | 12/20/10 16:08 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 8.7 | 1 | | 12/20/10 16:08 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 4.3 | 1 | | 12/20/10 16:08 | 95-47-6 | |
| Toluene-d8 (S) | 93 | % | 70-130 | 1 | | 12/20/10 16:08 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 106 | % | 70-130 | 1 | | 12/20/10 16:08 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 115 | % | 70-130 | 1 | | 12/20/10 16:08 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **17.0** | % | 0.10 | 1 | | 12/13/10 11:38 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B6 0-2'** **Lab ID: 3038573014** Collected: 12/10/10 11:55 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV 5030 Low Level** | Analytical Method: EPA 8260 | | | | | | | |
| Acetone | **236** | ug/kg | 11.0 | 1 | | 12/20/10 16:30 | 67-64-1 | |
| Benzene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 71-43-2 | |
| Bromodichloromethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-27-4 | |
| Bromoform | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-25-2 | |
| Bromomethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 74-83-9 | |
| TOTAL BTEX | ND | ug/kg | 33.0 | 1 | | 12/20/10 16:30 | | |
| 2-Butanone (MEK) | **25.0** | ug/kg | 11.0 | 1 | | 12/20/10 16:30 | 78-93-3 | |
| Carbon disulfide | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 56-23-5 | |
| Chlorobenzene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 108-90-7 | |
| Chloroethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-00-3 | |
| Chloroform | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 67-66-3 | |
| Chloromethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 74-87-3 | |
| Dibromochloromethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 107-06-2 | |
| 1,2-Dichloroethene (Total) | ND | ug/kg | 11.0 | 1 | | 12/20/10 16:30 | 540-59-0 | |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 10061-02-6 | |
| Ethylbenzene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 100-41-4 | |
| 2-Hexanone | ND | ug/kg | 11.0 | 1 | | 12/20/10 16:30 | 591-78-6 | |
| Methylene Chloride | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 11.0 | 1 | | 12/20/10 16:30 | 108-10-1 | |
| Methyl-tert-butyl ether | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 1634-04-4 | |
| Styrene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 100-42-5 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 79-34-5 | |
| Tetrachloroethene | **8.4** | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 127-18-4 | IS |
| Toluene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 79-00-5 | |
| Trichloroethene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 79-01-6 | |
| Vinyl chloride | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 75-01-4 | |
| Xylene (Total) | ND | ug/kg | 16.5 | 1 | | 12/20/10 16:30 | 1330-20-7 | |
| m&p-Xylene | ND | ug/kg | 11.0 | 1 | | 12/20/10 16:30 | 179601-23-1 | |
| o-Xylene | ND | ug/kg | 5.5 | 1 | | 12/20/10 16:30 | 95-47-6 | |
| Toluene-d8 (S) | 129 | % | 70-130 | 1 | | 12/20/10 16:30 | 2037-26-5 | IS |
| 4-Bromofluorobenzene (S) | 150 | % | 70-130 | 1 | | 12/20/10 16:30 | 460-00-4 | IS,S0 |
| 1,2-Dichloroethane-d4 (S) | 77 | % | 70-130 | 1 | | 12/20/10 16:30 | 17060-07-0 | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B6 0-2'** **Lab ID: 3038573014** Collected: 12/10/10 11:55 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **26.0** | % | 0.10 | 1 | | 12/13/10 11:38 | | |

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Greensburg, PA 15601
(724)850-5600

## ANALYTICAL RESULTS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

**Sample: HS3-B6 4-6'** **Lab ID: 3038573015** Collected: 12/10/10 12:05 Received: 12/11/10 11:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8082 GCS PCB** | Analytical Method: EPA 8082 Preparation Method: EPA 3546 | | | | | | | |
| PCB-1016 (Aroclor 1016) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 11096-82-5 | |
| PCB, Total | ND | ug/kg | 158 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 1336-36-3 | |
| Tetrachloro-m-xylene (S) | 86 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 877-09-8 | |
| Decachlorobiphenyl (S) | 101 | % | 30-150 | 1 | 12/13/10 16:41 | 12/18/10 01:00 | 2051-24-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **27.0** | % | 0.10 | 1 | | 12/13/10 11:38 | | |

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# QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

QC Batch: OEXT/6741 Analysis Method: EPA 8082
QC Batch Method: EPA 3546 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 3038573004, 3038573005, 3038573006, 3038573007, 3038573008, 3038573009, 3038573010, 3038573011, 3038573012, 3038573013, 3038573015

METHOD BLANK: 248118 Matrix: Solid
Associated Lab Samples: 3038573004, 3038573005, 3038573006, 3038573007, 3038573008, 3038573009, 3038573010, 3038573011, 3038573012, 3038573013, 3038573015

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| PCB-1016 (Aroclor 1016) | ug/kg | ND | 125 | 12/20/10 20:14 | |
| PCB-1221 (Aroclor 1221) | ug/kg | ND | 125 | 12/20/10 20:14 | |
| PCB-1232 (Aroclor 1232) | ug/kg | ND | 125 | 12/20/10 20:14 | |
| PCB-1242 (Aroclor 1242) | ug/kg | ND | 125 | 12/20/10 20:14 | |
| PCB-1248 (Aroclor 1248) | ug/kg | ND | 125 | 12/20/10 20:14 | |
| PCB-1254 (Aroclor 1254) | ug/kg | ND | 125 | 12/20/10 20:14 | |
| PCB-1260 (Aroclor 1260) | ug/kg | ND | 125 | 12/20/10 20:14 | |
| Decachlorobiphenyl (S) | % | 98 | 30-150 | 12/20/10 20:14 | |
| Tetrachloro-m-xylene (S) | % | 72 | 30-150 | 12/20/10 20:14 | |

LABORATORY CONTROL SAMPLE: 248119

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| PCB-1016 (Aroclor 1016) | ug/kg | 1250 | 862 | 69 | 55-145 | |
| PCB-1221 (Aroclor 1221) | ug/kg | | ND | | | |
| PCB-1232 (Aroclor 1232) | ug/kg | | ND | | | |
| PCB-1242 (Aroclor 1242) | ug/kg | | ND | | | |
| PCB-1248 (Aroclor 1248) | ug/kg | | ND | | | |
| PCB-1254 (Aroclor 1254) | ug/kg | | ND | | | |
| PCB-1260 (Aroclor 1260) | ug/kg | 1250 | 1060 | 85 | 55-145 | |
| Decachlorobiphenyl (S) | % | | | 102 | 30-150 | |
| Tetrachloro-m-xylene (S) | % | | | 72 | 30-150 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 248120 248121

| Parameter | Units | 3038550001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB-1016 (Aroclor 1016) | ug/kg | ND | 1590 | 1490 | 1570 | 1070 | 99 | 72 | 55-145 | 38 | R1 |
| PCB-1221 (Aroclor 1221) | ug/kg | ND | | | ND | ND | | | | | |
| PCB-1232 (Aroclor 1232) | ug/kg | ND | | | ND | ND | | | | | |
| PCB-1242 (Aroclor 1242) | ug/kg | ND | | | ND | ND | | | | | |
| PCB-1248 (Aroclor 1248) | ug/kg | ND | | | ND | ND | | | | | |
| PCB-1254 (Aroclor 1254) | ug/kg | ND | | | ND | ND | | | | | |
| PCB-1260 (Aroclor 1260) | ug/kg | ND | 1590 | 1490 | 1130 | 1080 | 71 | 73 | 55-145 | 4 | |
| Decachlorobiphenyl (S) | % | | | | | | 87 | 82 | 30-150 | | |
| Tetrachloro-m-xylene (S) | % | | | | | | 77 | 74 | 30-150 | | |

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## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

QC Batch: MSV/8012 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035 Low
Associated Lab Samples: 3038573006, 3038573008, 3038573010

METHOD BLANK: 248729 Matrix: Solid
Associated Lab Samples: 3038573006, 3038573008, 3038573010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,1,2-Trichloroethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,1-Dichloroethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,1-Dichloroethene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,2-Dichlorobenzene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,2-Dichloroethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,2-Dichloropropane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,3-Dichlorobenzene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 1,4-Dichlorobenzene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| 2-Butanone (MEK) | ug/kg | ND | 10.0 | 12/14/10 13:10 | |
| 2-Hexanone | ug/kg | ND | 10.0 | 12/14/10 13:10 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND | 10.0 | 12/14/10 13:10 | |
| Acetone | ug/kg | ND | 10.0 | 12/14/10 13:10 | |
| Benzene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Bromodichloromethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Bromoform | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Bromomethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Carbon disulfide | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Carbon tetrachloride | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Chlorobenzene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Chloroethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Chloroform | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Chloromethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| cis-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| cis-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Dibromochloromethane | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Ethylbenzene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| m&p-Xylene | ug/kg | ND | 10.0 | 12/14/10 13:10 | |
| Methyl-tert-butyl ether | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Methylene Chloride | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| o-Xylene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Styrene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Tetrachloroethene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Toluene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| TOTAL BTEX | ug/kg | ND | 30.0 | 12/14/10 13:10 | |
| trans-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| trans-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Trichloroethene | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Vinyl chloride | ug/kg | ND | 5.0 | 12/14/10 13:10 | |
| Xylene (Total) | ug/kg | ND | 15.0 | 12/14/10 13:10 | |
| 1,2-Dichloroethane-d4 (S) | % | 94 | 70-130 | 12/14/10 13:10 | |
| 4-Bromofluorobenzene (S) | % | 97 | 70-130 | 12/14/10 13:10 | |

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(724)850-5600

## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

METHOD BLANK: 248729 Matrix: Solid

Associated Lab Samples: 3038573006, 3038573008, 3038573010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Toluene-d8 (S) | % | 96 | 70-130 | 12/14/10 13:10 | |

LABORATORY CONTROL SAMPLE: 248730

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 20 | 19.5 | 98 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 20 | 17.8 | 89 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 20 | 18.2 | 91 | 70-130 | |
| 1,1-Dichloroethene | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 20 | 19.1 | 95 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 20 | 19.7 | 98 | 70-130 | |
| 1,2-Dichloropropane | ug/kg | 20 | 17.8 | 89 | 70-130 | |
| 1,3-Dichlorobenzene | ug/kg | 20 | 19.1 | 95 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 20 | 19.4 | 97 | 70-130 | |
| 2-Butanone (MEK) | ug/kg | 20 | 22.4 | 112 | 70-130 | |
| 2-Hexanone | ug/kg | 20 | 19.5 | 98 | 70-130 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | 20 | 18.7 | 93 | 70-130 | |
| Acetone | ug/kg | 20 | 22.2 | 111 | 70-130 | |
| Benzene | ug/kg | 20 | 18.9 | 94 | 70-130 | |
| Bromodichloromethane | ug/kg | 20 | 16.9 | 84 | 70-130 | |
| Bromoform | ug/kg | 20 | 15.6 | 78 | 70-130 | |
| Bromomethane | ug/kg | 20 | 18.0 | 90 | 70-130 | |
| Carbon disulfide | ug/kg | 20 | 20.8 | 104 | 70-130 | |
| Carbon tetrachloride | ug/kg | 20 | 16.7 | 84 | 70-130 | |
| Chlorobenzene | ug/kg | 20 | 19.4 | 97 | 70-130 | |
| Chloroethane | ug/kg | 20 | 20.6 | 103 | 70-130 | |
| Chloroform | ug/kg | 20 | 18.7 | 94 | 70-130 | |
| Chloromethane | ug/kg | 20 | 19.0 | 95 | 70-130 | |
| cis-1,2-Dichloroethene | ug/kg | 20 | 18.9 | 95 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 20 | 19.1 | 96 | 70-130 | |
| Dibromochloromethane | ug/kg | 20 | 16.8 | 84 | 70-130 | |
| Ethylbenzene | ug/kg | 20 | 19.6 | 98 | 70-130 | |
| m&p-Xylene | ug/kg | 40 | 40.3 | 101 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 20 | 21.3 | 106 | 70-130 | |
| Methylene Chloride | ug/kg | 20 | 17.5 | 87 | 70-130 | |
| o-Xylene | ug/kg | 20 | 19.8 | 99 | 70-130 | |
| Styrene | ug/kg | 20 | 18.7 | 93 | 70-130 | |
| Tetrachloroethene | ug/kg | 20 | 19.9 | 99 | 70-130 | |
| Toluene | ug/kg | 20 | 18.9 | 94 | 70-130 | |
| TOTAL BTEX | ug/kg | | 117 | | | |
| trans-1,2-Dichloroethene | ug/kg | 20 | 18.2 | 91 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 20 | 17.1 | 86 | 70-130 | |
| Trichloroethene | ug/kg | 20 | 20.0 | 100 | 70-130 | |
| Vinyl chloride | ug/kg | 20 | 20.7 | 104 | 70-130 | |

**Pace Analytical Services, Inc.**
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

LABORATORY CONTROL SAMPLE: 248730

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Xylene (Total) | ug/kg | 60 | 60.0 | 100 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 102 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 100 | 70-130 | |
| Toluene-d8 (S) | % | | | 97 | 70-130 | |

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

QC Batch: MSV/8066 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035 Low
Associated Lab Samples: 3038573001, 3038573002, 3038573003, 3038573005, 3038573011, 3038573013, 3038573014

METHOD BLANK: 250998 Matrix: Solid
Associated Lab Samples: 3038573001, 3038573002, 3038573003, 3038573005, 3038573011, 3038573013, 3038573014

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,1,2-Trichloroethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,1-Dichloroethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,1-Dichloroethene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,2-Dichlorobenzene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,2-Dichloroethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,2-Dichloropropane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,3-Dichlorobenzene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 1,4-Dichlorobenzene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| 2-Butanone (MEK) | ug/kg | ND | 10.0 | 12/20/10 14:21 | |
| 2-Hexanone | ug/kg | ND | 10.0 | 12/20/10 14:21 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND | 10.0 | 12/20/10 14:21 | |
| Acetone | ug/kg | ND | 10.0 | 12/20/10 14:21 | |
| Benzene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Bromodichloromethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Bromoform | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Bromomethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Carbon disulfide | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Carbon tetrachloride | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Chlorobenzene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Chloroethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Chloroform | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Chloromethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| cis-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| cis-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Dibromochloromethane | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Ethylbenzene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| m&p-Xylene | ug/kg | ND | 10.0 | 12/20/10 14:21 | |
| Methyl-tert-butyl ether | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Methylene Chloride | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| o-Xylene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Styrene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Tetrachloroethene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Toluene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| TOTAL BTEX | ug/kg | ND | 30.0 | 12/20/10 14:21 | |
| trans-1,2-Dichloroethene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| trans-1,3-Dichloropropene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Trichloroethene | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Vinyl chloride | ug/kg | ND | 5.0 | 12/20/10 14:21 | |
| Xylene (Total) | ug/kg | ND | 15.0 | 12/20/10 14:21 | |
| 1,2-Dichloroethane-d4 (S) | % | 96 | 70-130 | 12/20/10 14:21 | |
| 4-Bromofluorobenzene (S) | % | 96 | 70-130 | 12/20/10 14:21 | |

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

METHOD BLANK: 250998 Matrix: Solid

Associated Lab Samples: 3038573001, 3038573002, 3038573003, 3038573005, 3038573011, 3038573013, 3038573014

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Toluene-d8 (S) | % | 93 | 70-130 | 12/20/10 14:21 | |

LABORATORY CONTROL SAMPLE: 250999

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ug/kg | 20 | 21.4 | 107 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 20 | 16.9 | 84 | 70-130 | |
| 1,1,2-Trichloroethane | ug/kg | 20 | 18.8 | 94 | 70-130 | |
| 1,1-Dichloroethane | ug/kg | 20 | 19.4 | 97 | 70-130 | |
| 1,1-Dichloroethene | ug/kg | 20 | 19.6 | 98 | 70-130 | |
| 1,2-Dichlorobenzene | ug/kg | 20 | 19.1 | 96 | 70-130 | |
| 1,2-Dichloroethane | ug/kg | 20 | 21.5 | 107 | 70-130 | |
| 1,2-Dichloropropane | ug/kg | 20 | 18.7 | 94 | 70-130 | |
| 1,3-Dichlorobenzene | ug/kg | 20 | 19.5 | 97 | 70-130 | |
| 1,4-Dichlorobenzene | ug/kg | 20 | 19.5 | 98 | 70-130 | |
| 2-Butanone (MEK) | ug/kg | 20 | 18.2 | 91 | 70-130 | |
| 2-Hexanone | ug/kg | 20 | 14.9 | 75 | 70-130 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | 20 | 17.4 | 87 | 70-130 | |
| Acetone | ug/kg | 20 | 17.6 | 88 | 70-130 | |
| Benzene | ug/kg | 20 | 20.3 | 102 | 70-130 | |
| Bromodichloromethane | ug/kg | 20 | 16.9 | 85 | 70-130 | |
| Bromoform | ug/kg | 20 | 13.6 | 68 | 70-130 | L0 |
| Bromomethane | ug/kg | 20 | 18.7 | 94 | 70-130 | |
| Carbon disulfide | ug/kg | 20 | 21.0 | 105 | 70-130 | |
| Carbon tetrachloride | ug/kg | 20 | 16.9 | 85 | 70-130 | |
| Chlorobenzene | ug/kg | 20 | 19.6 | 98 | 70-130 | |
| Chloroethane | ug/kg | 20 | 17.1 | 86 | 70-130 | |
| Chloroform | ug/kg | 20 | 19.9 | 100 | 70-130 | |
| Chloromethane | ug/kg | 20 | 14.7 | 73 | 70-130 | |
| cis-1,2-Dichloroethene | ug/kg | 20 | 19.8 | 99 | 70-130 | |
| cis-1,3-Dichloropropene | ug/kg | 20 | 20.0 | 100 | 70-130 | |
| Dibromochloromethane | ug/kg | 20 | 14.9 | 74 | 70-130 | |
| Ethylbenzene | ug/kg | 20 | 19.7 | 98 | 70-130 | |
| m&p-Xylene | ug/kg | 40 | 41.1 | 103 | 70-130 | |
| Methyl-tert-butyl ether | ug/kg | 20 | 22.7 | 114 | 70-130 | |
| Methylene Chloride | ug/kg | 20 | 17.6 | 88 | 70-130 | |
| o-Xylene | ug/kg | 20 | 20.2 | 101 | 70-130 | |
| Styrene | ug/kg | 20 | 18.4 | 92 | 70-130 | |
| Tetrachloroethene | ug/kg | 20 | 20.7 | 104 | 70-130 | |
| Toluene | ug/kg | 20 | 18.9 | 94 | 70-130 | |
| TOTAL BTEX | ug/kg | | 120 | | | |
| trans-1,2-Dichloroethene | ug/kg | 20 | 19.2 | 96 | 70-130 | |
| trans-1,3-Dichloropropene | ug/kg | 20 | 16.6 | 83 | 70-130 | |
| Trichloroethene | ug/kg | 20 | 21.9 | 110 | 70-130 | |
| Vinyl chloride | ug/kg | 20 | 17.2 | 86 | 70-130 | |

**Pace Analytical Services, Inc.**
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(724)850-5600

## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

LABORATORY CONTROL SAMPLE: 250999

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Xylene (Total) | ug/kg | 60 | 61.3 | 102 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 102 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 100 | 70-130 | |
| Toluene-d8 (S) | % | | | 94 | 70-130 | |

**Pace Analytical Services, Inc.**
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## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

QC Batch: PMST/2244 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 3038573001, 3038573002, 3038573003, 3038573004, 3038573005, 3038573006, 3038573007, 3038573008, 3038573009, 3038573010

SAMPLE DUPLICATE: 248076

| Parameter | Units | 3038497006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 26.5 | 27.7 | 5 | |

SAMPLE DUPLICATE: 248077

| Parameter | Units | 3038520001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 26.1 | 26.2 | .5 | |

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## QUALITY CONTROL DATA

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

QC Batch: PMST/2245 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 3038573011, 3038573012, 3038573013, 3038573014, 3038573015

SAMPLE DUPLICATE: 248110

| Parameter | Units | 3038570003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 0.16 | 0.10 | 46 | |

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# QUALIFIERS

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

## LABORATORIES

| | |
|---|---|
| PASI-PA | Pace Analytical Services - Greensburg |

## BATCH QUALIFIERS

Batch: MSV/8012

| | |
|---|---|
| [M5] | A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume. |

Batch: MSV/8066

| | |
|---|---|
| [M5] | A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume. |

## ANALYTE QUALIFIERS

| | |
|---|---|
| E | Analyte concentration exceeded the calibration range. The reported result is estimated. |
| ES | The reported result is estimated because one or more of the constituent results are qualified as such. |
| IS | The internal standard response is below criteria. Results may be biased high. |
| L0 | Analyte recovery in the laboratory control sample (LCS) was outside QC limits. |
| R1 | RPD value was outside control limits. |
| S0 | Surrogate recovery outside laboratory control limits. |
| S5 | Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis). |

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Crouse-Hinds Landfill
Pace Project No.: 3038573

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **3038573004** | **HS3-B1 0-2'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573005** | **HS3-B1 8-10'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573006** | **HS3-B2 4-6'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573007** | **HS3-B3 2-4'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573008** | **HS3-B3 4-6'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573009** | **HS3-B3 6-8'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573010** | **HS3-B4 2-4'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573011** | **HS3-B5 2-4'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573012** | **HS3-B4 6-8'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573013** | **HS3-B7 0-2'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573015** | **HS3-B6 4-6'** | EPA 3546 | OEXT/6741 | EPA 8082 | GCSV/3080 |
| **3038573001** | **HS2-B10 4-6'** | EPA 8260 | MSV/8066 | | |
| **3038573002** | **HS2-B11 0-2'** | EPA 8260 | MSV/8066 | | |
| **3038573003** | **HS2-B18 4-6'** | EPA 8260 | MSV/8066 | | |
| **3038573005** | **HS3-B1 8-10'** | EPA 8260 | MSV/8066 | | |
| **3038573006** | **HS3-B2 4-6'** | EPA 8260 | MSV/8012 | | |
| **3038573008** | **HS3-B3 4-6'** | EPA 8260 | MSV/8012 | | |
| **3038573010** | **HS3-B4 2-4'** | EPA 8260 | MSV/8012 | | |
| **3038573011** | **HS3-B5 2-4'** | EPA 8260 | MSV/8066 | | |
| **3038573013** | **HS3-B7 0-2'** | EPA 8260 | MSV/8066 | | |
| **3038573014** | **HS3-B6 0-2'** | EPA 8260 | MSV/8066 | | |
| **3038573001** | **HS2-B10 4-6'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573002** | **HS2-B11 0-2'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573003** | **HS2-B18 4-6'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573004** | **HS3-B1 0-2'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573005** | **HS3-B1 8-10'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573006** | **HS3-B2 4-6'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573007** | **HS3-B3 2-4'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573008** | **HS3-B3 4-6'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573009** | **HS3-B3 6-8'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573010** | **HS3-B4 2-4'** | ASTM D2974-87 | PMST/2244 | | |
| **3038573011** | **HS3-B5 2-4'** | ASTM D2974-87 | PMST/2245 | | |
| **3038573012** | **HS3-B4 6-8'** | ASTM D2974-87 | PMST/2245 | | |
| **3038573013** | **HS3-B7 0-2'** | ASTM D2974-87 | PMST/2245 | | |
| **3038573014** | **HS3-B6 0-2'** | ASTM D2974-87 | PMST/2245 | | |
| **3038573015** | **HS3-B6 4-6'** | ASTM D2974-87 | PMST/2245 | | |

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1440825

**Section A** Required Client Information:

Company: GeoTrans, Inc
Address: 175 N. Corporate Dr Suite 108
Brookfield, WI 53045
Email To:
Phone: (262)792-0282 Fax: (262)792-1310
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Mike Noel
Copy To:
Purchase Order No.:
Project Name: Cooper Crouse-Hinds Overall
Project Number: 117-2202036.09

**Section C** Invoice Information:

Attention: Mike Noel
Company Name: Same as Report to
Address: ↓
Pace Quote Reference:
Pace Project Manager: Tim Reed
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NY

**Section D** Required Client Information

**SAMPLE ID** (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | VOCs 8260 | PCBs 8082 | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HS2-B10 4-6' | SL | G | — | — | 12-8 | 09:05 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | | | 001 |
| 2 | HS2-B11 0-2' | | | — | — | | 10:25 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | | | 002 |
| 3 | HS2-B18 4-6' | | | — | — | | 11:55 | | 4 | 1 | | | | | | 1 | 2 | | ✓ | | | | 003 |
| 4 | HS3-B1 0-2' | | | — | — | | 16:15 | | 1 | 1 | | | | | | | | | | ✓ | HS3-B1 0-2' | | 004 |
| 5 | HS3-B1 8-10' | | | — | — | ↓ | 16:45 | | 5 | 2 | | | | | | 1 | 2 | | ✓ | ✓ | | | 005 |
| 6 | HS3-B2 4-6' | | | — | — | 12-9 | 09:00 | | 5 | 2 | | | | | | 1 | 2 | | ✓ | ✓ | | | 006 |
| 7 | HS3-B3 2-4' | | | — | — | | 10:05 | | 1 | 1 | | | | | | | | | | ✓ | | | 007 |
| 8 | HS3-B3 4-6' | | | — | — | | 10:15 | | 5 | 2 | | | | | | 1 | 2 | | ✓ | ✓ | | | 008 |
| 9 | HS3-B3 6-8' | | | — | — | | 10:20 | | 1 | 1 | | | | | | | | | | ✓ | | | 009 |
| 10 | HS3-B4 2-4' | | | — | — | | 11:45 | | 5 | 2 | | | | | | 1 | 2 | | ✓ | ✓ | | | 010 |
| 11 | HS3-B5 2-4' | | | — | — | | 13:05 | | 5 | 2 | | | | | | 1 | 2 | | ✓ | ✓ | | | 011 |
| 12 | HS3-B4 6-8' | | | — | — | ↓ | 12:00 | | 1 | 1 | | | | | | | | | | ✓ | | | 012 |

3038573

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | |
|---|---|---|---|---|---|---|---|---|---|
| Other Pres – Bisulfate | Ashley A. Weimer | 12/10/10 | 20:00 | | 12-11-10 | 1130 | see back | Y | N | Y |
| DRY WT. included | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ashley A. Weimer

SIGNATURE of SAMPLER: Ashley A. Weimer DATE Signed (MM/DD/YY): 12/10/10

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1440961

**Section A** Required Client Information:

Company: GEOTRANS, Inc.
Address: 175 N. Corporate Dr Suite
Brookfield, WI 53045
Email To:
Phone: (262) 792-1282 Fax: (262) 792-1310
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Mike Noel
Copy To:
Purchase Order No.:
Project Name: Cooper C-H Landfill
Project Number: 17-2202036.09

**Section C** Invoice Information:

Attention: Same as Report to
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Tim Reed
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NY

Requested Analysis Filtered (Y/N)

| ITEM # | Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE | Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Y/N | Analysis Test: VOCs 8260 | PCBs 8082 | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HS3-B7 0-2' | SL | G | — | — | 12-10-2010 | 09:05 | | 5 | 2 | | | | | | | 1 | 2 | | ✓ | ✓ | | 013 |
| 2 | HS3-B6 0-2' | SL | G | — | — | 12-10-2010 | 11:55 | | 4 | 1 | | | | | | | 1 | 2 | | ✓ | | | 014 |
| 3 | HS3-B6 4-6' | SL | G | — | — | 12-10-2010 | 12:05 | | 1 | 1 | | | | | | | | | | | ✓ | | 015 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | |
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3038573

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Other Pres – Bisulfate | Ashley A. Weimer | 12/10/10 | 20:00 | | 12-11-10 | 1130 | Ice | Y | N | Y |
| DRY Wt. included | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ashley A. Weimer

SIGNATURE of SAMPLER: Ashley A. Weimer DATE Signed (MM/DD/YY): 12/10/10

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

EEH

# Sample Condition Upon Receipt

Pace Analytical

Client Name: Geotrans Project # 30338573

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8356 3148 0879/80

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 3 (5) Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 4.6, 4.6 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: EEH 12-13-10

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | ☐Yes ☐No | Initial when completed EEH / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☑No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** _____ **Date:** 12/13/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

# Sample Condition Upon Receipt



Radioactivity Level: _____ or NDA

| Item No. | Matrix Code | Glass Jar (120 / 250 / 500 / 1L) | Soil kit (2 SB, 1M, soil jar) | Chemistry (250 / 500 / 1L) | Organics (1L) | Bromide | Nutrient (250 / 500 ) | Phenolics (250 ml) | TOC (250 ml) | TOX (250 ml) | Total Metals | Dissolved Metals preserved Y N | O & G (1L) | TPH (1L) | VOA (40 ml 30 ml) | Cyanide (250 ml) | Sulfide (500 ml) | Bacteria (120 ml) | Wipes / swipe/ smear/ filter | Radchem Naigene (125 / 250 / 500 / 1L) | Cubitainer (500 ml / 4L) | Ziploc | Other | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 014 | SL | | 4 | | | | | | | | | | | | | | | | | | | | | |
| 015 | L | 1 | | | | | | | | | | | | | | | | | | | | | | |
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SCURF Back (C016-2 18Dec2008)