

**SUMMARY REPORT FOR THE
TORCH LAKE AREA ASSESSMENT
TORCH LAKE NPL SITE
AND SURROUNDING AREAS
KEWEENAW PENINSULA, MICHIGAN**

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V Emergency Response Branch
9311 Groh Road
Gross Ile, Michigan 48138

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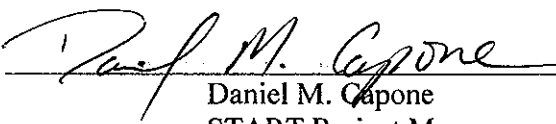
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EXECUTIVE SUMMARY

Weston Solutions, Inc. (WESTON®) has prepared this Summary Report to describe the September 2007 Torch Lake Area Assessment (AA) at the request of the United States Environmental Protection Agency (U.S. EPA), under the Superfund Technical Assessment and Response Team (START) contract between WESTON and the U.S. EPA (Contract No. EP-S5-06-04).

Study Area

The focus of the AA was on 17 Areas of Investigation (AOI) identified jointly by U.S. EPA and the Michigan Department of Environmental Quality (MDEQ) that were impacted by historical copper mining operations in the Keweenaw Peninsula. The AA included portions of the Torch Lake National Priorities List (NPL) Site where stamp sands are the primary media of concern. The AOIs are depicted on **Figure 1**.

Study Objectives

The primary objective of the Torch Lake AA was to evaluate imminent threats to human health, welfare and the environment, along with identification of areas for additional investigation. The specific geographical locations and exposure pathways evaluated during the AA were:

- Direct-contact hazards associated with newly-exposed stamp sand and the potential presence of other mining-era related waste along the western shoreline of Torch Lake as a result of significantly lower surface-water levels. The area evaluated was the recently exposed shoreline between the edge of the U.S. EPA-installed vegetative cover and the waters edge as a result of the significantly lower surface-water levels in Lake Superior and its contiguous water bodies. These previously shallow water areas had not been investigated;
- Direct-contact hazards associated with exposed stamp sand and the potential presence of other mining-era related waste near Gay, Michigan where no remedial efforts have been implemented; and
- Limited evaluation of potential environmental concerns at abandoned mining-era related industrial buildings, ruins, and land areas proximal to the western shoreline of Torch Lake, the shoreline of Lake Superior, and the north side of the Portage Waterway between the Quincy Smelter and H&Y Marina.

WESTON START conducted field tasks including performing visual assessments and documentation of conditions at each AOI, screening soils for metals content by x-ray fluorescence, sampling soils for laboratory analysis, and using global positioning system equipment to log and map targeted locations/media to meet the primary objective as further described in **Section 2**.

Findings

Comprehensive assessments were not in the scope of the AA, and therefore, lead paint, structural stability, physical hazards and other common environmental hazards known to affect historical industrial properties and structures are not included in this report unless suspected materials were readily apparent during reconnaissance or documented through previous studies. Suspect asbestos-containing material (ACM) encountered during reconnaissance or documented through previous studies is noted in the key findings. A complete summary of AA findings is provided in **Section 3**.

Findings at one or more AOI included dilapidated structures and exposed foundation materials and debris, documented and suspect friable ACM and other suspect hazardous building materials, exposed stamp sand and slag, miscellaneous items (including, but not limited to drums, cylinders, aboveground storage tanks, and surface debris), a tar vault and exposed stamp sand and tar along the Portage Waterway shoreline, and underwater drums presumed to be associated with the historical industrial operations surrounding Torch Lake.

Recommendations

Recommendations for further investigation, remedial action, or no further action are provided in **Section 4** for each AOI. The purpose of the Torch Lake AA was to determine if imminent and substantial threats existed and to make recommendations on further assessment. A comprehensive assessment of all environmental hazards known to affect historical industrial properties and structures was not within the scope of the AA. Furthermore, it should be noted that many of the potential environmental issues have been evaluated previously by the MDEQ and the U.S. EPA Remedial Branch.

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SECTION 1 INTRODUCTION

On August 24, 2007, the United States Environmental Protection Agency (U.S. EPA) initiated an area assessment (AA) at select areas of the Torch Lake National Priorities List (Torch Lake NPL) Site along the western shoreline of Torch Lake, the northern shoreline of the Portage Waterway, the western shoreline of Torch Lake, and the exposed shoreline of the Gay Stamp Sands deposit. The purpose of this AA was to identify potential imminent threats to human health, welfare, and the environment, along with identification of areas for additional investigation. U.S. EPA tasked the Weston Solutions, Inc. (WESTON®) Superfund Technical Assessment and Response Team (START) to perform the AA under START Contract No. EP-S5-06-04, Technical Direction Document (TDD) No. S05-0002-0708-020.

1.1 SITE LOCATION

The Portage Waterway and Torch Lake are located proximal to Hancock, Houghton County, Michigan (**Figure 1**). Gay, Michigan is located approximately 14 miles northeast of Torch Lake, on the shores of Lake Superior. The assessment study area encompasses Areas of Investigation (AOI) that include buildings, structures, five miles of exposed stamp sand shoreline along the western margin of Torch Lake, and five miles of stamp sand shoreline along Lake Superior near the town of Gay, Michigan. Targeted areas are presented in **Section 2**, and depicted on **Figure 1**.

1.2 SITE HISTORY

Copper mining occurred in the Keweenaw Peninsula from the 1890s until 1969. Mill tailings (stamp sands) were deposited in and along the shorelines of multiple lakes. Some industry is present in the area, but the primary business and commerce in the area today centers around recreation and tourism. Approximately 4,000 people live within one mile of Torch Lake.

About 200 million tons of copper mill stamp sands were dumped into Torch Lake, filling about 20 percent (%) of the lake, by volume. The contaminated sediments are believed to be 70 feet thick in some areas, and surface sediments contain copper concentration up to 2,000 parts per million (ppm). The stamp sands deposited in Torch Lake and along the shoreline were dredged during the early part of the 1900s. Flotation and leaching chemicals were used in some instances

to reclaim copper. The stamp sands and much of the flotation chemicals were returned to the lake bed and deposited along the shoreline. In addition to the mined copper, copper-containing materials from other areas were reclaimed. Other wastes were also historically deposited in and along the shoreline of Torch Lake, including mine pumpage, leaching chemicals, explosives residues, and mining byproducts. In 1972, an estimated 27,000 gallons of cupric ammonium carbonate were released into the Torch Lake from storage vats. Barrels have been found at several sites along the shoreline of the lake and on the lake bottom.

The Torch Lake NPL Site is comprised of several smaller sites ranging from approximately 10 acres to more than 200 acres. The sites are located around the Keweenaw Peninsula. The Torch Lake NPL Site was primarily listed because of the detrimental ecological effects of copper and mine tailings on aquatic organisms and to the surface water of Torch Lake. When it was added to the NPL, the Torch Lake NPL Site was defined to include Torch Lake, the northern portion of Portage Lake, North Entry, and tributary areas. Other related areas were added during the investigation phase and the Record of Decision (ROD) for Operable Units 1 and 3 addressed tailing piles and slag piles/beach deposited along the western shore of Torch Lake, Northern Portage Lake, Keweenaw Waterway, Lake Superior, Boston Pond and Calumet Lake. Tailing piles in Lake Linden, Hubbell/Tamarack City, Mason, Calumet Lake, Boston Pond, Michigan Smelter, Isle Royale, Lake Superior, and Gross Point were also included. The remedial investigation and cleanup efforts focused on areas along the shores of Torch Lake and the surrounding areas, where stamp sands and tailings were a concern for erosion into the waterways. Buildings and other related structures that were not shown to be a concern for erosion into surface water, were not included as part of the Torch Lake NPL Site.

By the fall of 2004, approximately 700 acres of stamp sands and slag were remediated by U.S. EPA. This included stamp sands along the western shore of Torch Lake, Dollar Bay, Point Mills, Calumet Lake, Boston Pond, and Michigan Smelter. The U.S. EPA Torch Lake NPL Site cleanup primarily addressed the negative ecological effects on area water bodies as a result of more than a century of copper mining, milling, and smelting in the area. The most significant ecological effect is the degradation of the benthic community in area water bodies as a result of past and current metal and particulate-matter surface water loadings from mining wastes, including stamp sand, located on land along and near area water bodies. The U.S. EPA cleanup

decision for terrestrial portions of Torch Lake NPL Site is documented in the September 30, 1992, U.S.EPA ROD.

The 1992 ROD included constructing a soil and vegetative cover over exposed mining wastes on properties that border area water bodies. This cover was designed to prevent further contamination and ecological degradation of area water bodies by reducing the ongoing transport (*i.e.*, wind erosion, surface water runoff, and shoreline erosion) and loading of mining waste metals and particulate matter. The area water bodies were then allowed to naturally recover.

In August 1994, U.S. EPA contracted with the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) to perform remedial design work. In September 1998, U.S. EPA also contracted with the USDA-NRCS to perform remedial action management and oversight throughout the cleanup process.

In April 2002, a partial NPL delisting of the Lake Linden portion of the Torch Lake NPL Site and all of operable unit 2 (sediments, surface water, and groundwater) was finalized. The partial delisting of the Hubbell/Tamarack City portion of the Torch Lake NPL Site was finalized in 2004.

Low lake levels experienced during 2007 at Torch Lake exposed stamp sands and, in the Village of Lake Linden, a sludge material previously under water along the shore. The Michigan Department of Environmental Quality (MDEQ) collected samples of the sludge which was located adjacent to a public beach within the Lake Linden Recreation Park (LLRP). Laboratory analysis of the sludge revealed the presence of antimony, arsenic, barium, copper, and lead at concentrations exceeding MDEQ Part 201 Residential Direct Contact Criteria (RDCC) (Use of surveyed properties varied and comparison to RDCC is for reference only), and exceeded, by a factor of 20, the extract of Toxicity Characteristic Leaching Procedure (TCLP) limits. These results indicate the sludge was a characteristically hazardous waste under 40 Code of Federal Regulations (CFR) 261.24. This discovery prompted a time-critical removal action to remove the sludge and the need for additional assessment to determine if other areas were similarly impacted.

1.3 **PROJECT OBJECTIVE**

The primary project objective of the Torch Lake AA was to evaluate imminent threats to human health, welfare and the environment, along with identification of areas for additional investigation. The specific geographical locations and pathways evaluated during the AA were:

- Direct-contact hazards associated with exposed stamp sand and the potential presence of other mining-era related waste along the western shoreline of Torch Lake. The area evaluated was the recently exposed shoreline between the edge of the U.S. EPA-installed vegetative cover and the waters edge as a result of the significantly lower surface-water levels in Lake Superior and its contiguous water bodies. These previously shallow water areas had not been investigated;
- Direct-contact hazards associated with exposed stamp sand and the potential presence of other mining-era related waste near Gay, where no remedial efforts have been implemented; and,
- Limited evaluation of potential environmental concerns at abandoned mining-era related industrial buildings, ruins, and land areas proximal to the western shoreline of Torch Lake, the shoreline of Lake Superior, and the north side of the Portage Waterway between the Quincy Smelter and H&Y Marina.

SECTION 2

SCOPE OF WORK REVIEW

A scope of work (SOW) was developed and implemented through efforts by the U.S. EPA and WESTON START to accomplish the project objectives of identifying imminent threats to human health, welfare, and the environment at multiple AOIs at the Torch Lake NPL Site, and additional AOIs identified in cooperation with U.S. EPA and the MDEQ Remediation and Redevelopment Division (RRD).

The SOW was divided into the following tasks: Pre-assessment activities, AA field activities, sample and data management activities, and preparation of the AA report.

2.1 **TASK 1 – PRE-ASSESSMENT ACTIVITIES**

Pre-assessment activities were completed prior to the start of AA field activities. This work included preparing the site-specific work plan (WP) and health and safety plan (HASP), conducting a preliminary investigation of potential AOIs, and assisting U.S. EPA with site access.

The WP was prepared based on discussions with the U.S. EPA On-Scene Coordinator (OSC), a review of aerial photographs, available file materials, and a preliminary survey of potential AOIs along the western shoreline of Torch Lake and the Portage Waterway.

In addition, WESTON START performed a review of existing information and an evaluation of current site conditions. WESTON START reviewed the available MDEQ-RRD and U.S. EPA file information for select AOIs. A list of the documents that were reviewed is presented in **Section 5.0**. **Attachment A** lists the current status of site access for each area under investigation.

2.2 **TASK 2 – AA ACTIVITIES**

In general, AA activities were conducted using a phased approach that included an initial reconnaissance/assessment and follow-up sample collection (if appropriate) at each AOI. Three field teams composed of U.S. EPA Field Environmental Decision Support (FIELDS) personnel and WESTON START conducted the AA. All field activities were completed using the approach outlined in the site-specific WP and the *START III Generic Quality Assurance Project*

Plan (QAPP), dated June 2006, and AOI-specific Incident Action Plans developed for the AA.

Depending upon the features associated with each AOI, AA efforts included the following:

- Visual assessment/photo documentation of buildings, structures, exposed debris and materials, and areas with exposed stamp sand shorelines;
- Visual assessment/photo documentation of site soils, sediments, and surface water;
- Use of global positioning system (GPS) equipment to log and map specific locations/media targeted for additional assessment (WESTON START);
- Real-time x-ray fluorescence (XRF) screening of soils for metals, with verification by collection of laboratory analytical samples from a subset of the XRF screening locations (WESTON START);
- Collection of XRF and GPS screening of soils and exposed sediments along Torch Lake and Lake Superior shoreline areas (Gay Stamp Sands) utilizing the Rapid Assessment Tools (RAT) system, with verification by collection of laboratory analytical samples from a subset of the XRF screening locations (U.S. EPA FIELDS);
- Inclusion of PCB analysis in the samples collected for laboratory analysis; and
- Collection of additional, multi-media samples and laboratory analysis, as determined necessary in the field.

Photo documentation of AA activity and site features referenced in this document is presented in **Attachment B**.

2.2.1 Targeted AOIs

The list of targeted AOIs for the Torch Lake AA includes: (listed according to locational relationship)

- AOI 7 – Quincy Smelter;
- AOI 15 – Additional Properties Adjacent to Quincy Smelter;
- AOI 16 – Dollar Bay Wire Mill;
- AOI 17 – Dollar Bay Well Field;
- AOI 10 – Mason Sands;
- AOI 18 – Building in Mason;
- AOI 19 – Former C&H Leach Plant and Hubbell Stamp Sands;
- AOI 20 – Tamarack City Stamp Mill;
- AOI 21 – Hubbell Beach and Slag Dump;
- AOI 22 – Hubbell Docks, Mineral Building, and C&H Smelter;

- AOI 12 – Lake Linden Sands;
- AOI 23 – C&H Power Plant;
- AOI 24 – Backwater Area of Torch Lake;
- AOI 25 – Traprock Slag Dump;
- AOI 26 – Bootjack Stamp Sands;
- AOI 14 – Gay Stamp Sands;
- Various AOIs – Western Shoreline of Torch Lake; and
- AOI 27 – Drums on Lake Bottom.

A detailed description of each primary targeted AOI is provided in **Section 3.0**.

2.2.2 Soil Screening Using XRF

Targeted soils were initially screened by WESTON START/U.S. EPA FIELDS using an XRF (Niton and/or Innov-X 4000 XP/Auto XRF models) instrument in accordance with procedures outlined in the site-specific WP. All locations where XRF screenings were conducted by WESTON START were located utilizing a sub-meter GPS device. U.S. EPA FIELDS personnel utilized the RAT system software to collect XRF and GPS data. The RAT software, developed by U.S. EPA's Region V FIELDS Team, enables the user to collect real-time data utilizing GPS and other monitoring devices using their digital data outputs. Use of the RAT software at the Torch Lake AA site allowed U.S. EPA FIELDS teams to collect and store real time XRF and GPS data in a flat file, which in turn allowed the data to be plotted and viewed in the field on aerial photography. Automated collection of data in the field allowed WESTON START to produce daily GIS plots showing locations of data collected.

Sample collection for laboratory analysis was performed at suspect locations or at a target minimum of 10% of the screening locations to verify the XRF results and to assess the presence of the contaminants of concern (COCs).

2.2.3 Soil and Exposed Sediment Sampling

The U.S. EPA FIELDS and WESTON START teams collected soil and exposed sediment samples for laboratory analysis during follow-up AA activities based on the results of initial reconnaissance efforts and XRF screening results. Twenty-four soil and exposed stamp sand

samples were collected per WESTON START standard operating procedures (SOP) as outlined in the *START III Generic QAPP*, for laboratory analysis of 14 select Target Analyte List (TAL) metals and polychlorinated biphenyls (PCBs).

Laboratory data and validation reports for all soil sampling results discussed in the text are presented in **Attachment C**.

2.2.4 Waste Sampling

The WESTON START team collected one waste sample of a tar-like material from AOI 15 (See **Section 3.2.3**) during the AA using WESTON START SOPs, as outlined in the *START III Generic QAPP*. The sample was submitted to the laboratory for analysis of 14 select TAL metals, PCBs, Semi-volatile and volatile organic compounds (SVOC/VOC), and cyanide.

The laboratory data and validation report for the waste sampling results discussed in the text are presented in **Attachment C**.

2.3 TASK 3 – SAMPLE AND DATA MANAGEMENT ACTIVITIES

All laboratory analytical samples were collected in laboratory-supplied containers using sampling techniques and equipment in accordance with the site-specific WP and the *START III Generic QAPP*. All sample containers were tightly sealed and immediately packed upright, on ice, in coolers. Upon collection of all samples, the appropriate laboratory chain-of-custody forms were completed. Sample coolers were securely taped prior to transport to prevent any tampering or loss of samples. Samples were shipped, under chain of custody, via overnight courier in coolers with packing material to prevent breakage of sample containers. Samples were shipped in compliance with all applicable Department of Transportation (DOT) and International Airline Transportation Authority (IATA) Regulations.

SECTION 3

AREA ASSESSMENT RESULTS

3.1 AOI 7 – QUINCY SMELTER

3.1.1 Site Description

The Quincy Smelter (AOI 7) is located at 48991 Maple Street, Ripley, Franklin Township, Houghton County, Michigan (**Figure 2a**). AOI 7 consists of approximately 25 acres in a roughly rectangular shape, encompassing 1,483 feet of shoreline along Portage Lake. A former copper smelter and support buildings (total of 27 buildings) occupy AOI 7. Portage Lake is to the south of AOI 7, Highway 26 to the north, and private properties border AOI 7 to the east and west. The Hancock/Ripley Trail (HRT), a designated snowmobile trail also used for walking, running, and all-terrain vehicles, crosses AOI 7 from east to west along a former railroad bed.

The Quincy Mining Company (QMC) owned and operated AOI 7 as part of historic copper mining operations from the middle 1800s until 1969 when it closed. After smelting operations ended, QMC continued to operate a water company on AOI 7. In 1986, the Quincy Development Corporation (QDC) assumed ownership of the Quincy Smelter property. Franklin Township took ownership from QDC in 1999. AOI 7 is currently owned by Franklin Township.

3.1.2 Review of Existing Site Information

AOI 7 is included in the Torch Lake NPL Site. From 2002 through 2004, MDEQ, U.S. EPA, QDC, National Park Service (NPS), Franklin Township, and the Keweenaw National Historical Park have performed numerous investigations at this property, including:

- Brownfields Redevelopment Assessment (BFRA) (MDEQ, 2002);
- Historical land use survey (Archimede and Martin, 2002);
- Critical safety and preservation needs assessment and stabilization plan (Franklin Township, February 2003);

- Comprehensive Environmental Resource Conservation and Liability Act (CERCLA) removal assessment and removal action, including the transportation and disposal of more than 1,000 gallons of waste material from drums, tanks, vats, and small containers of oils, greases, solvents, powders, laboratory chemicals, and contaminated debris and soil (http://epaossc.net/site_profile.asp?site_id=889);
- Asbestos and heavy metals exposure/health-risk assessment following identification of friable asbestos-containing materials (ACM) at AOI 7 and determination that concentrations of metals in AOI 7 surface soils were above State of Michigan Part 201 direct contact and inhalation criteria (MDEQ, 2002); and
- Assessment of asbestos-related and physical hazards, documenting substantial amounts of friable bulk asbestos and ACM, as well as dangerous conditions due to the presence of dilapidated structures (WESTON, 2004).

Because sufficient information about AOI 7 was available in the MDEQ and U.S. EPA files, no additional AA field activities were conducted at this AOI.

3.2 AOI 15 – PROPERTIES ADJACENT TO QUINCY SMELTER

3.2.1 Site Description

Additional properties along the Portage Waterway shoreline east of the Quincy Smelter property to the H&Y Marina and the surrounding area makeup AOI 15. AOI 15 includes areas of exposed drums, tanks, a former manufactured gas plant (MGP) (Houghton County Gas & Coke) site, and debris and material related to historic mining-era-related industrial uses within the AOI limit. Currently, properties within AOI 15 (**Figure 2a**) include:

- Julio Marine and Salvage;
- Hanke Property;
- Copper Bowl;
- Diane B. Sprague Trust Property;
- Franklin Township Property;
- Zenith M. Manwell Property;
- Bootjack Holding/Ripley LLC or Raymond Kolehmainen Property (Former location of Houghton County Gas & Coke);
- Mickelsen Property;
- Julio Undeveloped Property;
- Julio Contracting;
- Clarence G. Hocking Trust Property;

- Julio Property;
- H&Y Marina; and
- The HRT (traverses all of AOI 15).

3.2.2 Review of Existing Site Information

Existing information was available for a selection of the properties in this AOI and is summarized in the following paragraphs.

Bootjack Holding/Ripley LLC or Raymond Kolehmainen Property (Former location of Houghton County Gas & Coke)

Two sources provided information regarding the former Houghton County Gas & Coke Plant: the current property owner, Mr. Raymond Kolehmainen; and Sanborn Maps from 1907 and 1917, coincident with plant operation. Notations on the 1907 Sanborn Map indicate that “coal gas process operation [occurred] day and night,” and indicate the presence of a coke shed, coal shed, storage, and a large, round object labeled “gasometer”. The 1917 Sanborn Map indicates the presence of a 15,000-gallon tank, located at ground level on the north side of the property near the former railroad tracks.

Mr. Raymond Kolehmainen, the current property owner, has communicated with individuals who were present at the property when it was operational. Reportedly, one individual mentioned that an open tar pit was located on the north side of the property; this was likely the 15,000-gallon ground-level tank. Pictures from the era of site operations, also provided by the owner, show a large above-ground storage tank (AST) containing fuel oil on site; this was likely the large round object labeled “gasometer” on the Sanborn Maps.

Mickelsen Property/ Undeveloped Julio Property

Notations on the Sanborn Maps from 1907 and 1917 referred to above indicate that these properties comprised the Portage Coal & Dock Company and were used for hauling and storing coal. Docks were located along the shoreline of Portage Lake in front of the Mickelsen and Undeveloped Julio Property.

Julio Contracting

Reviews of existing documents indicated that during audits performed by MDEQ in 1995, the Julio Contracting property was determined to be in violation of several natural resource regulations, including:

- Michigan's Part 111 of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended (Part 111 of Act 451);
- Michigan Compiled Laws (MCL) 324.11101 *et seq.*, and Subtitle C of the Federal Resource Conservation and Recovery Act (RCRA), as amended; and
- Any regulations promulgated pursuant to these Acts.

AOI 15 – General

Review of existing documents also indicated that MDEQ performed a BFRA for the HRT. MDEQ's findings for surface soil analysis indicated the presence of benzene, ethylbenzene, xylenes, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, carbazole, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, aluminum, antimony, arsenic, chromium, cobalt, iron, magnesium, manganese, mercury, selenium, silver, cyanide, and vanadium at concentrations greater than the Generic Residential Cleanup Criteria (GRCC) of Part 201 of the NREPA. The concentrations of arsenic, cyanide, benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene exceeded the soil RDCC. The concentration of benzo(a)pyrene also exceeded the Generic Industrial Cleanup Criteria of Part 201 of the NREPA. Because these contaminants were detected at concentrations in excess of the GRCC, the HRT property was considered a "facility" under Part 201 of the NREPA.

The MDEQ assessment also indicated that contaminants detected at the property may migrate toward downgradient receptor areas and into other environmental media within the property. Based on site characteristics and sampling data, the soil is the primary source of contamination at the property, and contaminants in the soil may potentially be transported from soil to groundwater, soil to surface water, or soil to air. The potential exposure routes that have been identified for the property include ingestion of drinking water and soil, dermal adsorption of contaminants in groundwater, and inhalation of dusts and vapors from soil.

3.2.3 Summary of Field Activities

WESTON START personnel performed visual and photo assessments of the properties visible from the HRT on September 6, 2007, before access to any of the properties was granted. Several ASTs, underground storage tanks (UST) located above ground as scrap, compressed-gas cylinders, and drums were noted for further investigation. All noted items discovered while traversing the HRT were documented on properties where access was later granted. These properties are discussed below. Access was granted to all properties warranting additional assessment based on the September 6, 2007, HRT survey. Property owners granting access to U.S. EPA and WESTON START for the AA and sampling include those listed in **Section 3.2.1**.

Julio Marine and Salvage

The Julio Marine and Salvage is a commercial scrap metal recycling yard (**Figure 2a**). Drums, ASTs, USTs, electrical equipment, compressed-gas cylinders labeled as propane and other materials, crushed gas tanks, engines, automobiles with oil and gas tanks present, and car batteries were observed on site. With the exception of the car batteries, automobiles, and some of the drums, all items appeared empty and stacked with like materials. Large piles of stamp sands were also present on site, stockpiled for creating and repairing roads within the scrap yard. Per the scope of the AA, XRF screening was conducted only at the property shoreline.

Other site features that were documented during the AA include:

- Evidence of past fires in more than one location;
- Several drums with unknown contents stored within a tall metal vault;
- A large pile of stained soil mixed with metal debris, approximately 20 feet long, five feet wide, and three feet tall, located near a scale station; and
- An oily sheen west of the scrap yard main building.

Historical information indicated that transformers had been identified on the property in the past, but neither transformers nor evidence of transformers were observed during the AA.

Franklin Township Property

WESTON START personnel performed the AA at the Franklin Township property on September 12, 2007. This property is an undeveloped, vacant lot. No suspicious material was observed during the AA at this property and no XRF screening was performed.

Hanke Property

WESTON START personnel performed the AA at the Hanke Property on September 12, 2007. The Hanke Property is a residential location north of the HRT. The majority of the site is paved with asphalt. No suspicious material was noted during the AA and no XRF screening was performed at this location.

Copper Bowl

WESTON START personnel performed the AA at the Copper Bowl on September 12, 2007. The Copper Bowl is a commercial bowling alley open to the public. The majority of the site is paved with asphalt. A bulged drum, discolored with black residue, was observed on the south edge of the property along the HRT. The drum may contain grease or other food-related waste. No XRF screening was performed at this location.

Bootjack Holding/Ripley LLC or Raymond Kolehmainen Property (former location of Houghton County Gas & Coke)

WESTON START conducted the AA at the Kolehmainen Property, formerly the Houghton County Gas & Coke Plant on September 10 and 11, 2007. Two buildings currently exist on site along with debris, slag, coal, tar-like debris, ASTs, compressed-gas cylinders, and exposed stamp sands along the shoreline. The current landowner capped the majority of the property with gravel. The landowner showed WESTON START personnel the location of a tar vault that he discovered while digging on site approximately one year prior to the AA. On September 10, 2007, the landowner dug up the tar vault so WESTON START personnel could observe the tar, and collect a tar/soil sample. The landowner reported that the vault contains a black liquid with tar-like odor and the consistency of molasses. WESTON START collected a wet, tar-like sample from material outside the vault (MGP-TAR).

Tar was also observed at the property shoreline. It appears as though the tar seeps to the ground surface during warmer weather.

Other site features that were documented during the AA include:

- Dilapidated site structures;
- An unknown extent of tar-like material;
- Piles of coal;
- ASTs and compressed gas cylinders present in both buildings; and
- Evidence of a well located inside a sandstone building.

Due to documented conditions on site and the inability of the WESTON START to view all site areas, there is a potential that other non-observed sources of contamination are present.

Mickelsen Property

WESTON START personnel performed the AA at the Mickelsen property on September 12, 2007. This property is in the process of being developed and has been capped. The current landowner has poured a foundation and plans to construct a home. The property is adjacent to the former location of Houghton County Gas & Coke and may contain tar-like material under the surface cap near the shoreline, based on information provided by the owner of the former Houghton County Gas & Coke site. Historically, this property was used for coal storage and WESTON START observed coal and coal mixed with soils on site.

Julio Undeveloped Property

WESTON START personnel performed the AA at the Julio Undeveloped Property on September 12, 2007. This property is an undeveloped, vacant lot. No suspicious material was noted and no XRF screening was performed.

Julio Contracting

WESTON START personnel performed the AA at the Julio Contracting property on September 12, 2007. During the AA, WESTON START observed drums, ASTs, USTs, automobile and marine batteries, historic debris piles, stamp sand piles for road construction, construction debris, and construction equipment.

Other site features that were documented during the AA include:

- Oil-stained soil on the north side of the HRT and northeastern side of the property;
- A 20,000-gallon AST located on the northwestern side of the property;
- A well located next to the large AST;
- A creek running perpendicular to M-26, located on the western side of the property, that was stagnant, murky, and brown in color; and
- Empty, submerged drums located along the shoreline where boats were docked.

Clarence G. Hocking Trust Property

WESTON START personnel performed a portion of the AA at the Clarence G. Hocking Trust Property on September 7, 2007. This property is currently used for boat storage and the majority of the site is paved with asphalt. No suspicious material was observed.

Julio Property

WESTON START personnel performed the AA at the Julio Property on September 12, 2007. This commercial property contains construction debris, ASTs, drums, automobile and marine batteries, a large pile of stacked household-sized liquid propane tanks, piles of stamp sands for road building and repair, old equipment, and historical mining-related buildings. None of the buildings were open for reconnaissance.

Other features observed during the AA include:

- A large AST that appeared to be leaking slowly from a spigot;
- Old Michigan Department of Transportation equipment used for road-building that may still contain tar-like materials; and
- An oil heater tank that may contain oil.

H&Y Marina

WESTON START personnel performed the AA at the H&Y Marina on September 12, 2007. This location is a commercial boat marina. Stamp sands were identified along the shoreline where low lake levels have exposed previously submerged material. The area from the newly exposed shoreline to M-26, north of the lake, appeared to have been capped. The owner was present and mentioned that he had been operating the marina for more than 20 years.

3.2.4 Summary of XRF Results

Locations at AOI 15 where XRF screening was conducted and results exceed RDCC (use of surveyed properties varied and comparison to RDCC is for reference only) are shown on **Figure 2b**. All XRF screening results are presented in **Table 1**.

Julio Marine and Salvage

The majority of the shoreline was covered with rock/brick debris. Three shoreline areas of exposed stamp sand and/or slag were screened with an Innov-X 4000 XP/Auto XRF (JulioScrap-3 through JulioScrap-5). No metals were detected at concentrations exceeding RDCC.

Bootjack Holding/Ripley LLC or Raymond Kolehmainen Property (former location of Houghton County Gas & Coke)

Ten locations were screened with an Innov-X 4000 XP/Auto XRF at this location, nine on September 10, 2007, and one on September 11, 2007. Two of the ten locations screened by XRF exhibited concentrations of metals in excess of RDCC. The hard, brown, tar-like material (MGP-23) contained concentrations of lead in excess of RDCC, and the black-stained soils (MGP-25) contained concentrations of arsenic in excess of RDCC.

Mickelsen Property

During the AA, two locations were screened with an Innov-X 4000 XP/Auto XRF; the shoreline of exposed stamp sands (Mickelsen-6), and black-stained soils east of the future residence (Mickelsen-7). No metals were detected in excess of RDCC at either screening location.

Julio Contracting

Per the scope of the AA, XRF screening was performed only along the shoreline at one location, JulioCon-13. No metals were detected in excess of RDCC. The majority of the shoreline consisted of rip-rap, brick, and/or block debris with little or no stamp sand exposure.

Clarence G. Hocking Trust Property

One location at the exposed stamp sand shoreline was screened with an Innov-X 4000 XP/Auto XRF (HockingsB-20). All metal concentrations were below RDCC.

Julio Property

Per the scope of the AA, XRF screening was performed only along the shoreline at two locations (JulioSalvage-15 and JulioSalvage-16). All metals concentrations detected in both samples were below RDCC.

H&Y Marina

Three locations were screened with an Innov-X 4000 XP/Auto XRF, two stamp sand locations and one black-stained soil. One of the stamp sand locations exhibited arsenic concentrations in excess of RDCC (H&Ymarina-17) and the black-stained soil location (H&Ymarina-19) exhibited iron concentrations in excess of RDCC.

3.2.5 Summary of Laboratory Results

Locations at AOI 15 where laboratory samples were collected and analytical results for metals exceed RDCC are documented on **Figure 2b**. All laboratory results for metals are presented in **Table 1**, and laboratory results for PCBs are presented in **Table 2**. Samples for laboratory analysis were collected from six locations within AOI 15.

Bootjack Holding/Ripley LLC or Raymond Kolehmainen Property (Former location of Houghton County Gas & Coke)

Samples were collected for laboratory analysis at three of the soil locations that were screened with an XRF; MGP-1, MGP-21, and MGP-26. Laboratory results from MGP-21 and MGP-26 exhibited arsenic concentrations in excess of the RDCC. XRF screening results at locations MGP-21 and MGP-26 did not exceed RDCC. As discussed previously, this is likely due to the limit of detection of the XRF screening method. No PCBs were detected in these samples at concentrations greater than RDCC.

An additional sample was collected of a tar-like material present at the site (MGP-TAR). All metals concentrations in this sample, as determined in the laboratory, were below RDCC. Concentrations of the following SVOCs were detected in excess of RDCC in sample MGP-TAR: acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, and phenanthrene (**Table 3**). VOC concentrations in sample MGP-TAR that exceeded RDCC include: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, naphthalene, toluene, and total xylenes. The concentration of total cyanide in sample MGP-TAR was below RDCC.

Mickelsen Property

During the AA, a sample was collected for laboratory analysis at one of the two locations screened with an XRF, Mickelsen-6. The concentration of arsenic in the sample, as determined by the laboratory, was in excess of the RDCC. However, no metals were detected in excess of RDCC during XRF screening of this sample. The limit of detection of the XRF screening method is typically higher than that of laboratory analysis. No PCBs were detected in sample Mickelsen-6.

H&Y Marina

A sample was collected for laboratory analysis at one of the three locations screened with an XRF, H&Y marina-19. XRF screening results revealed iron concentrations in excess of the RDCC and the laboratory results exhibited arsenic and lead concentrations in excess of RDCC. The RDCC for lead is 400 milligrams per kilogram (mg/kg). The XRF screening result for

sample H&Y marina-19 was 340 mg/kg and the laboratory results was 440 mg/kg. Therefore, the relatively low variability between XRF lead results and laboratory lead results was significant since XRF screening indicated a concentration below RDCC while laboratory results indicated a concentration greater than RDCC. Iron was not analyzed in the laboratory sample. No PCBs were detected in excess of RDCC in sample H&Y marina-19.

3.3 AOI 16 – DOLLAR BAY WIRE MILL

3.3.1 Site Description

The former use of the Dollar Bay Wire Mill property is unknown at this time, although it is assumed that mining-era operations occurred at this property. Numerous buildings remain on site, and the property is currently an operational boat storage yard (**Figure 3a**).

3.3.2 Review of Existing Site Information

The U.S. EPA previously remediated the western portion of this property by placing a gravel cover as part of the Torch Lake NPL remedy. The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the gravel cover is not restated here.

3.4 AOI 17 – DOLLAR BAY WELL FIELD

3.4.1 Site Description

There are two areas associated with AOI 17. The first area includes two parcels of privately-owned land between the Dollar Bay Well Field and the Dollar Bay Wire Mill (AOI 16). These parcels are owned by Paul and Lois Malinowski. The second area of AOI 17 is the Dollar Bay Well Field, currently owned by Osceola Township, and the surrounding area that was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts (**Figure**

3a). This area constitutes a new AOI based on the presence of foundation materials, slag, and refractory brick on site.

3.4.2 Review of Existing Site Information

One of the privately-owned parcels of this AOI, between the Dollar Bay Well Field and the Dollar Bay Wire Mill, was previously remediated by U.S. EPA via the placement of a vegetative cover and fencing on the parcel as part of the Torch Lake NPL Site remedy. The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the vegetative cover is not restated here.

The second area of AOI 17, the Dollar Bay Well Field and the surrounding area that was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts, contains foundation materials, slag, and refractory brick. In addition, the property includes stamp sand deposits. WESTON START did not identify any existing documentation pertaining to this portion of AOI 17.

3.4.3 Summary of Field Activities

WESTON START personnel performed the AA at AOI 17 on September 7 and September 12, 2007. No suspicious material was observed in the capped area of AOI 17 with the exception of exposed stamp sands along the shoreline of the capped property. The uncapped property contained exposed foundation materials, debris, slag, and exposed stamp sands.

3.4.4 Summary of XRF Results

A total of four locations were screened with the XRF at this AOI (**Table 4**). Three locations were located in the uncapped area of the site: the exposed stamp sand shoreline and two suspicious-looking slag/stamp sand piles located on the interior of the property. Both of the slag/stamp sand piles screened in the uncapped area contained concentrations of arsenic

exceeding of RDCC (locations DollarB-11 and DollarB-12, **Figure 3b**). One of the samples also contained copper concentrations exceeding RDCC (DollarB-12), and another contained iron in excess of the RDCC (DollarB-19). The screening location DollarB-11 was part of a large surface deposit of stamp sands approximately 100 feet long by 100 feet wide. Screening location DollarB-12 was at a slag/stamp sand pile approximately five feet long by four feet wide.

3.4.5 Summary of Laboratory Results

No laboratory analytical samples were collected at this AOI.

3.5 AOI 10 – MASON SANDS

3.5.1 Site Description

The Mason Sands AOI includes the Quincy Mining Company Leach Plant ruins, a beached dredge, a smokestack, stamp sands, and other mining-era building ruins (**Figure 4a**).

3.5.2 Review of Existing Site Information

Contaminants in stamp sand deposits at Mason Sands were addressed during previous U.S. EPA remedial efforts via the placement of a vegetative cover along the shoreline portion of the property as part of the Torch Lake NPL Site remedy. The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the vegetative cover is not restated here.

MDEQ has reported that the hull of the beached dredge at the Mason Sands AOI was painted with a mixture of lampblack and red lead paint. In addition, the smokestack ruins on site contain high arsenic levels.

A review of existing documentation revealed that the current property owner, Lakeshore Estates, completed and submitted a Category A Baseline Environmental Assessment (BEA) to MDEQ in

April 1997. In addition, Osceola Township, while contemplating developing a historical interpretive park at the site, completed and submitted a Category A BEA to MDEQ in July 1998 for a 6.87-acre area of the Mason Sands. No significant findings were identified from the BEAs.

Review of existing site documentation indicated that the U.S. Department of Health and Human Services (DHHS) completed a health consultation for Torch Lake (March 23, 1998) that concluded that the “Mason Sands do not pose an urgent public health hazard under current conditions”.

3.5.3 Summary of Field Activities

WESTON START and U.S. EPA FIELDS teams conducted the AA at AOI 10 including a visual assessment, XRF screening of suspicious materials, a reconnaissance of newly exposed stamp sand deposits, and sample collection for laboratory analytical verification. On September 6, 2007, the WESTON START team assessed buildings and ruins, and on September 12, 2007, the U.S. EPA FIELDS teams conducted assessments along the shoreline.

AOI 10 contains exposed foundation materials, debris, empty drums, slag, coal, and exposed stamp sands. These materials were largely encountered to the north of the beached dredge on the east side of M-26 (**Figure 4a**). Piles of stamp sands and/or slag of various colors, including gray, red, black, green, and tan, were observed during the AA.

Other site features that were documented during the AA include:

- Several breaches were evident in the perimeter fence, and the access gate does not lock properly;
- Vandalism and trespassing were evident in all site areas;
- Empty drums were stored on site;
- A small concrete building was observed near the Quincy Mining Company Leach Plant building ruins that may contain a UST as evidenced by a one-inch stick-up located inside the building, a petroleum odor that was noted by WESTON START, and a “No Smoking” sign painted on the outside of the building;
- A former transformer pad was observed near the Quincy Mining Company Leach Plant building ruins;

- Additional pipes were observed at the north-central portion of the Quincy Mining Company Leach Plant building ruins, indicating the potential for additional USTs and ASTs on site.

3.5.4 Summary of XRF Results

The U.S. EPA FIELDS team screened 25 locations on September 12, 2007, along the shoreline between Mason and Tamarack City with an XRF unit (**Table 5**), and collected five samples for laboratory analytical verification. No suspicious material was observed beyond stamp sands during the AA. Therefore, U.S. EPA FIELDS performed XRF screening every one quarter mile along the shoreline. Two locations along the shoreline exhibited arsenic concentrations greater than RDCC (TM-S1-02, and TM-S1-05), and one of the two locations (TM-S1-05) also contained lead concentrations greater than RDCC (**Figure 4b**).

WESTON START personnel screened twelve locations within the building ruins with an XRF unit and collected two samples for laboratory analytical verification on September 6, 2007. XRF screening yielded concentrations of metals greater than RDCC at five locations. Three locations contained arsenic at concentrations greater than RDCC (MasonB-3, MasonB-10, and MasonB-13), two locations contained lead at concentrations greater than RDCC (MasonB-6 and Mason B-10), and one location contained copper at a concentration greater than RDCC (MasonB-12). Location MasonB-6 was on a gray slag pile approximately five feet in diameter and 10 inches tall. Location MasonB-10 was a small, green-stained stamp sand/slag pile inside the Quincy Mining Company Leach Plant building ruins. Location MasonB-12 was a green-stained, rocky soil area located within one of the round structures observed within the Quincy Mining Company Leach Plant building ruins. Samples were collected and submitted for laboratory analysis for locations MasonB-6 and MasonB-10.

3.5.5 Summary of Laboratory Results

Samples were collected for laboratory analysis from five of the 25 locations screened with an XRF by the U.S. EPA FIELDS along the shoreline between Mason and Tamarack City and two of the 12 locations screened within the building ruins in Mason by WESTON START. A summary of the analytical results is presented below:

- As determined by laboratory analysis, no metals concentrations exceeded RDCC in samples collected at three of the five locations screened by U.S. EPA FIELDs (MS-S1-12, TM-S1-02, and TM-S2-02). No metals concentrations exceeded RDCC at these locations during XRF screening, either, with the exception of arsenic at location TM-S1-02. Arsenic concentrations in sample TM-S1-02 were determined to be 0.35 mg/kg by laboratory analysis and 8 mg/kg by XRF screening.
- Laboratory results for the sample collected at location MS-S1-13 exhibited arsenic concentrations greater than RDCC, however arsenic concentrations were less than RDCC during XRF screening at this location.
- Laboratory results for the sample collected at location TM-S1-05 exhibited arsenic and lead concentrations greater than RDCC, and concentrations of arsenic and lead were also greater than RDCC during XRF screening of the location where the sample was collected. It should be noted that there is a significant difference between arsenic and zinc results in this sample as determined by the different methods. Arsenic concentrations were measured as 9.8 mg/kg by laboratory analysis, and 72 mg/kg by XRF. Zinc concentrations were measured as 9,100 mg/kg by laboratory analysis, and 1,513 mg/kg by XRF.
- Laboratory and XRF screening results for location MasonB-6 identified concentrations of lead greater than RDCC. Concentrations of lead as determined by the laboratory were nearly twice as high (1,100 mg/kg) as that determined by XRF (553 mg/kg). Sample MasonB-6 was collected from coarse stamp sand/slag material that was heterogeneous in nature. This may explain the difference in the results of the two types of instrumentation.
- Laboratory results for the sample collected at location MasonB-10 indicated that all metal concentrations were less than RDCC. However, concentrations of arsenic and lead, as determined by XRF, exceeded RDCC.

PCBs were analyzed in seven samples collected at AOI 10: Mason XRF6, collected as screening location MasonB-6; Mason XRF10, collected at screening location MasonB-10; and samples MS S1-12, MS S1-13, TM S1-02, TM S1-05, and TM S2-02 collected at screening locations of the same names. PCBs were not detected in the samples collected at AOI 10.

3.6 AOI 18 – BUILDING IN MASON

3.6.1 Site Description

The Building in Mason, which was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts, constitutes a new AOI (**Figure 4a**). The former use of this building is unknown at this time; however, it is assumed that its use was related to mining-era operations. This property is located on the west side of highway M-26 in the town of Mason

near the Mason Sands. The property contains a dilapidated building, exposed foundation materials, debris, empty drums, and old potentially asbestos-wrapped piping.

3.6.2 Review of Existing Site Information

WESTON START did not identify any existing documents pertaining to AOI 18.

3.6.3 Summary of Field Activities

WESTON START personnel performed the AA of the Building in Mason on September 6, 2007. There was evidence of trespassing and vandalism. Approximately 50 feet of piping wrapped with potential ACM was located on the western interior of the building. Damaged pipe wrap was also present in piles on the floor along the western interior of the building. Roofing material expected to contain asbestos was observed on the second level of the building. No materials expected to contain elevated concentrations of metals were observed; therefore, no XRF screening was conducted.

3.6.4 Summary of XRF Results

No XRF screening was conducted at AOI 18 during the AA.

3.6.5 Summary of Laboratory Results

No laboratory samples were collected at AOI 18 during the AA.

3.7 AOI 19 – FORMER C&H LEACH PLANT AND HUBBELL STAMP SANDS

3.7.1 Site Description

AOI 19 includes the Former C&H Leach Plant and a shoreline area known as the Hubbell Stamp Sands (**Figure 5a**). The C&H Leach Plant is located in the area of the Burcar Construction yard. The U.S. EPA FIELDS and WESTON START teams were denied access to the C&H Leach Plant.

3.7.2 Review of Existing Site Information

The C&H Leach Plant, located in the area of the Burcar Construction yard, was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts, and constitutes a new AOI based on mining-era operations at the property.

Available site information included results of sampling performed on the property on August 9, 2007, by MDEQ. **Attachment D** contains a figure showing the approximate MDEQ sampling and screening locations, and a table summarizing the XRF and laboratory analytical results. The sampling and screening results indicated the presence of arsenic, copper, lead, antimony, and iron at concentrations greater than RDCC.

3.7.3 Summary of Field Activity

U.S. EPA FIELDS performed reconnaissance and XRF screening along the shoreline of the Hubbell Stamp Sands portion of AOI 19 on September 12, 2007.

3.7.4 Summary of XRF Results

U.S. EPA FIELDS screened 18 locations with the XRF unit (**Table 6**) and one sample was collected and submitted for verification via laboratory analysis (HUB-S1-13). Two locations that were screened with an XRF unit exhibited arsenic concentrations greater than RDCC (HUB-S1-08 and HUB-S1-10) (**Figure 5b**).

3.7.5 Summary of Laboratory Results

One of the 17 locations screened by XRF, HUB-S1-12, was also sampled for verification via laboratory analysis. As determined by laboratory analysis, no metals concentrations exceeded RDCC in this sample. These results are consistent with XRF screening results at the same location.

No PCBs were detected in sample HUB-S1-12.

3.8 AOI 20 – TAMARACK CITY STAMP MILL

3.8.1 Site Description

The Tamarack City Stamp Mill (AOI 20) is located in Tamarack City, Houghton County, Michigan. Specifically, the site is located in Section 13 of Osceola Township, Township 55 North and Range 33 West (**Figure 6**). AOI 20 is bounded by Highway M-26 to the north/northwest, a park to the west/southwest, Spruce Road to the south and east, Sixth Street to the northeast, and is surrounded by residential property. Torch Lake is located to the southeast and east of AOI 20.

The property, known previously as the Ahmeek Mining Company Stamp Mill, or Ahmeek Regrind, was used for the processing of copper-containing ores from approximately 1906 to 1968. The Ahmeek Mining Company installed eight steam-powered stamp units on top of large concrete foundations. The stamp units were used to extract copper ore from mine rock. Additionally, chemicals may have been used to assist with the process of separating the copper from the mine rock. It has also been reported and confirmed through aerial photography that waste material from the stamping process (stamp sand) was deposited into Torch Lake.

Remnants of the former copper stamping mill, including concrete foundations and structures, as well as stamp sand and demolition debris, remain at AOI 20. Due to the historical significance of copper mining in the Keweenaw Peninsula, and the area where AOI 20 is located, the Tamarack City Stamp Mill is considered an asset, and is targeted for historical preservation and potential use as an interpretive center for tourists.

The following hazards, related to the Tamarack City Stamp Mill, exist at the site:

- Historical demolition activities at AOI 20 have resulted in the deposition of building debris, including massive concrete structures, metal debris, and rubble on the former mill floor and surrounding grade;
- The abandoned nature of the facility has resulted in the disposal of household and solid wastes at various locations of the property; and
- Surface soil samples collected from the site identified several locations where chemical concentrations exceeded RDCC and Particulate Soil Inhalation Criteria (PSIC).

3.8.2 Review of Existing Site Information

The following information was gathered from reviewing U.S. EPA and MDEQ files related to the Tamarack City Stamp Mill:

- **2001 BEA:** Upper Peninsula Engineers and Architects (UPEA) conducted a BEA on behalf of Osceola Township in fall 2001. Samples collected during the BEA were analyzed for inorganic content and a combination of VOCs, SVOCs, polycyclic aromatic hydrocarbons (PAHs), and/or PCBs/pesticides. The BEA included five surficial soil samples, three of which were within the site boundaries. Two of the three on-site locations exceeded RDCC and/or PSIC.
- **2001 BFRA:** MDEQ conducted a BFRA that included collection of 25 surficial soil samples; 53 analyses by XRF; 10 soil borings; and six groundwater samples from temporary monitoring wells. Samples collected for laboratory analysis were analyzed for VOCs, SVOCs, inorganic parameters, and PCB/pesticides. Six of the surface soil sampling locations contained concentrations of arsenic, lead and/or benzo(a)pyrene that exceeded RDCC. No exceedances of either RDCC or PSIC were noted in the subsurface soil samples. Five of the 19 XRF readings collected for soils exceeded RDCC and/or PSIC. Many of the 44 XRF readings collected for site structures exceeded RDCC and/or PSIC. Samples collected from five of the six temporary monitoring wells exceeded Part 201 Groundwater/Surface Water Interface (GSI) and/or Residential and Commercial I Drinking Water criteria.
- **2005 WESTON Data Review:** WESTON conducted a review of the BEA and BFRA to evaluate the threats posed by conditions at the site (*Technical Memorandum – Tamarack City Stamp Mill Site Analytical Data Review and Evaluation*, WESTON, March 2005). Based on the data review, it was evident that surface soils and standing structures were the main media of concern at AOI 20. This determination was based on contaminant concentrations at the surface above RDCC and PSIC.
- **2005 Biddable Specifications Package:** WESTON prepared biddable specifications in 2005 on behalf of MDEQ to address the site hazards (*Project Manual Interim Response – Hazard Mitigation*, WESTON, August 2005). However, due to funding constraints, hazard mitigation measures have not been implemented.

Because sufficient information about AOI 20 was available in the MDEQ and U.S. EPA files, no additional AA field work was conducted at this AOI.

3.9 AOI 21 – HUBBELL BEACH AND SLAG DUMP

3.9.1 Site Description

There are two areas associated with AOI 21: Hubbell Beach and the Hubbell Slag Dump (**Figure 6**). The Hubbell Beach area, which is part of a Township Park that includes a boat launch, docks, and a playground, was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts. The area constitutes a new AOI based on MDEQ reports of industrial and household dumping on the lake bottom adjacent to the beach, and direct discharge of residential sewage from local homes via piping to the northeast lobe of the stamp sand beach. The Hubbell Slag Dump and surrounding area, located adjacent to the Hubbell Beach, was addressed during previous U.S. EPA remedial efforts via the placement of a vegetative cover.

3.9.2 Review of Existing Site Information

Hubbell Beach

The Hubbell Beach area was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts. WESTON START did not identify any existing information pertaining to the Hubbell Beach portion of AOI 21.

Hubbell Slag Dump

The Hubbell Slag Dump and surrounding area, located adjacent to the Hubbell Beach, was addressed during previous U.S. EPA remedial efforts via the placement of a vegetative cover as part of the Torch Lake NPL Site remedy. The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the vegetative cover is not restated here.

Review of existing information also indicated that the U.S. DHHS completed a health consultation for Torch Lake (March 23, 1998) that concluded that the “Hubbell Slag area should

be further evaluated before any residential development is carried out there to determine the extent and appropriate treatment of the elevated lead and arsenic concentrations in the soil.”

3.9.3 Summary of Field Activities

WESTON START performed the AA at the Hubbell Beach and Slag Dump (AOI 21) on September 11, 2007. Black staining was present on the Hubbell Beach and WESTON START observed stamp sands migrating out from under the cap at the Hubbell Slag Dump. The black staining on the beach was approximately ten-feet in length, less than 1/5 inch in thickness, contained no odor, and appeared to be transitory in nature (washed up organic and/or broken up rock material).

3.9.4 Summary of XRF Results

Three locations on the shoreline were screened with an Innov-X 4000 XP/Auto XRF: the black staining on the beach, a pile of soil near the beach, and exposed stamp sands flowing out from under the cap at the former slag dump (HubbellB-2, HubbellB-3, and HubbellB-4, respectively) (**Figure 6**). No metals concentrations exceeded RDCC criteria (**Table 7**).

3.9.5 Summary of Laboratory Results

No laboratory analytical samples were collected at AOI 21.

3.10 AOI 22 – HUBBELL DOCKS, MINERAL BUILDING, AND C&H SMELTER

3.10.1 Site Description

There are three parcels associated with AOI 22: the Hubbell Dock, the Mineral Building, and the C&H Smelter (**Figure 7a**). Each parcel is described individually below.

Hubbell Dock

The Hubbell Dock property consists of approximately three to four acres of vacant land that contains surface debris such as scrap metal, wood, some fire brick, minor amounts of stamp sand, and coal pieces which are approximately one to two inches in diameter (NRCS, U.S. EPA, and MDEQ site inspections, 2002). The coal pieces comprise approximately 60% to 70% of the

on-site debris. The most prominent feature on the property is a massive, solid concrete retaining wall approximately 900 feet long and four feet thick running along the edge of Torch Lake. The concrete wall is speculated to be the remnant of a platform or building foundation that was intended for the unloading of coal from ships which were docked at a historical wooden dock built directly adjacent to the wall. All that remains of the dock are several wooden pilings protruding just above the surface of the water.

Mineral Building

The Mineral Building and associated property contains a dilapidated building, debris, empty drums, ash, newer construction-related debris, slag, and stamp sands. Railroad rails that run into the second story of the building were likely used for dumping loads into large concrete bins located inside.

C&H Smelter

The location of the former C&H Smelter is now an operating industrial facility and an AA was not undertaken at the site.

3.10.2 Review of Existing Site Information

There are three parcels associated with AOI 22 that were addressed during previous U.S. EPA remedial efforts: the Hubbell Dock, the Mineral Building, and the C&H Smelter. Each parcel is addressed individually below.

Hubbell Dock

Historically, the Hubbell Dock property was used for receiving coal from ships in the early part of the twentieth century. The coal was needed to generate power for area milling and smelting operations such as the C&H Smelter. In 1993, the Hubbell Dock property was purchased by Buchanen Forest Products, Inc., for use as a timber loading dock. In summer 1993, a large commercial vessel (approximately 500 feet long) entered Torch Lake and tied up alongside the former coal dock to take on a large load of timber for transport to Canada. This was the only attempt at timber shipping from the property by its current owner that U.S. EPA is aware of and

the owner does not anticipate any future attempts at shipping timber in a similar way because it proved to be cost prohibitive (conversation with Ken Buchanen, 2002).

The Hubbell Dock was previously evaluated by U.S. EPA and a No Action Alternative was selected. WESTON START reviewed a November 22, 2002, memorandum prepared by the U.S. EPA Remedial Project Manager that documented the No Action Alternative. In summary, the memorandum indicated that the Torch Lake NPL cleanup remedy primarily addresses the negative ecological effects on area water bodies as a result of more than a century of copper mining, milling, and smelting activities in the area. The most significant ecological effect is the degradation of the benthic community in area water bodies as a result of past and current metal and particulate-matter surface water loadings from mining wastes, including stamp sand, located on land along and near area water bodies. Benthic communities include lake-bottom dwelling organisms that are a very important part of a complex food web in lakes. The U.S. EPA cleanup decision for terrestrial portions of the site is documented in the September 30, 1992, U.S.EPA ROD.

From 1998 through 2000, during the design and construction phases of the Hubbell/Tamarack portion of the NPL project, NRCS and U.S. EPA evaluated the need for cover material at the Hubbell Dock property. At that time, the USDA-NRCS determined, and U.S. EPA concurred, that the concrete dock wall was highly stable and would be more than adequate to prevent wave erosion from affecting the land behind it. In addition, the NRCS did not observe any wind erosion and/or surface water erosion into Torch Lake from the coal dock property at that time.

However, in 2002, U.S. EPA and USDA-NRCS re-examined the need for cover material at the coal dock property. Additional site inspections were conducted on July 24, 2002, by USDA-NRCS personnel, and on October 8, 2002, by USDA-NRCS, U.S. EPA, and MDEQ personnel. Results of these site inspections include:

- July 2002 Site Inspection – USDA-NRCS noted the general composition and relatively large size of surface debris on site, including coal, and concluded that the surface debris would not likely be subject to wind erosion. In addition, USDA-NRCS advanced soil borings through the debris throughout the site and observed native soil within six to ten inches of the ground surface. However, USDA-NRCS also noted surface runoff channels on site that could potentially carry contamination into Torch Lake.

- October 2002 Site Inspection – USDA-NRCS, U.S. EPA, and MDEQ evaluated the surface runoff channels more carefully and concluded that surface water runoff from the property did not enter Torch Lake. In addition, the agencies confirmed the presence of only a thin layer of surface debris, composed mainly of coal pieces and only minor amounts of stamp sand. MDEQ collected and analyzed two soil samples from the coal dock property during the inspection, and results indicated that no significant contamination was present in site surface soils. Based on the observations and sampling results, the agencies concluded that the volume of waste material present in site surface soils is not significant enough to be a considerable contaminant source to Torch Lake.

Based on the information above, U.S. EPA concluded that the potential for the Hubbell Dock property to contribute to the degradation of the benthic community in Torch Lake was not high enough to justify taking a Superfund remedial action at the property consistent with the 1992 ROD. In addition, given the limited volume of waste material on the coal dock property and the fact that no significant contamination was detected in the two soil samples collected by MDEQ, U.S. EPA decided not to pursue institutional controls on the property.

Mineral Building

Soil contamination at the Mineral Building and surrounding area was addressed during previous U.S. EPA remedial efforts via the placement of a vegetative cover along the shoreline portion of the property as part of the Torch Lake NPL Site remedy. The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the vegetative cover is not restated here.

During the remedial action, the land surface of the property between the Mineral Building and U.S. EPA-covered shoreline area was not covered. Based on a September 2007 telephone conversation between WESTON START and representatives for the current property owner, the rationale for not covering this area could not be ascertained. Review of existing information also indicated that the current property owner completed and submitted a Category S BEA to MDEQ in May 2000. No significant findings were documented in the partial copy of the BEA that was available for review.

C&H Smelter

The C&H Smelter and surrounding area was addressed during previous U.S. EPA remedial efforts via the placement of a vegetative cover along the shoreline portion of the property as part of the Torch Lake NPL Site remedy. The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the vegetative cover is not restated here.

The remainder of this area is currently an operating industrial facility. WESTON START did not identify any existing information pertaining to the unremediated portion of AOI 22.

3.10.3 Summary of Field Activities

Hubbell Dock

The Hubbell Dock area was not accessed during the AA.

Mineral Building

WESTON START performed the AA at the Mineral Building on September 7, 2007. The AA was limited to select areas of the interior of the building, as the first story of the building was locked and the majority of the second story was unsafe to traverse. The concrete bins observed inside the building were stained green and blue on their interior walls. Similar discoloration had been observed on copper- and lead-based material previously screened during the AA.

Stained and potentially contaminated materials that were present in the building included light-colored soil, red-stained stamp sands, gray stamp sands, gray slag, white powder, brown-stained soil, ash, and yellow-stained soil. The red-stained stamp sand area was located near a small concrete vault east of the building. Other features that were documented during the AA include:

- Poor site security;

- Empty drums;
- Potential roofing ACM scattered on the property in a 100-foot radius of the building in all directions;
- Numerous debris piles;
- Evidence of household-waste dumping;
- Building paint that is likely lead-based;
- A concrete vault on the east side of the building that contains water and metal debris or a drum;
- A pipe exiting the south side of the building that is wrapped with insulation that may be ACM, and additional wrapped piping in the first story of the building that may be ACM;
- A small, red sandstone building located east of the Mineral Building that had one open door and a pile of white powder inside (MineralB-9, exceeds RDCC for arsenic) and white ceiling tiles and brackets;
- A large drainage ditch discharging to Torch Lake;
- Three large-diameter pipes (approximately 12-inches) at the shoreline that appear to be discharging from the Mineral Building;
- Piles of railroad tiles near the shoreline; and
- A large pile of green brick just south of the property boundary.

C&H Smelter

Access was not obtained and no AA took place at the former C&H Smelter as it is now an operating industrial facility.

3.10.4 Summary of XRF Results

Hubbell Dock

No XRF screening was conducted at the Hubbell Dock.

Mineral Building

Ten locations inside the building were screened with an Innov-X 4000 XP/Auto XRF (**Table 8**). Eight locations exhibited metal concentrations greater than RDCC (**Figure 7b**). Metal exceedances included iron, copper, arsenic, antimony, and lead. Screening locations MineralB-5, MineralB-6, and Mineral B-7 were located in red-stained stamp sand near a small concrete

vault east of the Mineral Building. This area, estimated to be 163 square feet, contained numerous metals above RDCC. Screening location MineralB-11 was ash-like in nature, and concentrations of copper, arsenic, and lead exceeded RDCC. Screening location MineralB-9, located inside the small, red sandstone building east of the Mineral Building, contained a pile of white powder with a concentration of arsenic greater than RDCC.

C&H Smelter

No XRF screening was conducted at the former C&H Smelter property.

3.10.5 Summary of Laboratory Results

Mineral Building

Samples were collected for laboratory analysis at two of the ten locations screened by XRF (MineralB-6 and MineralB-11):

- As determined by the laboratory, soil at location MineralB-6 contained copper, arsenic, and lead at concentrations greater than RDCC. These were the same metals that exhibited concentrations greater than RDCC during XRF screening in the field. However, the concentration of iron also exceeded RDCC during XRF screening.
- As determined by the laboratory, soil at location MineralB-11 contained arsenic concentrations greater than RDCC. However, XRF screening indicated that concentrations of arsenic, copper, and lead exceeded RDCC. Concentrations of metals were lower in the laboratory results than the XRF screening results, however at the same order of magnitude. The different results may be due to inaccuracies associated with the capabilities of the XRF screening method for samples containing many metals or the heterogeneous nature of many of the samples collected during the AA.

PCBs were analyzed in two samples from AOI 22: Mineral XRF6, collected from screening location MineralB-6; and Mineral XRF11, collected from screening location MineralB-11. All results were less than RDCC.

3.11 AOI 12 – LAKE LINDEN SANDS

3.11.1 Site Description

The Lake Linden Sands AOI (AOI 12) is comprised of the Lake Linden Recreation Park (LLRP) and the Houghton County Historical Museum, in Lake Linden, Houghton County, Michigan

(**Figure 8a**). The LLRP is a publicly owned recreational area located at the north end of Torch Lake at M-26, in a delisted portion of the Torch lake NPL Site. The LLRP and the Houghton County Historical Museum encompass the former locations of the Lake Linden Reclamation Plant, the Lake Linden Leach Plant, the Calumet Stamp Mill, and the Municipal Dump.

The Former Calumet Stamp Mill is now the Houghton County Historic Museum. A portion of the site has been redeveloped to incorporate historic buildings and equipment into the museum. The portion of the property not modified contains exposed foundation materials from the Former Calumet Stamp Mill facility, debris, empty drums, slag, coal, piles of railroad tiles, and exposed stamp sands.

The entire Lake Linden Sands AOI is associated with historic mine waste in the form of stamp sands and mining-era industrial waste. As part of the Torch Lake NPL Site remedy, stamp sands were capped along the entire Torch Lake shoreline up to the water's edge. The low lake levels experienced in the area during 2007 (lake levels are down one to two feet) have exposed stamp sands and other potential waste material that were previously submerged.

3.11.2 Review of Existing Site Information

MDEQ and U.S. EPA visited the Lake Linden Sands site during the week of June 18, 2007 as part of the Five Year Review Inspection and Site Visit. While on site, they observed and subsequently sampled clayey material located on the shoreline in the LLRP. Analytical results indicated the following contaminants were present in the sample:

- PCBs – 12 mg/kg;
- TAL metals –antimony (600 mg/kg), arsenic (45 mg/kg), barium (120,000 mg/kg), copper (81,000 mg/kg), and lead (78,000 mg/kg). Concentrations of these metals exceeded RDCC. Concentrations of barium, cadmium, chromium, lead, and selenium were high enough that MDEQ suspected the material sampled may be considered a hazardous waste under 40 CFR 261.24.

MDEQ presented a report of analytical data to U.S. EPA documenting recognized environmental concerns at the site on July 25, 2007.

U.S. EPA tasked WESTON under the START Contract to mobilize to the site on July 25, 2007, to investigate the concerns presented by MDEQ. On July 26, 2007, WESTON START collected

two samples of the white, clayey substance located west of the LLRP swimming beach to confirm the findings of the MDEQ investigation. On July 30 and 31, 2007, WESTON START set up a 100-foot by 100-foot sampling grid along the shoreline at the LLRP and collected soil samples within each grid. More than 70 soil samples were collected. Two water samples, one surface water sample from a tributary to Torch Lake and one groundwater sample on the beach, were also collected on July 26, 2007. Analytical results are summarized in **Attachment E**.

During reconnaissance, an additional area along the shoreline beyond the lead-contaminated area discovered by MDEQ, was delineated. This area, designated the arsenic area, was a discolored area approximately 250 feet north of the marina near the shoreline. Two additional samples were collected at 0-3 inches below ground surface (bgs) and 18 inches bgs at this location. The concentration of arsenic in the surface sample was 65 mg/kg and in the subsurface sample was less than the detection limit.

On August 5, 2007, U.S. EPA tasked WESTON under the START Contract to mobilize to the site to perform oversight during the U.S. EPA removal of soil at both the lead- and arsenic-contaminated areas (**Attachment E**). Approximately 1,000 cubic yards (CY) of soil were excavated from the lead-contaminated area and 10 CY from the arsenic-contaminated area.

On August 7, 2007, as part of the removal action, WESTON START utilized the U.S. EPA research vessel Mudpuppy to collect eight sediment samples from the bottom of Torch Lake near the deposit of “clayey” material sampled earlier. Sampling locations and results are presented in **Attachment E**.

3.11.3 Summary of Field Activities

WESTON START performed reconnaissance and XRF screening activities at the Former Calumet Stamp Mill portion of AOI 12 on September 10, 2007. U.S. EPA FIELDS performed reconnaissance and XRF screening of exposed stamp sands along the northern portions of Torch Lake within AOI 12 on September 12, 2007 in areas not assessed during the U.S. EPA emergency response action.

3.11.4 Summary of XRF Results

U.S. EPA FIELDS screened six locations of exposed stamp sands along the northern portions of the Lake Linden Sands with an Innov-X 4000 XP/Auto XRF (LL-2-1 through LL-2-6). None of the locations contained metals concentrations greater than RDCC (**Table 9**).

WESTON START screened four locations at the Former Calumet Stamp Mill with an Innov-X 4000 XP/Auto XRF. Screening locations included stamp sands (CalumetB-15), black-stained soil (CalumetB-16), and a coal pile (CalumetB-17). The black-stained soil exhibited lead concentrations greater than RDCC (**Table 9**). **Figure 8a** shows the area of black-stained soil, and a sample of the material was submitted to the laboratory for confirmation analysis.

3.11.5 Summary of Laboratory Results

A sample was collected for laboratory analysis of metals at one of the four locations screened with an XRF by WESTON START during the AA (CalumetB-16). Laboratory results indicated that concentrations of arsenic and lead in the sample were greater than RDCC. Only the concentration of lead exceeded RDCC during XRF screening. Both lead and arsenic concentrations were significantly greater as a result of laboratory analysis than XRF screening. Again, this is likely due to the variation between the analytical methods and the heterogeneous nature of the soils in the area.

PCBs were analyzed in one sample from AOI 12; CalumetXRF-16, from screening location CalumetB-16. All results were non-detect.

3.12 AOI 23 – C&H POWER PLANT

3.12.1 Site Description

The C&H Power Plant AOI, also known as the Former Calumet & Hecla Power Plant, is a 14-acre property that contains a dilapidated power plant building (C&H Power Plant), exposed foundation materials (Former Hecla Stamp Mill), debris, empty drums, ASTs, slag, and exposed stamp sands (**Figure 8a**). The property was part of a large copper ore processing facility that was in operation for more than a century.

3.12.2 Review of Existing Site Information

In 1999, Coleman Engineering Company (Coleman) performed a Phase I Environmental Assessment (Phase I) at the C&H Power Plant AOI. The Phase I investigation provided the following information about the property:

- Coal ash identified in a pile south and east of the site building (extent not defined) exceeded the MDEQ Default Type A Clean-up Criteria for metals;
- Drums were identified on site – Coleman recommended that drum contents be identified and disposed of properly;
- Refractory bricks were identified on site – all brick was considered a hazard as it may contain high levels of metals;
- PCB-laden switches, cranes, and other electrical switching devices were likely to be present on site;
- Coleman recommended sampling around the Still House and Filter House to rule out the presence of hazardous substances, including flotation and leaching process chemicals, and boiler treatment chemicals;
- Evidence of several excavations of unknown origin was identified around the power plant. Coleman suggested that waste material may have been dumped in these areas and recommended further investigation;
- The basement of a site building was flooded and considered hazardous – Coleman recommended pumping, sampling, and disposal of water in the basement;
- Coleman recommended further investigation and sampling of waste and debris piles;
- Coleman suggested that bags of copper concentrate may be releasing contents to the environment and warrant further investigation;
- Historic data indicated that a spill of 27,000 gallons of cupric ammonium carbonate was discharged to Torch Lake in 1972;
- Residual coal was identified in a coal silo on site; and
- The condemned site building was identified as “Dangerous and Unsafe” and Coleman recommended that the building be razed and the debris properly disposed.

In 1999, Coleman also performed a Phase II Environmental Assessment (Phase II) at the site. The main focus of the Phase II was to sample the ash pile found south and east of the C&H Power Plant. Concentrations of arsenic, barium, chromium, copper, lead, selenium, silver, and zinc exceeded MDEQ Default Type A Clean-up Criteria (statewide default background criteria).

On August 8 and August 10, 2007, MDEQ collected a total of two samples of sediment at the C&H Power Plant. One sample was analyzed for metals and base-neutral acids (BNA), the other for PCBs. No results exceeded RDCC.

3.12.3 Summary of Field Activities

WESTON START performed reconnaissance and XRF screening activities at the C&H Power Plant AOI on September 5, 2007. The owner of the property was present during the AA within the building and provided information to WESTON START personnel regarding the site. The property owner stated that all ACM was removed from the building with the exception of the roofing material. In addition, the property owner stated that the transformers located on the west side of building had been removed and soil sampling verification occurred following their removal. The owner refused to allow sample collection during the AA, but did permit real-time screening with the XRF unit.

Other features that were documented inside the C&H Power Plant building during the AA include:

- Roofing ACM;
- Suspect lead-based paint;
- Light ballasts that likely contain PCBs and mercury;
- Piles of coal;
- Piles of debris;
- A large piece of equipment on the eastern side of the building that contains an oil gauge and possibly oil;
- A drum containing tar-like material located in the south-central portion of the building; and
- Three additional drums in the flooded basement where an obvious sheen was located; one drum was submerged and the other two drums appeared to be floating.

Additional site reconnaissance at the C&H Power Plant provided the following information:

- A storm drain runs along the east side of the property along M-26;
- A former transformer pad is located on the east side of the building;
- An AST is located south of the building (more recent origin, gauge showed empty);
- There is evidence of trespassing and vandalism on site;

- There is evidence of household-waste dumping on site;
- There is evidence of recreational use near the shoreline;
- Exposed stamp sands are present along the southern edge of the property;
- The majority of the shoreline is lined with rock/brick debris and rip-rap;
- “No Trespassing” and “Keep Out” signs are posted on the northern shoreline and amongst building ruins along the shoreline; however, a walking trail is also present;
- Nearby buried utilities had recently been flagged perpendicular to M-26 between M-26 and the south side of the Mineral Building (AOI 22);
- A three-inch polyvinyl chloride (PVC) stick-up pipe was identified at the southeast of the site building; and
- There are recreational areas located north and south of the site boundaries along the shoreline, including at a residence south of the site.

3.12.4 Summary of XRF Results

WESTON START screened 13 locations with an Innov-X 4000 XP/Auto XRF (**Table 10**). Seven locations had concentrations of the following metals greater than RDCC (**Figure 8b**):

- Lead (locations C&H-XRF5, C&H-XRF7, and C&H-XRF13);
- Arsenic (locations C&H-XRF3 and C&H-XRF11);
- Copper (locations C&H-XRF7, C&H-XRF12, and C&H-XRF13); and
- Iron (location C&H-XRF6).

XRF screening at locations C&H-XRF7 and C&H-XRF12 was conducted inside bags labeled “Copper Concentrate”. Screening location C&H-XRF7 was part of a pile of bags approximately 30 feet long by 10 feet wide and location C&H-XRF12 was within a pile of bags located on a pallet (four feet by eight feet) along the shoreline.

3.12.5 Summary of Laboratory Results

No laboratory analytical samples were collected at this AOI.

3.13 AOI 24 – BACKWATER AREA OF TORCH LAKE

3.13.1 Site Description

The Backwater Area of Torch Lake is a newly identified AOI and includes the surface water and exposed stamp sands along the western, northern, and eastern shoreline areas that were not part

of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts (**Figure 9a**).

3.13.2 Review of Existing Site Information

The southern shoreline of the Backwater Area of Torch Lake was remediated by U.S. EPA via the placement of a vegetative cover as part of the Torch Lake NPL Site remedy. The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the vegetative cover is not restated here.

WESTON START did not identify any existing information pertaining to the unremediated areas.

3.13.3 Summary of Field Activities

U.S. EPA FIELDs performed reconnaissance and XRF screening of exposed stamp sands along the northern portions of Torch Lake on September 12, 2007 (**Figure 9b**).

3.13.4 Summary of XRF Results

U.S. EPA FIELDs screened four locations along the northern portions of Torch Lake with an Innov-X 4000 XP/Auto XRF (**Table 11**). One screening location, LL-2-8, exhibited arsenic concentrations in soil greater than RDCC (**Figure 9b**).

3.13.5 Summary of Laboratory Results

A sample was collected for laboratory analysis at one of the four locations screened by U.S. EPA FIELDs (LL-S2-8). As determined by laboratory analysis, all metal concentrations in the sample were below RDCC. However, XRF screening results indicated that the sample contained arsenic at a concentration greater than RDCC (9 mg/kg). Laboratory analysis indicated the sample contained 1.1 mg/kg arsenic.

PCB concentrations in sample Lake Linden S2-8, collected at screening location LL-S2-8, were non-detect.

3.14 AOI 25 – TRAPROCK SLAG DUMP

3.14.1 Site Description

The Traprock Slag Dump is a new AOI and includes open areas with slag boulders and an area, reportedly, previously used for transformer disposal. These areas were not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts (**Figure 9a**).

3.14.2 Review of Existing Site Information

A review of MDEQ file information indicated that on June 23, 2003, the U.S. Army Corps of Engineers (USACE) and the MDEQ RRD conducted a site inspection on the subject property and concluded that “clinker material” containing concentrations of contaminants exceeding Part 201 GRCC for soil was being spread over large portions of the property. Reportedly, the waste was being excavated from the south side of the site, broken up (subsequently increasing its surface area and potential leachability) and spread over an approximately three-acre portion of the site. This waste material was observed in the surface water, wetland, and floodplain portions of the site, as well as other off-site properties. In addition to the waste material on site, inspectors observed that demolition debris had been burned on site and a new pile of debris was being built-up for what appeared to be another burn. The MDEQ RRD staff also noted the presence of numerous five-gallon buckets and drums filled with what appeared to be waste oil. One bucket did not have a lid and had filled with water causing the contents to spill onto the ground. Petroleum stains were present on the ground surface.

3.14.3 Summary of Field Activities

WESTON START personnel performed the AA at the Traprock Slag Dump AOI on September 11, 2007. This AOI includes open areas with slag boulders, slag piles, woody debris, cinders, a former municipal dump, unknown green/blue salt, and stamp sands.

3.14.4 Summary of XRF Results

WESTON START screened 10 locations with an Innov-X 4000 XP/Auto XRF (**Table 12**). One location, TraprockB-10, a stamp sand area, contained arsenic concentrations greater than RDCC (**Figure 9b**). No other metals were detected at concentrations greater than RDCC. WESTON START presented a green/blue, crystalline sand sample, TraprockB-14, to MDEQ for further analysis per the U.S. EPA OSC's request.

3.14.5 Summary of Laboratory Results

Samples were collected and submitted for laboratory analytical verification from two of the 10 XRF screening locations, TraprockB-10 and TraprockB-8. Neither sample submitted for laboratory analysis exhibited metal concentrations greater than RDCC. These results are consistent with the XRF screening results for the same locations.

Samples were collected for PCB analysis at AOI 25 screening locations TraprockB-8 and TraprockB-12. All results were non-detect.

3.15 AOI 26 – BOOTJACK STAMP SANDS

3.15.1 Site Description

According to MDEQ, re-handling of stamp sand in the Lake Linden area resulted in a large accumulation of stamp sand deposits at the head of Torch Lake (**Figure 9a**). This area was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts and constitutes a new AOI based on the presence of stamp sand.

3.15.2 Review of Existing Site Information

WESTON START did not identify any existing information pertaining to AOI 26.

3.15.3 Summary of Field Activities

WESTON START personnel performed the AA at AOI 26 on September 11, 2007. The site was comprised of wooded and grassy areas and lesser areas with exposed stamp sands. No large piles or accumulations of stamp sands were observed.

3.15.4 Summary of XRF Results

WESTON START screened two locations with an Innov-X 4000 XP/Auto XRF (**Table 13**). No metals were detected at concentrations greater than RDCC.

3.15.5 Summary of Laboratory Results

A sample was collected and submitted for laboratory verification analysis from one location, BootjackB-17. This sample was not screened with an XRF because it was raining heavily during the AA. No metals concentrations were detected greater than RDCC at BootjackB-17.

A sample was also collected for PCB analysis at location BootjackB-17. All results were non-detect.

3.16 AOI 14 – GAY STAMP SANDS

3.16.1 Site Description

Copper mining activities conducted between 1890 and 1920 in the Village of Gay, Keweenaw County, Michigan resulted in the generation of approximately 37.3 million CY (mcy) of stamp sand that was placed in or along Lake Superior near the Village of Gay. A byproduct of copper extraction, stamp sand contains heavy metals at concentrations that may pose a risk to aquatic organisms. Herein, the definition of the Gay Stamp Sands site (AOI 14) includes the following features (**Figure 10a**):

- The original stamp sand deposit (original deposit) located near the former Village of Gay, Michigan copper stamping mill (former Gay mill); and
- Approximately 5.3 miles of shoreline that begins at the original deposit and continues southerly to the Traverse River harbor breakwall. This stretch of shoreline has been covered by stamp sand due to migration from the original deposit.

It is estimated that the original deposit is receding at a rate of 8.0 meters per year (26.0 feet per year).

Currently, widespread reuse for road traction, as well as recreational and construction use of the stamp sand occurs throughout the Keweenaw Peninsula. It is also expected that the migrating stamp sand will eventually bypass the Traverse River harbor and deposit on the currently

unaffected beach south of the breakwall. Beneficial use impairments may include degradation of fish and wildlife habitat, degradation of the benthos, and degradation of aesthetics.

This area was not part of the Torch Lake NPL Site and therefore not part of previous U.S. EPA remedial efforts and constitutes a new AOI based on the presence of stamp sand.

3.16.2 Review of Existing Site Information

As of 2007, several studies were conducted for the Gay Stamp Sands by MDEQ and USACE:

- **2001 USACE Quantification and Fate Study:** In this study, the location and quantity of stamp sand was determined at three sites including the Gay Stamp Sands Site. An analysis of current and historic aerial photography in conjunction with an analysis of bathymetric data was performed to determine the aerial extent of stamp sand migration. The volume of stamp sand in the littoral system and the rate at which the stockpiles erode was determined using similar methods. Lastly, several mitigation alternatives at each study area were presented with the purpose of preventing further movement of the stamp sands. These alternatives included structural solutions such as stone revetments, steel sheet-pile bulkheads and groins, and non-structural approaches such as dredging, capping, and bioengineering as summarized in the *Quantification and Fate of Keweenaw Stamp Sand* (USACE, Detroit District, December 2001).
- **September 2003 MDEQ RRD Pre-remedial Unit of the Superfund Section and the RRD Geological Services Unit (GSU):** MDEQ collected 274 soil samples from the northern deposit area and 24 soil samples from the southern deposit area at the Gay Stamp Sands site. MDEQ also collected 10 groundwater samples from the northern deposit area for analysis of both dissolved and total metals to evaluate the effects of stamp sand on surface water. MDEQ compared the soil and groundwater sampling results to Part 201 criteria and provided a summary in *MDEQ Interoffice Communication* (MDEQ, May 2004). According to MDEQ Interoffice Communication, none of the samples collected from the southern area exceeded the RDCC for any of the metals. One sample out of 274 samples collected from the northern area exceeded RDCC for arsenic. One out of 274 samples collected from the northern area exceeded the generic Commercial/Industrial PSIC for manganese. MDEQ also compared groundwater sampling results for dissolved metals to Part 201 Residential/Commercial I Drinking Water Criteria. Aluminum and manganese were detected above Residential/Commercial I Drinking Water Criteria in several of the samples.
- **2004-2006 WESTON Toxicological Evaluation:** WESTON prepared a Toxicological Evaluation for the Gay stamp sands in response to a request from the MDEQ RRD in 2004 (*Toxicological Evaluation for the Gay, Michigan Stamp Sand* [WESTON, September 2006]). The purpose of the Toxicological Evaluation was to evaluate the potential for exposure to stamp sand contaminants in reuse scenarios, including road traction, recreational, and construction uses. WESTON assessed the effects on human health and aquatic systems in each scenario. The results of the Toxicological Evaluation

indicated the stamp sand re-use scenarios posed acceptable risks to human health, with the exception of consumption of groundwater that has contact with stamp sand. However, WESTON determined that the Gay stamp sands posed an unacceptable risk to aquatic organisms based on the bioassay testing as summarized in the Toxicological Evaluation.

- **2004 MDEQ Geophysical Survey:** MDEQ RRD GSU conducted a geophysical survey to assess the depth and quantity of stamp sand extending from the Traverse River breakwall to approximately 4,500 feet north of the breakwall along the Lake Superior Shoreline. Results are summarized in the *Geophysical Investigation Migrating Stamp Sand* (MDEQ January 2005).
- **2004-2007 WESTON Technical Evaluation (TE):** WESTON conducted a TE in response to a request from the MDEQ RRD in 2004 (*Migrating Stamp Sand Mitigation Plan, Technical Evaluation* [WESTON, March 2007]). The purpose of the TE was to build on the previous migration mitigation study conducted by USACE and develop alternatives to preclude further erosion of the original stamp sand deposit, and ensure the unaffected, clean beach south of the Traverse River harbor breakwall is not contaminated by the southward migration of eroded stamp sand. The TE included the review of existing data; completion of hydrographic and limited topographic surveys; development of alternatives; hydrodynamic modeling analysis; and evaluation of alternatives. The recommended alternative to carry over into final design was the least-cost alternative, which included construction of a revetment at the original deposit and implementation of maintenance dredging.

3.16.3 Summary of Field Activities

WESTON START performed reconnaissance and XRF screening in the historic mining process building ruins at AOI 14 on September 10, 2007. The building ruins contained exposed foundation materials, debris, slag and exposed stamp sands. U.S. EPA FIELDS performed reconnaissance and XRF screening along the shoreline at AOI 14 on September 10, 2007.

Other features that were documented at AOI 14 during the AA include:

- Poor site security;
- Potential roofing ACM present in stockpiles on site; the largest pile is 20 feet by 20 feet by 4 feet;
- Residue from an unknown burned material;
- Evidence of household-waste and other non-mining-related dumping at the site; and
- A structurally compromised chimney stack that may pose a physical hazard.

3.16.4 Summary of XRF Results

WESTON START screened 15 locations in the historic mining process building with an Innov-X 4000 XP/Auto XRF (**Table 14**) and collected three samples for verification via laboratory analysis. All 15 XRF screening locations contained stained material suspected of containing metals. Seven of the 15 screening locations exhibited concentrations of metals greater than RDCC (**Figure 10b**); including seven exceedances for arsenic, four exceedances for copper, two exceedances for silver, one exceedance for lead, and four exceedances for iron. Material exhibiting metal concentrations greater than RDCC included green-stained sands (locations GayB-5, GayB-6, and GayB-11), black-stained soils (locations GayB-8, GayB-14, and GayB-15), and stamp sand (location GayB-12).

U.S. EPA FIELDS screened 38 locations along the shoreline at AOI 14 with an Innov-X 4000 XP/Auto XRF (**Table 14**) and collected one sample for verification via laboratory analysis. No obviously contaminated or stained material was observed during site reconnaissance and screening of stamp sands along the shoreline. Thus, the U.S. EPA FIELDS team screened the stamp sands every one quarter mile along the Gay Stamp Sands shoreline deposit. Three of the 38 samples screened along the shoreline exhibited concentrations of arsenic greater than RDCC (**Figure 10c**) (locations GAY-S1-07, GAY-S1-21, and GAY-S1-30).

3.16.5 Summary of Laboratory Results

Three of the 15 WESTON START historic mining building XRF screening locations were verified via laboratory analysis (GayB-6, GayB-11 and GayB-14):

- Laboratory results for the sample collected at location GayB-6 indicated the sample contained copper and arsenic at concentrations greater than RDCC. XRF screening of this location exhibited copper, arsenic, and silver concentrations greater than RDCC. The silver concentration at location GayB-6 determined during XRF screening was approximately ten times greater than the laboratory analytical result.
- Laboratory results for the sample collected at location GayB-11 indicated the sample contained copper and arsenic at concentrations greater than RDCC. XRF screening of the soil yielded similar results.

- Laboratory results for the sample collected at location GayB-14 indicated the sample contained concentrations of arsenic and lead greater than RDCC. XRF screening of the soil yielded similar results.

WESTON START also collected samples for PCB analysis at locations GayB-6, GayB-11, and GayB-14. All results were non-detect.

One of the 38 locations screened with an XRF along the shoreline by the U.S. EPA FIELDS team was verified via laboratory analysis (GAY-S1-21). Laboratory results indicated that no metals were present in the sample at concentrations that exceeded RDCC. According to results of XRF screening at location Gay-S1-21, arsenic concentrations exceeded RDCC. The concentration of arsenic as determined by XRF screening was 9 mg/kg, and as determined by laboratory analysis was 0.67 mg/kg.

The U.S. EPA FIELDS team also collected a sample for PCB analysis at location Gay-S1-21. All results were non-detect.

3.17 WESTERN SHORELINE OF TORCH LAKE

3.17.1 Site Description

Multiple areas along the western shoreline of Torch Lake are composed of stamp sand deposits. Historically, these stamp sand deposits have been present as sediments on the lake bottom. Currently, they are present as beach sand due to lake level regression.

3.17.2 Review of Existing Site Information

The planned U.S. EPA remedial activities are summarized in the Torch Lake NPL Site ROD, and a summary of the completed Torch Lake remedial action is provided in the *Superfund Preliminary Site Closeout Report, Final Remedial Action for Torch Lake Superfund Site, Houghton County, Michigan* (U.S. EPA, 2005). A comprehensive Remedial Action Completion Report is being compiled by the U.S. EPA Remedial Program at this time. Therefore, the extent of remediation of these mining-waste deposits via the placement of the vegetative cover is not restated here.

Data collected by the Superfund Section of the MDEQ RRD during 2004 show concentrations of metals above RDCC in submerged sediments.

3.17.3 Summary of Field Activities

All field activity summaries for the sites along the western shoreline of Torch Lake, including XRF and laboratory results and visual observations, are included in the AOI discussions in Sections 3.1 through 3.16.

3.18 AOI 27 – DRUMS ON LAKE BOTTOM

3.18.1 Site Description

Drums have been observed on the bottom of Torch Lake and on land at multiple locations, and drum pieces have been observed at various shore locations. It has been long suspected that the drums are associated with historical copper mining operations surrounding Torch Lake.

3.18.2 Review of Existing Site Information

From 1989 through 1991, U.S. EPA conducted underwater and on-shore investigations to evaluate the quantity and contents of drums encountered within Operable Unit 1 (western shoreline of Torch Lake) of the Torch Lake NPL Site. The investigations targeted four areas as follows:

- Area 1 – Former C&H Smelter south of Lake Linden near the Hubbell Docks
- Area 2 – Former Ahmeek Mill Site (Tamarack City Stamp Mill Site)
- Area 3 - Southwest end of the Hubbell Stamp Sands in Tamarack City
- Area 4 – Former Quincy Mill near the Mason Stamp Sands

The U.S. EPA investigations consisted of geophysical surveys, remote-operated vehicle (ROV) surveys, underwater dives, and drum sampling of both underwater and on-shore drums. Results of the drum sampling events indicated drum contents ranged from F listed hazardous waste (for on-shore drums) to smelter slag that was determined to be non-hazardous. A letter dated July 25, 1990 from U.S. EPA to the Michigan Department of Health indicated sample results from underwater drums identified a number of tentatively identified compounds (TICs), but no

specific chemicals of concern could be confirmed. Further, the letter indicated that underwater drums that were filmed appeared to have been breached and therefore flooded.

Subsequent to the U.S. EPA investigations, the U.S. EPA issued an Administrative Order on Consent to a Respondent Group to perform specific drum search, removal, and disposal activities for drums located along the western shoreline of Torch Lake in the four previously identified target areas (Areas 1 through 4) as summarized in the *Final Drum Removal Report, Torch Lake Drum Removal* (Geraghty & Miller, March 1992). In summer 1991, the Respondent Group conducted a side sound navigation and ranging (SONAR) scan (SSS) of the five mile reach of the western shoreline of Torch Lake between Lake Linden and the former Quincy Mining Property near the Mason Stamp Sands. The SSS indicated Areas 1 and 4 should be targeted for an ROV survey. The subsequent ROV survey conducted by the Respondent Group indicated many underwater drums were encountered in Area 1 but no drums were encountered in Area 4. Further, the ROV survey indicated many of the drums encountered in Area 1 were empty or contained inert materials such as slag or wood.

The Respondent Group conducted underwater dives to confirm the contents of drums as encountered previously during the ROV survey. The underwater dives confirmed 808 empty drums and 20 drums containing unknown contents in and near Area 1. Empty drums and those deemed to contain inert material such as sediment or slag were left in place.

The effort of the Respondent Group resulted in the following:

- Removal, overpacking, and disposal of 83 drums from on-land locations;
- Removal, overpacking, and disposal of 20 submerged drums from two shallow locations; and
- Out of the 103 drums removed, 97 contained non-hazardous waste, four contained characteristically hazardous waste, and two contained F-listed waste.

In June 2007, MDEQ conducted a SSS of the lake bottom in the vicinity of the Hubbell Docks (vicinity of previous Area 1) and areas to the northeast in Torch Lake. The purpose of this work was to provide the specific locations of the areas of drum disposal on the lake bottom to assist the MDEQ Water Bureau (WB) in collecting sediment samples from these areas; and therefore potentially identify a source of PCB contamination in Torch Lake.

While many drums and drum areas were identified during the 2007 MDEQ SSS, many of the identified drums may have been previously investigated and deemed empty or contents inert during the 1991 Respondent Group investigation. Specifically, the 1991 Respondent Group investigation identified 742 empty drums (left in place) in the vicinity of the Hubbell Docks where much of the MDEQ SSS focused.

The Superfund Section of the MDEQ RRD is in the process of preparing a summary report for the June 2007 SSS. MDEQ WB is in the process of preparing a summary report for the sediment sampling conducted in the drum disposal areas.

SECTION 4

FINDINGS AND RECOMMENDATIONS

As previously discussed, the purpose of the Torch Lake AA was to determine if imminent and substantial threats existed and to make recommendations on further assessment. A comprehensive assessment of all environmental hazards known to affect historical industrial properties and structures was not within the scope of the AA. Furthermore, it should be noted that many of the potential environmental issues have been evaluated previously by the MDEQ and the U.S. EPA Remedial Branch.

The following are the recommendations by AOI:

AOI 7 - Quincy Smelter

Previous investigations have shown that hazards exist inside the fenceline at the Quincy Smelter in the form of dilapidated, unstable structures and friable asbestos. Structural conditions on site and proposed stabilization remedies, including cost estimates, are described in detail in three evaluations performed in 2004: *Structural Stabilization Work for Asbestos Abatement at the Quincy Smelter Site* (U.P. Engineers and Architects, December 2004), *Structural Stabilization Report for the Quincy Smelter Site* (Metcalf and Eddy, December 2004) and the *Quincy Smelter Asbestos Abatement Assessment* (WESTON, 2004). Concerns and recommendations, including cost estimates, for the abatement of asbestos-containing materials on site are addressed in the *Quincy Smelter Asbestos Abatement Assessment* (WESTON, 2004). Recommendations by site structure are provided below. These recommendations should be implemented in conjunction with a final redevelopment plan.

- **Reverberatory Furnace Smokestack** – The stack superstructure is heavily deteriorated, and in a dangerous condition. The stack support system is heavily corroded and not providing support. The stack should be stabilized or demolished. This structure does not contain friable asbestos, but does present a safety concern that must be addressed prior to asbestos abatement at the site.
- **Building Number 2, Dockside Warehouse** - This is a two-story wood timber structure. Portions of this building require stabilization, including bracing the bottom of the second floor hoisting shed at the east end, and removing a portion of the collapsed roof of the east side shed to allow access to six unknown drums and any other

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potentially hazardous materials. This building contains ACM in poor condition in the form of pipe insulation (on piping and in bulk storage), pipe insulation debris, and baseboard seam insulation. ACM debris is present in areas of bulk ACM storage. The ACM should be removed.

- **Building Number 3, Laboratory/Assay House** - This single-story wooden farm building has lap siding, a corrugated metal roof with gable ends, and an exterior brick chimney on the west wall. Portions of this building require stabilization, including the top of the brick chimney and the top of the steel chimney and roof braces, and repair is required of the pushed-in and rotted wall at the south side of the lower shed. The building contains ACM in poor condition in the form of pipe insulation in the basement and pipe insulation debris and thermal heat shields on the first floor. The ACM should be removed.
- **Building Number 6, Reverberatory Furnace Building** - This is a large two-story sandstone structure. The building has major burn damage and was determined to be unsafe for further inspection in December 2004. Portions of this building require stabilization, including the chimney stack and existing catwalks. In addition, all rusted-through roofing metal, cupola windows, and any other loose overhead materials should be removed and loose steel wall panels should be reattached. A complete inspection of ACM was not conducted in 2004 due to building conditions, however the *Asbestos Survey Report, Quincy Smelter Facility* (ATC Associates, Inc, June 2004) documented ACM in the form of pipe insulation and duct wrap throughout the building that was in poor condition and should be removed.
- **Building Number 7, Reverberatory Furnace Building** - This large, clear-span, post-and-beam structure has a roof and sides of corrugated metal and major burn damage. This building was determined to be unsafe for further inspection in December 2004. Portions of this building require stabilization including miscellaneous masonry and a three-foot diameter boiler pipe on the north half of building. In addition, all loose and rusted-through roofing metal, cupola windows, and other loose overhead materials should be removed on the north side of the building and all loose stone lintel along the walls of the building should be repaired and the stone window lintel in southwest corner rebuilt. A complete inspection of ACM was not conducted in 2004 due to building conditions, however the *Asbestos Survey Report, Quincy Smelter Facility* (ATC Associates, Inc, June 2004) documented ACM in the form of pipe insulation throughout the building that was in poor condition and should be removed.
- **Slag and Stamp Sand** – The nature and extent of slag and stamp sand should be delineated on site. Additional sampling and an evaluation of remediation techniques is recommended for the large on-site slag pile and stamp sand that covers the site.

AOI 15 - Properties Adjacent to Quincy Smelter

It is recommended that the nature and extent of contamination at the former Houghton County Gas & Coke Plant, including two dilapidated structures, slag, coal, a tar vault, ASTs, and

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exposed stamp sand and tar along the Portage Waterway shoreline be evaluated and a cleanup approach developed.

AOI 16 - Dollar Bay Wire Mill

Access was denied to this operating boat storage yard. A portion of this AOI was addressed via gravel capping as part of the Torch Lake NPL Remedy. No further action is recommended.

AOI 17 - Dollar Bay Well Field

No further action is recommended.

AOI 10 - Mason Sands

No further action is recommended based on current use.

AOI 18 - Building in Mason

It is recommended that the MDEQ issue a due care letter to the property owners regarding the unrestricted access to the building and the potential presence of ACM.

AOI 19 - Former C&H Leach Plant and Hubbell Stamp Sands

Access was denied to the Former C&H Leach Plant which is currently an operating construction company storage yard. Based on MDEQ sampling at the site, it is recommended that access to the property be obtained to further assess the nature and extent of potential contamination.

No further action is recommended for the Hubbell Stamp Sands.

AOI 20 - Tamarack City Stamp Mill

No further action is recommended based on current use. It is recommended that the exposed soil/stamp sand areas be covered and the concrete rubble and debris piles be managed if the property is to become an interpretive center.

AOI 21 - Hubbell Beach and Slag Dump

It is recommended that an underwater investigation be performed to further explore lake bottom debris, the previously installed vegetative cap be repaired, and the MDEQ reported discharge of residential sewage be further assessed.

AOI 22 - Hubbell Docks, Mineral Building, and C&H Smelter

No further action is recommended.

AOI 12 - Lake Linden Sands

It is recommended that the source of the lead sludge removed from the exposed beach area be evaluated.

No further action is recommended for the other areas of the Lake Linden Sands included in the AA.

AOI 23 - C&H Power Plant

It is recommended that the sludge and water in the basement and the drums in the basement be characterized to determine proper management; the bags of copper concentrate near the shoreline be removed; the soil data collected after the removal of transformers containing PCBs be reviewed and additional soil sampling be conducted if necessary; the MDEQ issue the owner a due care letter to complete removal of ACM; and lead-based paint be addressed prior to any demolition or re-construction activities.

AOI 24 - Backwater Area of Torch Lake

No further action is recommended.

AOI 25 – Traprock Slag Dump

It is recommended that the MDEQ reports of improper transformer disposal be further assessed.

AOI 26 - Bootjack Stamp Sands

No further action is recommended.

AOI 14 - Gay Stamp Sands

Based on MDEQ's findings that the stamp sand deposit poses beneficial use impairments including degradation of fish and wildlife habitat, degradation of the benthos, and degradation of aesthetics, it is recommended that remedial measures to prevent the further migration of the stamp sand be considered. It is also recommended that building ruins, exposed foundation materials, debris, and the potential ACM be addressed or public access restricted.

AOI 27 - Drums on Lake Bottom

It is recommended that a thorough assessment of existing information pertaining to drum investigations, removals, and the pending MDEQ drum study be evaluated to determine if additional action is warranted.

Western Shoreline of Torch Lake – Various Areas of Concern

It is recommended that an updated Health Consultation be completed for the various areas of investigation along the western shoreline of Torch Lake.

The DHHS completed a Health Consultation for Torch Lake (March 23, 1998) that concluded that “based on the information available, none of the Torch Lake Area Brownfield properties pose an urgent public health hazard under current conditions. Several of the properties would pose public health hazards under long-term exposure from the metals in the soil, and are also under consideration for future residential development”.

The DHHS recommended further evaluation of the Hubbell Slag and Quincy Smelter areas before any residential development is carried forward to determine the extent and appropriate management of the elevated lead and arsenic concentrations in the soil. In addition, the DHHS recommended that new environmental data or information concerning the future use of these properties may require future health consultations.

SECTION 5

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TABLES

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MGP-1	MGP-1	MGP-18	MGP-19
			Sampling Date	09/12/07	09/12/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	Laboratory	XRF	XRF
			Sample Number/ Location	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	7,086	NT	2,110	4,424
Chromium	18	790,000	mg/kg	<LOD	2.1 J*	<LOD	<LOD
Manganese	440	25,000	mg/kg	449	370	283	399
Iron	12,000	160,000	mg/kg	62,106	NT	31,061	46,796
Cobalt	6.8	2,600	mg/kg	804	13 J	<LOD	481
Nickel	20	40,000	mg/kg	<LOD	18 J	<LOD	<LOD
Copper	32	20,000	mg/kg	1,052	1,500 J	242	2,017
Zinc	47	170,000	mg/kg	102	93	111	47
Arsenic	5.8	7.6	mg/kg	<LOD	14 J	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	NT	<LOD	<LOD
Rubidium	--	--	mg/kg	22	NT	26	17
Strontium	--	330,000	mg/kg	88	<230	58	79
Zirconium	--	--	mg/kg	124	NT	55	68
Molybdenum	--	2,600	mg/kg	<LOD	NT	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	2.8 J	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	NT	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	NT	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	NT	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	NT	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	0.50	<LOD	<LOD
Lead	21	400	mg/kg	53	64 J	50	56
Aluminum	6,900	50,000	mg/kg	NT	2,300 J	NT	NT
Beryllium	--	410	mg/kg	NT	<4.5 J	NT	NT
Lithium	9.8	4,200	mg/kg	NT	4.50	NT	NT

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MGP-20	MGP-21	MGP-21	MGP-TAR
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	Laboratory	XRF	XRF
			Sample Number/ Location	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	2,899	NT	2,117	<LOD
Chromium	18	790,000	mg/kg	<LOD	35	<LOD	<LOD
Manganese	440	25,000	mg/kg	378	250	325	<LOD
Iron	12,000	160,000	mg/kg	25,377	NT	43,776	1,627
Cobalt	6.8	2,600	mg/kg	310	7.50	382	<LOD
Nickel	20	40,000	mg/kg	191	13	<LOD	<LOD
Copper	32	20,000	mg/kg	242	650	599	2,683
Zinc	47	170,000	mg/kg	88	100 J	125	33
Arsenic	5.8	7.6	mg/kg	<LOD	12	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	NT	<LOD	<LOD
Rubidium	--	--	mg/kg	39	NT	33	<LOD
Strontium	--	330,000	mg/kg	121	<240	141	16
Zirconium	--	--	mg/kg	141	NT	95	21
Molybdenum	--	2,600	mg/kg	<LOD	NT	<LOD	25
Silver	1	2,500	mg/kg	<LOD	1.10	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	NT	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	NT	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	NT	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	NT	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	0.20	<LOD	<LOD
Lead	21	400	mg/kg	99	61	72	<LOD
Aluminum	6,900	50,000	mg/kg	NT	7,600 J	NT	NT
Beryllium	--	410	mg/kg	NT	<4.8	NT	NT
Lithium	9.8	4,200	mg/kg	NT	6.60	NT	NT

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MGP-TAR	MGP-23	MGP-24	MGP-25
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	Laboratory	XRF	XRF	XRF
			Sample Number/ Location	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	NT	6,387	2,276	7,481
Chromium	18	790,000	mg/kg	<9	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	16	704	275	<LOD
Iron	12,000	160,000	mg/kg	NT	98,579	28,130	59,594
Cobalt	6.8	2,600	mg/kg	0.5 *	1,060	416	<LOD
Nickel	20	40,000	mg/kg	1.5 *	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	350	1,791	755	517
Zinc	47	170,000	mg/kg	7.9 J*	882	75	175
Arsenic	5.8	7.6	mg/kg	1.00	<LOD	<LOD	38
Selenium	0.41	2,600	mg/kg	NT	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	NT	29	45	22
Strontium	--	330,000	mg/kg	<230	106	100	1,682
Zirconium	--	--	mg/kg	NT	129	104	222
Molybdenum	--	2,600	mg/kg	NT	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	0.67	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	NT	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	NT	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	NT	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	NT	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	0.030	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	4.2 *	2,037	36	298
Aluminum	6,900	50,000	mg/kg	720 J	NT	NT	NT
Beryllium	--	410	mg/kg	<4.5	NT	NT	NT
Lithium	9.8	4,200	mg/kg	<0.90	NT	NT	NT

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MGP-26	MGP-26	JulioScrap-3	JulioScrap-4
			Sampling Date	09/10/07	09/10/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	Laboratory	XRF	XRF	XRF
			Sample Number/ Location	Former Houghton County Gas & Coke Site	Former Houghton County Gas & Coke Site	Julio Marine and Salvage	Julio Marine and Salvage
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	NT	<LOD	8,145	4,462
Chromium	18	790,000	mg/kg	59	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	930	912	317	463
Iron	12,000	160,000	mg/kg	NT	158,330	43,768	60,853
Cobalt	6.8	2,600	mg/kg	17	1,399	543	504
Nickel	20	40,000	mg/kg	45	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	1,100	553	692	680
Zinc	47	170,000	mg/kg	4,300 J	2,390	62	89
Arsenic	5.8	7.6	mg/kg	17	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	NT	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	NT	22	31	62
Strontium	--	330,000	mg/kg	<280	74	164	123
Zirconium	--	--	mg/kg	NT	72	195	102
Molybdenum	--	2,600	mg/kg	NT	<LOD	16	<LOD
Silver	1	2,500	mg/kg	1.20	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	NT	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	NT	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	NT	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	NT	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	0.46	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	310	221	25	92
Aluminum	6,900	50,000	mg/kg	6,700 J	NT	NT	NT
Beryllium	--	410	mg/kg	<5.6	NT	NT	NT
Lithium	9.8	4,200	mg/kg	3.90	NT	NT	NT

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	JulioScrap-5	Mickelson-6	Mickelson-6	Mickelson-7
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	Laboratory	XRF	XRF
			Sample Number/ Location	Julio Marine and Salvage	Mickelsen Property	Mickelsen Property	Mickelsen Property
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	10,627	NT	33,745	<LOD
Chromium	18	790,000	mg/kg	<LOD	980 J	<LOD	<LOD
Manganese	440	25,000	mg/kg	983	650	670	364
Iron	12,000	160,000	mg/kg	111,398	NT	84,565	10,817
Cobalt	6.8	2,600	mg/kg	1,072	16 J	833	176
Nickel	20	40,000	mg/kg	<LOD	180 J	<LOD	<LOD
Copper	32	20,000	mg/kg	1,161	490 J	79	491
Zinc	47	170,000	mg/kg	80	43	47	94
Arsenic	5.8	7.6	mg/kg	<LOD	14 J	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	NT	<LOD	<LOD
Rubidium	--	--	mg/kg	31	NT	29	17
Strontium	--	330,000	mg/kg	100	<200	169	91
Zirconium	--	--	mg/kg	137	NT	131	64
Molybdenum	--	2,600	mg/kg	<LOD	NT	<LOD	16
Silver	1	2,500	mg/kg	<LOD	0.51 J	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	NT	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	NT	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	NT	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	NT	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	0.015	<LOD	<LOD
Lead	21	400	mg/kg	54	25 J	<LOD	35
Aluminum	6,900	50,000	mg/kg	NT	7,800 J	NT	NT
Beryllium	--	410	mg/kg	NT	0.73 J *	NT	NT
Lithium	9.8	4,200	mg/kg	NT	4.00	NT	NT

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	JulioCon-13	HockingsB-20	JulioSalvage-15	JulioSalvage-16
			Sampling Date	09/12/07	09/07/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF
			Sample Number/ Location	Julio Contracting	Hockings Property	Julio Property	Julio Property
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	8,714	19,192	8,386	14,545
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	408	495	802	1,323
Iron	12,000	160,000	mg/kg	30,655	98,119	59,616	104,577
Cobalt	6.8	2,600	mg/kg	301	<LOD	546	999
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	570	1,409	1,653	2,020
Zinc	47	170,000	mg/kg	34	59	72	84
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	17	41	18	21
Strontium	--	330,000	mg/kg	75	94	96	509
Zirconium	--	--	mg/kg	82	250	101	131
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	226	<LOD	102
Cadmium	1.2	550	mg/kg	<LOD	131	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	20	17	<LOD	41
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	H&Ymarina-17	H&Ymarina-18	H&Ymarina-19	H&Ymarina-19
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	Laboratory	XRF
			Sample Number/ Location	H&Y Marina	H&Y Marina	H&Y Marina	H&Y Marina
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	17,859	26,959	NT	<LOD
Chromium	18	790,000	mg/kg	<LOD	<LOD	460 J	<LOD
Manganese	440	25,000	mg/kg	1,576	1,698	5,500	12,993
Iron	12,000	160,000	mg/kg	109,446	118,890	NT	1,106,298
Cobalt	6.8	2,600	mg/kg	<LOD	1,033	37 J	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	250 J	<LOD
Copper	32	20,000	mg/kg	2,002	956	470 J	241
Zinc	47	170,000	mg/kg	99	89	83	<LOD
Arsenic	5.8	7.6	mg/kg	21	<LOD	30 J	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	NT	<LOD
Rubidium	--	--	mg/kg	55	15	NT	49
Strontium	--	330,000	mg/kg	296	100	<170	<LOD
Zirconium	--	--	mg/kg	164	176	NT	26
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	NT	34
Silver	1	2,500	mg/kg	86	<LOD	0.38 J	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	NT	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	NT	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	NT	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	NT	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	0.0099 *	<LOD
Lead	21	400	mg/kg	27	<LOD	440 J	340
Aluminum	6,900	50,000	mg/kg	NT	NT	1,800 J	NT
Beryllium	--	410	mg/kg	NT	NT	<3.4 J	NT
Lithium	9.8	4,200	mg/kg	NT	NT	0.74	NT

Table 1 - AOI 15 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 10 - September 12, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J - Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory results are on a dry weight basis.

MGP – Manufactured Gas Plant

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

--" – Not listed in MDEQ Part 201 Tables

* – Analyte detected below quantitation limits

<– Less than

Table 2 - PCB Sampling Results
Torch Lake Area Assessment
September 6 - September 12, 2007

Parameter	Regulatory Criteria		Sample Name	MGPB-1		MGP-TAR		MGP - XRF21		MGP - XRF26		Michelson B-6	
			Sampling Date	09/11/07		09/10/07		09/10/07		09/10/07		09/12/07	
			Sample Matrix	Soil		Tar		Soil		Soil		Soil	
			Sample Location	AOI 15		AOI 15		AOI 15		AOI 15		AOI 15	
	Part 201 SDBL	Part 201 RDCC	Units	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs													
Aroclor 1016	NA	NA	µg/Kg-dry	ND _J	79	ND	330	ND _J	80	ND _J	97	ND _J	42
Aroclor 1221	NA	NA	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42
Aroclor 1232	NA	NA	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42
Aroclor 1242	NA	NA	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42
Aroclor 1248	NA	NA	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42
Aroclor 1254	NA	NA	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42
Aroclor 1260	NA	NA	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42
Aroclor 1262	NA	NA	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42
Total PCBs	NA	4,000	µg/Kg-dry	ND	79	ND	330	ND _J	80	ND	97	ND	42

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

AOI -Area of Investigation

_J - Data qualified as estimated based on data validation.

NA - Not available

ND - Not detected above laboratory reporting limit

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - Polychlorinated Biphenyl

RL = laboratory reporting limit

µg/kg-dry - micrograms per kilogram dry weight

* - analyte detected below laboratory quantitation limit

Table 2 - PCB Sampling Results
Torch Lake Area Assessment
September 6 - September 12, 2007

Parameter	Regulatory Criteria		Sample Name	H&Y Marina B-19		Mason XRF 6		Mason XRF 10		MS S1-12		MS S1-13		TM S1-2	
			Sampling Date	09/12/07		09/06/07		09/06/07		09/12/07		09/12/07		09/12/07	
			Sample Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
			Sample Location	AOI 15		AOI 10		AOI 10		AOI 10		AOI 10		AOI 10	
	Part 201 SDBL	Part 201 RDCC	Units	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs															
Aroclor 1016	NA	NA	µg/Kg-dry	ND	36	ND _J	39	ND _J	35	ND _J	42	ND _J	37	ND _J	35
Aroclor 1221	NA	NA	µg/Kg-dry	ND	36	ND	39	ND	35	ND	42	ND	37	ND	35
Aroclor 1232	NA	NA	µg/Kg-dry	ND	36	ND	39	ND	35	ND	42	ND	37	ND	35
Aroclor 1242	NA	NA	µg/Kg-dry	ND	36	ND	39	ND	35	ND	42	ND	37	ND	35
Aroclor 1248	NA	NA	µg/Kg-dry	ND	36	ND	39	ND	35	ND	42	ND	37	ND	35
Aroclor 1254	NA	NA	µg/Kg-dry	ND	36	ND	39	ND	35	ND	42	ND	37	ND	35
Aroclor 1260	NA	NA	µg/Kg-dry	ND	36	ND	39	ND	35	ND	42	ND	37	ND	35
Aroclor 1262	NA	NA	µg/Kg-dry	11 *	36	ND	39	ND	35	ND	42	ND	37	ND	35
Total PCBs	NA	4,000	µg/Kg-dry	11 *	36	ND	39	ND	35	ND	42	ND	37	ND	35

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

AOI -Area of Investigation

J - Data qualified as estimated based on data validation.

NA - Not available

ND - Not detected above laboratory reporting limit

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - Polychlorinated Biphenyl

RL = laboratory reporting limit

µg/kg-dry - micrograms per kilogram dry weight

* - analyte detected below laboratory quantitation limit

**Table 2 - PCB Sampling Results
Torch Lake Area Assessment
September 6 - September 12, 2007**

Parameter	Regulatory Criteria		Sample Name	TM S1-5		TM S2-2		Hub S1-12		Mineral XRF 6		Mineral XRF 11	
			Sampling Date	09/12/07		09/12/07		09/12/07		09/07/07		09/07/07	
			Sample Matrix	Soil		Soil		Soil		Soil		Soil	
			Sample Location	AOI 10		AOI 10		AOI 19		AOI 22		AOI 22	
	Part 201 SDBL	Part 201 RDCC	Units	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs													
Aroclor 1016	NA	NA	µg/Kg-dry	ND _J	37	ND _J	38	ND _J	35	ND _J	70	ND _J	68
Aroclor 1221	NA	NA	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	ND	68
Aroclor 1232	NA	NA	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	ND	68
Aroclor 1242	NA	NA	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	ND	68
Aroclor 1248	NA	NA	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	ND	68
Aroclor 1254	NA	NA	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	ND	68
Aroclor 1260	NA	NA	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	ND	68
Aroclor 1262	NA	NA	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	24 *	68
Total PCBs	NA	4,000	µg/Kg-dry	ND	37	ND	38	ND	35	ND	70	24 *	68

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

AOI -Area of Investigation

J - Data qualified as estimated based on data validation.

NA - Not available

ND - Not detected above laboratory reporting limit

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - Polychlorinated Biphenyl

RL = laboratory reporting limit

µg/kg-dry - micrograms per kilogram dry weight

* - analyte detected below laboratory quantitation limit

**Table 2 - PCB Sampling Results
Torch Lake Area Assessment
September 6 - September 12, 2007**

Parameter	Regulatory Criteria		Sample Name	Calumet XRF 16		Lake Linden S2 - 8		Traprock B-8		Traprock B-12		Bootjack B-17	
			Sampling Date	09/07/07		09/12/07		09/11/07		09/11/07		09/11/07	
			Sample Matrix	Soil		Soil		Soil		Soil		Soil	
			Sample Location	AOI 12		AOI 24		AOI 25		AOI 25		AOI 26	
	Part 201 SDBL	Part 201 RDCC	Units	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs													
Aroclor 1016	NA	NA	µg/Kg-dry	ND _J	57	ND _J	43	ND _J	37	ND _J	35	ND _J	87
Aroclor 1221	NA	NA	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87
Aroclor 1232	NA	NA	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87
Aroclor 1242	NA	NA	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87
Aroclor 1248	NA	NA	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87
Aroclor 1254	NA	NA	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87
Aroclor 1260	NA	NA	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87
Aroclor 1262	NA	NA	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87
Total PCBs	NA	4,000	µg/Kg-dry	ND _J	57	ND	43	ND	37	ND	35	ND	87

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

AOI -Area of Investigation

_J - Data qualified as estimated based on data validation.

NA - Not available

ND - Not detected above laboratory reporting limit

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - Polychlorinated Biphenyl

RL = laboratory reporting limit

µg/kg-dry - micrograms per kilogram dry weight

* - analyte detected below laboratory quantitation limit

Table 2 - PCB Sampling Results
Torch Lake Area Assessment
September 6 - September 12, 2007

Parameter	Regulatory Criteria		Sample Name	Gay B - XRF6		Gay B - XRF11		Gay B - XRF14		Gay S1-21	
			Sampling Date	09/10/07		09/10/07		09/10/07		09/10/07	
			Sample Matrix	Soil		Soil		Soil		Soil	
			Sample Location	AOI 14		AOI 14		AOI 14		AOI 14	
	Part 201 SDBL	Part 201 RDCC	Units	Result	RL	Result	RL	Result	RL	Result	RL
PCBs											
Aroclor 1016	NA	NA	µg/Kg-dry	ND _J	74	ND _J	76	ND _J	75	ND _J	34
Aroclor 1221	NA	NA	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34
Aroclor 1232	NA	NA	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34
Aroclor 1242	NA	NA	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34
Aroclor 1248	NA	NA	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34
Aroclor 1254	NA	NA	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34
Aroclor 1260	NA	NA	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34
Aroclor 1262	NA	NA	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34
Total PCBs	NA	4,000	µg/Kg-dry	ND	74	ND	76	ND	75	ND	34

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

AOI -Area of Investigation

_J - Data qualified as estimated based on data validation.

NA - Not available

ND - Not detected above laboratory reporting limit

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - Polychlorinated Biphenyl

RL = laboratory reporting limit

µg/kg-dry - micrograms per kilogram dry weight

* - analyte detected below laboratory quantitation limit

Table 3 - Summary of Select Analytical Results for MGP-Tar Sample
Torch Lake Area Assessment
September 10, 2007

Parameter	Regulatory Criteria		Sample Name	MGP - TAR	
			Sampling Date	09/10/07	
			Sample Matrix	Tar	
			Sample Location	AOI No. 15	
	Part 201 SDBL	Part 201 RDCC	Units	Result	RL
SVOCs (Method SW8270C)					
2-Methylnaphthalene	NA	8,100,000	µg/Kg	3,600,000	960,000
Acenaphthene	NA	41,000,000	µg/Kg	400,000 *	960,000
Acenaphthylene	NA	1,600,000	µg/Kg	4,900,000	960,000
Anthracene	NA	230,000,000	µg/Kg	3,200,000	960,000
Benzo(a)anthracene	NA	20,000	µg/Kg	2,500,000	960,000
Benzo(a)pyrene	NA	2,000	µg/Kg	2,400,000	960,000
Benzo(b)fluoranthene	NA	20,000	µg/Kg	2,400,000	960,000
Benzo(g,h,i)perylene	NA	2,500,000	µg/Kg	1,400,000	960,000
Benzo(k)fluoranthene	NA	200,000	µg/Kg	1,100,000	960,000
Chrysene	NA	2,000,000	µg/Kg	1,800,000	960,000
Dibenz(a,h)anthracene	NA	2,000	µg/Kg	270,000 *	960,000
Fluoranthene	NA	46,000,000	µg/Kg	7,400,000	960,000
Fluorene	NA	27,000,000	µg/Kg	3,000,000	960,000
Indeno(1,2,3-cd)pyrene	NA	20,000	µg/Kg	1,200,000	960,000
Naphthalene	NA	16,000,000	µg/Kg	21,000,000	960,000
Phenanthrene	NA	1,600,000	µg/Kg	11,000,000	960,000
Pyrene	NA	29,000,000	µg/Kg	7,900,000	960,000
VOCs (Method SW8260B)					
1,2,3-Trimethylbenzene	NA	NA	µg/Kg	92,000 * J	200,000
1,2,4-Trimethylbenzene	NA	110,000	µg/Kg	260,000 J	200,000
1,3,5-Trimethylbenzene	NA	94,000	µg/Kg	100,000 * J	200,000
2-Methylnaphthalene	NA	8,100,000	µg/Kg	3,200,000 J	1,000,000
Acetone	NA	23,000,000	µg/Kg	630,000 * J	10,000,000
Benzene	NA	180,000	µg/Kg	1,200,000 J	120,000
Ethylbenzene	NA	140,000	µg/Kg	80,000 * J	200,000
m,p-Xylene	NA	NA	µg/Kg	520,000 J	400,000
Naphthalene	NA	16,000,000	µg/Kg	29,000,000 J	1,000,000
o-Xylene	NA	NA	µg/Kg	210,000 J	200,000
Styrene	NA	400,000	µg/Kg	210,000 J	200,000
Toluene	NA	250,000	µg/Kg	640,000 J	200,000
Xylenes, Total	NA	150,000	µg/Kg	730,000 J	600,000
Cyanide (Method SW9012A)					
Cyanide, Total	390	12	mg/kg	3.5	0.12

Table 3 - Summary of Select Analytical Results for MGP-Tar Sample
Torch Lake Area Assessment
September 10, 2007

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

Only VOCs detected are listed in table.

J - qualified as estimated due to surrogate spike recovery outside of the laboratory generated quality control limits.

MDEQ - Michigan Department of Environmental Quality

mg/kg - milligrams per kilogram

NA - Not available or not applicable

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

RL - laboratory reporting limit

SVOCs - semi-volatile organic compounds

VOCs - volatile organic compounds

µg/kg - micrograms per kilogram

* - analyte detected below quantitation limits

Table 4 - AOI 17 XRF Screening Results
Torch Lake Area Assessment
September 7 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	DollarB-18	DollarB-19	DollarBay-11	DollarBay-12
			Sampling Date	09/07/07	09/07/07	09/12/07	09/12/07
			Sample Type	XRF	XRF	XRF	XRF
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Number/ Location	Dollar Bay Area	Dollar Bay Area	Dollar Bay Area	Dollar Bay Area
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	8,754	27,668	2,289	4,978
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Iron	12,000	160,000	mg/kg	1,111	268,568	5,386	69,559
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	<LOD	956
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	159
Copper	32	20,000	mg/kg	31	14,327	1,249	53,702
Zinc	47	170,000	mg/kg	<LOD	<LOD	24	1,251
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	33	166
Selenium	0.41	2,600	mg/kg	7	<LOD	<LOD	10
Rubidium	--	--	mg/kg	11	26	7	<LOD
Strontium	--	330,000	mg/kg	53	359	106	163
Zirconium	--	--	mg/kg	242	565	69	54
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	25	<LOD
Silver	1	2,500	mg/kg	<LOD	275	<LOD	233
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	60	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	73	51	<LOD

Table 4 - AOI 17 XRF Screening Results
Torch Lake Area Assessment
September 7 - September 12, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

< – Less than

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MasonB-2	MasonB-3	MasonB-4	MasonB-5
			Sampling Date	09/06/07	09/06/07	09/06/07	09/06/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF
			Sample Number/ Location	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	4,079	4,987	4,800	12,135
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	<LOD	<LOD	<LOD	298
Iron	12,000	160,000	mg/kg	46,859	49,950	23,910	77,839
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	125	312	<LOD	2,548
Zinc	47	170,000	mg/kg	99	63	38	39
Arsenic	5.8	7.6	mg/kg	<LOD	23	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	45	37	95	31
Strontium	--	330,000	mg/kg	352	218	45	100
Zirconium	--	--	mg/kg	113	114	210	91
Molybdenum	--	2,600	mg/kg	10	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	35	48	13	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MasonB-6	MasonB-6	MasonB-7	MasonB-8	MasonB-9
			Sampling Date	09/06/07	09/06/07	09/06/07	09/06/07	09/06/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	Laboratory	XRF	XRF	XRF	XRF
			Sample Number/ Location	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	NT	3,184	<LOD	1,076	18,070
Chromium	18	790,000	mg/kg	8.2 *	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	790	242	<LOD	171	329
Iron	12,000	160,000	mg/kg	NT	29,414	3,713	5,935	83,544
Cobalt	6.8	2,600	mg/kg	17	<LOD	<LOD	<LOD	<LOD
Nickel	20	40,000	mg/kg	31	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	1,900	870	<LOD	274	1,613
Zinc	47	170,000	mg/kg	110 J	69	<LOD	<LOD	<LOD
Arsenic	5.8	7.6	mg/kg	6.70	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	NT	16	8	47	19
Strontium	--	330,000	mg/kg	<240	124	116	19	126
Zirconium	--	--	mg/kg	NT	62	17	62	120
Molybdenum	--	2,600	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	5.30	<LOD	<LOD	<LOD	118
Cadmium	1.2	550	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	0.51	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	1,100	553	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	16,000 J	NT	NT	NT	NT
Beryllium	--	410	mg/kg	0.75 *	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	7.10	NT	NT	NT	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MasonB-10	MasonB-10	MasonB-11	MasonB-12	MasonB-13
			Sampling Date	09/06/07	09/06/07	09/06/07	09/06/07	09/06/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	Laboratory	XRF	XRF	XRF	XRF
			Sample Number/ Location	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins	Mason Area Ruins
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	NT	9,762	16,491	13,242	3,289
Chromium	18	790,000	mg/kg	10	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	520	349	349	<LOD	<LOD
Iron	12,000	160,000	mg/kg	NT	78,750	79,205	158,600	48,334
Cobalt	6.8	2,600	mg/kg	17	<LOD	<LOD	<LOD	<LOD
Nickel	20	40,000	mg/kg	32	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	19,000	12,703	3,216	275,954	4,559
Zinc	47	170,000	mg/kg	110 J	<LOD	103	<LOD	<LOD
Arsenic	5.8	7.6	mg/kg	1.70	74	<LOD	<LOD	18
Selenium	0.41	2,600	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	NT	20	21	<LOD	6
Strontium	--	330,000	mg/kg	<180	117	111	215	32
Zirconium	--	--	mg/kg	NT	79	119	71	25
Molybdenum	--	2,600	mg/kg	NT	<LOD	<LOD	<LOD	9
Silver	1	2,500	mg/kg	5.40	<LOD	96	145	<LOD
Cadmium	1.2	550	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	0.12	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	200	477	206	78	108
Aluminum	6,900	50,000	mg/kg	21,000 J	NT	NT	NT	NT
Beryllium	--	410	mg/kg	<3.6	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	3.40	NT	NT	NT	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MS-S1-01	MS-S1-02i	MS-S1-03	MS-S1-04	MS-S1-05	MS-S1-06
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Mason Sands	Mason Sands	Mason Sands	Mason Sands	Mason Sands	Mason Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals									
Titanium	--	--	mg/kg	9,020	2,748	4,244	5,253	8,832	7,753
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	673	<LOD	390	405	620	562
Iron	12,000	160,000	mg/kg	65,574	124,634	28,043	38,834	60,693	54,495
Cobalt	6.8	2,600	mg/kg	807	902	414	499	527	528
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	3,022	155	959	950	1,394	401
Zinc	47	170,000	mg/kg	89	26	37	51	74	56
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	23	13	39	25	20	19
Strontium	--	330,000	mg/kg	117	569	64	69	119	95
Zirconium	--	--	mg/kg	114	77	87	91	98	112
Molybdenum	--	2,600	mg/kg	<LOD	11	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	81	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	552	<LOD	636
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	39	12	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MS-S1-07	MS-S1-08	MS-S1-10	MS-S1-11	MS-S1-12	MS-S1-12
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	Laboratory	XRF
			Sample Number/ Location	Mason Sands	Mason Sands	Mason Sands	Mason Sands	Mason Sands	Mason Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals									
Titanium	--	--	mg/kg	8,075	7,600	1,815	6,873	NT	3,420
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	7.1 *	<LOD
Manganese	440	25,000	mg/kg	537	650	88	490	240	231
Iron	12,000	160,000	mg/kg	60,173	53,806	8,961	68,885	NT	21,704
Cobalt	6.8	2,600	mg/kg	627	430	<LOD	818	7.70	249
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	14	<LOD
Copper	32	20,000	mg/kg	684	825	<LOD	2,544	230	190
Zinc	47	170,000	mg/kg	55	65	17	92	60	39
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<0.98	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD
Rubidium	--	--	mg/kg	22	19	62	24	NT	35
Strontium	--	330,000	mg/kg	110	131	60	115	<250	63
Zirconium	--	--	mg/kg	93	100	158	98	NT	95
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	8	14	NT	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	0.37	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	77	NT	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD
Barium	75	37,000	mg/kg	834	<LOD	<LOD	<LOD	NT	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	0.022	<LOD
Lead	21	400	mg/kg	<LOD	<LOD	9	12	6.7 *	10
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	9,700	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	<4.9	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	3.10	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MS-S1-13	MS-S1-13	MS-S1-14	MS-S1-15	MS-S1-16	MS-S1-17
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	Laboratory	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Mason Sands	Mason Sands	Mason Sands	Mason Sands	Mason Sands	Mason Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals									
Titanium	--	--	mg/kg	NT	9,907	9,489	5,359	10,639	8,516
Chromium	18	790,000	mg/kg	18	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	550	945	687	568	719	530
Iron	12,000	160,000	mg/kg	NT	72,837	58,136	43,971	55,191	51,550
Cobalt	6.8	2,600	mg/kg	18	838	532	<LOD	641	591
Nickel	20	40,000	mg/kg	31	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	2,500	2,044	622	379	343	294
Zinc	47	170,000	mg/kg	170	132	77	44	58	58
Arsenic	5.8	7.6	mg/kg	8.60	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	NT	<LOD	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	NT	25	18	16	22	23
Strontium	--	330,000	mg/kg	<210	100	105	90	109	101
Zirconium	--	--	mg/kg	NT	111	95	83	126	95
Molybdenum	--	2,600	mg/kg	NT	<LOD	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	3.10	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	NT	<LOD	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	NT	<LOD	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	NT	<LOD	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	NT	<LOD	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	0.28	<LOD	<LOD	<LOD	16	<LOD
Lead	21	400	mg/kg	200	140	<LOD	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	23,000	NT	NT	NT	NT	NT
Beryllium	--	410	mg/kg	<4.2	NT	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	7.60	NT	NT	NT	NT	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MS-S1-18	MS-S1-19	TM-S2-01	TM-S1-01	TM-S1-02	TM-S1-02
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	Laboratory	XRF
			Sample Number/ Location	Mason Sands	Mason Sands	Mason Sands	Tamarack Sands	Tamarack Sands	Tamarack Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals									
Titanium	--	--	mg/kg	5,198	7,794	8,849	1,453	NT	7,837
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	14 J	<LOD
Manganese	440	25,000	mg/kg	368	615	768	<LOD	430	762
Iron	12,000	160,000	mg/kg	36,248	53,693	65,748	15,030	NT	59,685
Cobalt	6.8	2,600	mg/kg	<LOD	503	629	178	15 J	725
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	24 J	<LOD
Copper	32	20,000	mg/kg	153	191	2,373	107	2,700 J	2,334
Zinc	47	170,000	mg/kg	37	76	62	12	59	76
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	0.35 J *	8
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD
Rubidium	--	--	mg/kg	50	25	25	36	NT	41
Strontium	--	330,000	mg/kg	109	103	115	66	<170	135
Zirconium	--	--	mg/kg	123	91	109	64	NT	116
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	9	NT	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	1.2 J	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD
Barium	75	37,000	mg/kg	<LOD	584	<LOD	<LOD	NT	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	0.038	<LOD
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	11	8 J	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	19,000 J	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	<3.3 J	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	7.10	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	TM-S1-03	TM-S1-04	TM-S1-05	TM-S1-05
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	Laboratory	XRF
			Sample Number/ Location	Tamarack Sands	Tamarack Sands	Tamarack Sands	Tamarack Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	9,285	2,597	NT	4,493
Chromium	18	790,000	mg/kg	<LOD	<LOD	20	<LOD
Manganese	440	25,000	mg/kg	881	265	530	475
Iron	12,000	160,000	mg/kg	69,920	27,233	NT	62,659
Cobalt	6.8	2,600	mg/kg	752	410	21	677
Nickel	20	40,000	mg/kg	<LOD	<LOD	30	<LOD
Copper	32	20,000	mg/kg	2,560	158	9,100	1,513
Zinc	47	170,000	mg/kg	92	76	100	107
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	9.80	72
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	NT	<LOD
Rubidium	--	--	mg/kg	19	62	NT	24
Strontium	--	330,000	mg/kg	84	98	<270	107
Zirconium	--	--	mg/kg	104	189	NT	89
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	NT	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	2.40	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	NT	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	NT	428
Antimony	--	180	mg/kg	<LOD	<LOD	NT	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	NT	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	0.22	<LOD
Lead	21	400	mg/kg	<LOD	42	530	631
Aluminum	6,900	50,000	mg/kg	NT	NT	20,000	NT
Beryllium	--	410	mg/kg	NT	NT	0.58 *	NT
Lithium	9.8	4,200	mg/kg	NT	NT	5.00	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	TM-S2-02	TAM-2-2
			Sampling Date	09/12/07	09/12/07
			Sample Matrix	Soil	Soil
			Sample Type	Laboratory	XRF
			Sample Number/ Location	Tamarack Sands	Tamarack Sands
			Units	mg/kg	mg/kg
Metals					
Titanium	--	--	mg/kg	NT	6,088
Chromium	18	790,000	mg/kg	19	<LOD
Manganese	440	25,000	mg/kg	670	187
Iron	12,000	160,000	mg/kg	NT	45,530
Cobalt	6.8	2,600	mg/kg	25	<LOD
Nickel	20	40,000	mg/kg	34	<LOD
Copper	32	20,000	mg/kg	2,000	1,602
Zinc	47	170,000	mg/kg	87	47
Arsenic	5.8	7.6	mg/kg	1.20	<LOD
Selenium	0.41	2,600	mg/kg	NT	<LOD
Rubidium	--	--	mg/kg	NT	15
Strontium	--	330,000	mg/kg	<210	78
Zirconium	--	--	mg/kg	NT	97
Molybdenum	--	2,600	mg/kg	NT	<LOD
Silver	1	2,500	mg/kg	1.40	<LOD
Cadmium	1.2	550	mg/kg	NT	<LOD
Tin	--	--	mg/kg	NT	<LOD
Antimony	--	180	mg/kg	NT	<LOD
Barium	75	37,000	mg/kg	NT	<LOD
Mecury	0.13	160	mg/kg	0.044	<LOD
Lead	21	400	mg/kg	7.3 *	<LOD
Aluminum	6,900	50,000	mg/kg	27,000	NT
Beryllium	--	410	mg/kg	<4.3	NT
Lithium	9.8	4,200	mg/kg	6.30	NT

Table 5 - AOI 10 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 6, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J - Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

< – Less than

* – Analyte detected below quantitation limits

Table 6 - AOI 19 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	HUB-S1-01	HUB-S1-02	HUB-S1-03	HUB-S1-04	HUB-S1-05
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Hubbell Sands	Hubbell Sands	Hubbell Sands	Hubbell Sands	Hubbell Sands
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	2,461	5,025	7,446	3,877	3,766
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	84	465	553	293	279
Iron	12,000	160,000	mg/kg	8,074	42,706	56,880	38,684	34,038
Cobalt	6.8	2,600	mg/kg	118	585	455	628	416
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	<LOD	826	619	672	714
Zinc	47	170,000	mg/kg	14	59	64	43	58
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	55	26	4	37	51
Strontium	--	330,000	mg/kg	56	69	124	147	135
Zirconium	--	--	mg/kg	163	145	118	236	345
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	96	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT

Table 6 - AOI 19 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	HUB-S1-06	HUB-S1-07	HUB-S1-08	HUB-S1-09	HUB-S1-10
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Hubbell Sands	Hubbell Sands	Hubbell Sands	Hubbell Sands	Hubbell Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	6,963	10,489	9,657	5,822	5,293
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	623	777	723	452	391
Iron	12,000	160,000	mg/kg	64,695	78,284	81,746	51,145	43,730
Cobalt	6.8	2,600	mg/kg	964	1,041	684	713	589
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	454	1,602	1,783	479	601
Zinc	47	170,000	mg/kg	71	91	100	57	59
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	10	<LOD	9
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	9	9	10	24	15
Strontium	--	330,000	mg/kg	290	115	103	108	81
Zirconium	--	--	mg/kg	137	151	172	163	143
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT

Table 6 - AOI 19 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	HUB-S1-12	HUB-S1-12	HUB-S1-13	HUB-S1-14	HUB-S1-15
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	Laboratory	XRF	XRF	XRF	XRF
			Sample Number/ Location	Hubbell Sands	Hubbell Sands	Hubbell Sands	Hubbell Sands	Hubbell Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	NT	9,496	9,739	7,684	7,893
Chromium	18	790,000	mg/kg	24	<LOD	<LOD	269	<LOD
Manganese	440	25,000	mg/kg	320	744	665	480	549
Iron	12,000	160,000	mg/kg	NT	77,280	70,417	56,128	58,659
Cobalt	6.8	2,600	mg/kg	21	802	858	748	709
Nickel	20	40,000	mg/kg	39	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	6,000	2,996	448	315	488
Zinc	47	170,000	mg/kg	95	104	72	55	53
Arsenic	5.8	7.6	mg/kg	4.80	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	NT	17	12	13	13
Strontium	--	330,000	mg/kg	<220	115	200	290	246
Zirconium	--	--	mg/kg	NT	157	156	123	122
Molybdenum	--	2,600	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	0.99	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	NT	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	0.0036 *	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	11	12	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	15,000	NT	NT	NT	NT
Beryllium	--	410	mg/kg	<4.5	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	12	NT	NT	NT	NT

Table 6 - AOI 19 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	HUB-S1-16	HUB-S1-17	HB-2-1	HB-2-2
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF
			Sample Number/ Location	Hubbell Sands	Hubbell Sands	Hubbell Sands	Hubbell Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	4,791	8,147	3,296	<LOD
Chromium	18	790,000	mg/kg	199	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	393	547	<LOD	<LOD
Iron	12,000	160,000	mg/kg	39,215	58,558	28,668	14,982
Cobalt	6.8	2,600	mg/kg	551	823	<LOD	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	707	422	1,481	1,080
Zinc	47	170,000	mg/kg	61	56	29	18
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	33	14	60	55
Strontium	--	330,000	mg/kg	112	186	150	97
Zirconium	--	--	mg/kg	126	140	203	151
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	65	<LOD
Tin	--	--	mg/kg	86	86	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT

Table 6 - AOI 19 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 12, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

* – Analyte detected below quantitative limits

< – Less than

**Table 7 - AOI 21 XRF Screening Results
Torch Lake Area Assessment
September 11, 2007**

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	HubbellB-2	HubbellB-3	HubbellB-4
			Sampling Date	09/11/07	09/11/07	09/11/07
			Sample Matrix	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF
			Sample Number/ Location	Hubbell Beach	Hubbell Beach	Hubbell Slag Dump
			Units	mg/kg	mg/kg	mg/kg
Metals						
Titanium	--	--	mg/kg	19,379	1,799	4,164
Chromium	18	790,000	mg/kg	<LOD	<LOD	1,324
Manganese	440	25,000	mg/kg	372	<LOD	406
Iron	12,000	160,000	mg/kg	106,633	7,972	65,302
Cobalt	6.8	2,600	mg/kg	1,653	<LOD	731
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	57	260	3,994
Zinc	47	170,000	mg/kg	<LOD	41	1,301
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	37	51	28
Strontium	--	330,000	mg/kg	53	51	191
Zirconium	--	--	mg/kg	1,054	112	192
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	76
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	218
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	59	223

Table 7 - AOI 21 XRF Screening Results
Torch Lake Area Assessment
September 11, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J - Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

--" – Not listed in MDEQ Part 201 Tables

* – Analyte detected below quantitative limits

< – Less than

Table 8 - AOI 22 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MineralB-4	MineralB-5	MineralB-6	MineralB-6	MineralB-7
			Sampling Date	09/07/07	09/07/07	09/07/07	09/07/07	09/07/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	Laboratory	XRF	XRF
			Sample Number/ Location	Mineral Building	Mineral Building	Mineral Building	Mineral Building	Mineral Building
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	<LOD	<LOD	NT	25,083	<LOD
Chromium	18	790,000	mg/kg	<LOD	4,016	56	2,559	7,850
Manganese	440	25,000	mg/kg	431	<LOD	73	<LOD	<LOD
Iron	12,000	160,000	mg/kg	3,342	544,540	NT	230,173	455,401
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	48	<LOD	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	540	2,744	2,113
Copper	32	20,000	mg/kg	3,071	266,155	44,000 J	840,928	769,382
Zinc	47	170,000	mg/kg	962	154,989	5,400	15,367	261,353
Arsenic	5.8	7.6	mg/kg	<LOD	1,958	230	1,120	2,505
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	NT	<LOD	<LOD
Rubidium	--	--	mg/kg	15	<LOD	NT	<LOD	<LOD
Strontium	--	330,000	mg/kg	82	192	<160	254	320
Zirconium	--	--	mg/kg	111	63	NT	107	82
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	NT	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	9.00	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	NT	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	5,571	NT	16,434	12,713
Antimony	--	180	mg/kg	<LOD	<LOD	NT	<LOD	438
Barium	75	37,000	mg/kg	<LOD	<LOD	NT	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	0.022	<LOD	<LOD
Lead	21	400	mg/kg	41	3,489	1,900	13,208	8,782
Aluminum	6,900	50,000	mg/kg	NT	NT	3,200 J	NT	NT
Beryllium	--	410	mg/kg	NT	NT	<3.2	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	<0.64	NT	NT

Table 8 - AOI 22 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	MineralB-8	MineralB-9	MineralB-10	MineralB-11	MineralB-11
			Sampling Date	09/07/07	09/07/07	09/07/07	09/07/07	09/07/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	Laboratory	XRF
			Sample Number/ Location	Mineral Building	Mineral Building	Mineral Building	Mineral Building	Mineral Building
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	1,168	1,790	2,496	NT	6,729
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	6.9 *	259
Manganese	440	25,000	mg/kg	<LOD	<LOD	247	180	1,018
Iron	12,000	160,000	mg/kg	8,453	17,512	21,836	NT	39,749
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	<LOD	6.90	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	24	<LOD
Copper	32	20,000	mg/kg	643	7,253	2,276	17,000	24,251
Zinc	47	170,000	mg/kg	173	221	254	490 J	550
Arsenic	5.8	7.6	mg/kg	17	37	22	52	66
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	NT	<LOD
Rubidium	--	--	mg/kg	14	39	25	NT	57
Strontium	--	330,000	mg/kg	93	91	45	<180	88
Zirconium	--	--	mg/kg	31	167	79	NT	214
Molybdenum	--	2,600	mg/kg	9	<LOD	<LOD	NT	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	5.00	63
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	NT	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	NT	<LOD
Antimony	--	180	mg/kg	56	<LOD	<LOD	NT	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	NT	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	0.10	<LOD
Lead	21	400	mg/kg	27	126	122	280	401
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	6,200 J	NT
Beryllium	--	410	mg/kg	NT	NT	NT	0.5 *	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	4.70	NT

**Table 8 - AOI 22 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7, 2007**

Parameter	Part 201 SDBL	Part 201 RDCC	MineralB-12	MineralB-13
			09/07/07	09/07/07
			Soil	Soil
			XRF	XRF
			Mineral Building	Mineral Building
			mg/kg	mg/kg
Metals				
Titanium	--	--	14,342	<LOD
Chromium	18	790,000	291	<LOD
Manganese	440	25,000	359	1,034
Iron	12,000	160,000	77,669	5,702
Cobalt	6.8	2,600	<LOD	<LOD
Nickel	20	40,000	<LOD	<LOD
Copper	32	20,000	1,075	3,442
Zinc	47	170,000	102	203
Arsenic	5.8	7.6	<LOD	20
Selenium	0.41	2,600	<LOD	<LOD
Rubidium	--	--	25	5
Strontium	--	330,000	311	143
Zirconium	--	--	165	30
Molybdenum	--	2,600	<LOD	<LOD
Silver	1	2,500	153	<LOD
Cadmium	1.2	550	<LOD	<LOD
Tin	--	--	<LOD	<LOD
Antimony	--	180	<LOD	<LOD
Barium	75	37,000	<LOD	<LOD
Mecury	0.13	160	<LOD	<LOD
Lead	21	400	<LOD	78
Aluminum	6,900	50,000	NT	NT
Beryllium	--	410	NT	NT
Lithium	9.8	4,200	NT	NT

Table 8 - AOI 22 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J - Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

* – Analyte detected below quantitative limits

< – Less than

Table 9 - AOI 12 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	CalumetB-14	CalumetB-15	CalumetB-16	CalumetB-16
			Sampling Date	09/07/07	09/07/07	09/07/07	09/07/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	Laboratory	XRF
			Sample Number/ Location	Calumet Stamp Mill	Calumet Stamp Mill	Calumet Stamp Mill	Calumet Stamp Mill
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	<LOD	13,818	NT	2,640
Chromium	18	790,000	mg/kg	<LOD	<LOD	28	<LOD
Manganese	440	25,000	mg/kg	<LOD	537	740	<LOD
Iron	12,000	160,000	mg/kg	5,497	88,591	NT	28,908
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	18	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	49	<LOD
Copper	32	20,000	mg/kg	345	1,120	10,000	4,023
Zinc	47	170,000	mg/kg	56	47	420 J	181
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	36	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	NT	<LOD
Rubidium	--	--	mg/kg	37	<LOD	NT	25
Strontium	--	330,000	mg/kg	53	43	<340	82
Zirconium	--	--	mg/kg	84	136	NT	89
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	NT	<LOD
Silver	1	2,500	mg/kg	<LOD	146	2.40	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	NT	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	NT	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	NT	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	NT	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	0.23	<LOD
Lead	21	400	mg/kg	<LOD	<LOD	1,100	432
Aluminum	6,900	50,000	mg/kg	NT	NT	13,000 J	NT
Beryllium	--	410	mg/kg	NT	NT	1.6 *	NT
Lithium	9.8	4,200	mg/kg	NT	NT	9.70	NT

Table 9 - AOI 12 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7 - September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	CalumetB-17	LL-2-1	LL-2-2	LL-2-3
			Sampling Date	09/07/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF
			Sample Number/ Location	Calumet Stamp Mill	Lake Linden Sands	Lake Linden Sands	Lake Linden Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg
Metals							
Titanium	--	--	mg/kg	8,754	7,278	4,031	2,329
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	<LOD	337	186	<LOD
Iron	12,000	160,000	mg/kg	<LOD	52,636	39,717	25,152
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	<LOD	207
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	31	733	401	823
Zinc	47	170,000	mg/kg	<LOD	73	44	36
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	7	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	11	25	21	47
Strontium	--	330,000	mg/kg	53	107	111	77
Zirconium	--	--	mg/kg	242	164	152	190
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	55	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	86	86
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	60	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	17	<LOD	11
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT

Table 9 - AOI 12 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7 - September 12, 2007

Part 201 SDBL	Part 201 RDCC	Sample Name	LL-2-4	LL-2-5	LL-2-6
		Sampling Date	09/12/07	09/12/07	09/12/07
		Sample Matrix	Soil	Soil	Soil
		Sample Type	XRF	XRF	XRF
		Sample Number/ Location	Lake Linden Sands	Lake Linden Sands	Lake Linden Sands
		Units	mg/kg	mg/kg	mg/kg
--	--	mg/kg	5,142	3,672	3,554
18	790,000	mg/kg	188	<LOD	<LOD
440	25,000	mg/kg	<LOD	<LOD	<LOD
12,000	160,000	mg/kg	33,165	32,626	28,402
6.8	2,600	mg/kg	<LOD	<LOD	<LOD
20	40,000	mg/kg	<LOD	<LOD	<LOD
32	20,000	mg/kg	2,384	517	646
47	170,000	mg/kg	60	49	36
5.8	7.6	mg/kg	<LOD	<LOD	<LOD
0.41	2,600	mg/kg	<LOD	<LOD	<LOD
--	--	mg/kg	64	36	50
--	330,000	mg/kg	63	88	132
--	--	mg/kg	301	195	279
--	2,600	mg/kg	<LOD	<LOD	<LOD
1	2,500	mg/kg	100	<LOD	<LOD
1.2	550	mg/kg	58	89	68
--	--	mg/kg	<LOD	<LOD	<LOD
--	180	mg/kg	<LOD	<LOD	<LOD
75	37,000	mg/kg	<LOD	<LOD	<LOD
0.13	160	mg/kg	<LOD	<LOD	<LOD
21	400	mg/kg	17	<LOD	<LOD
6,900	50,000	mg/kg	NT	NT	NT
--	410	mg/kg	NT	NT	NT
9.8	4,200	mg/kg	NT	NT	NT

Table 9 - AOI 12 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 7 - September 12, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J - Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

* – Analyte detected below quantitative limits

< – Less than

Table 10 - AOI 23 XRF Screening Results
Torch Lake Area Assessment
September 5, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	C&H-XRF3	C&H-XRF4	C&H-XRF5	C&H-XRF6	C&H-XRF7
			Sampling Date	09/05/07	09/05/07	09/05/07	09/05/07	09/05/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	C&H Power Plant	C&H Power Plant	C&H Power Plant	C&H Power Plant	C&H Power Plant
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	<LOD	<LOD	4,219	10,355	<LOD
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Iron	12,000	160,000	mg/kg	4,793	406	3,956	628,850	6,609
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	<LOD	<LOD	<LOD	143	47,378
Zinc	47	170,000	mg/kg	272	158	244	72	488
Arsenic	5.8	7.6	mg/kg	21	<LOD	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	<LOD	<LOD	<LOD	57	38
Strontium	--	330,000	mg/kg	564	464	401	553	761
Zirconium	--	--	mg/kg	<LOD	<LOD	<LOD	119	54
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	32
Silver	1	2,500	mg/kg	60	62	<LOD	<LOD	105
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	80
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	122	<LOD	2,674	190	562

Table 10 - AOI 23 XRF Screening Results
Torch Lake Area Assessment
September 5, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	C&H-XRF8	C&H-XRF9	C&H-XRF10	C&H-XRF11	C&H-XRF12
			Sampling Date	09/05/07	09/05/07	09/05/07	09/05/07	09/05/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	C&H Power Plant	C&H Power Plant	C&H Power Plant	C&H Power Plant	C&H Power Plant
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	6,373	<LOD	3,956	2,872	<LOD
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	<LOD	<LOD	<LOD	271	<LOD
Iron	12,000	160,000	mg/kg	31,046	20,614	35,219	25,719	3,528
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	20	4,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	302	39	4,605	161	357,508
Zinc	47	170,000	mg/kg	33	<LOD	61	60	<LOD
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	13	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	33	26	76	57	<LOD
Strontium	NA	330,000	mg/kg	564	83	110	192	63
Zirconium	--	--	mg/kg	162	52	382	157	<LOD
Molybdenum	NA	2,600	mg/kg	12	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	113	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	66	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Antimony	NA	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	30	<LOD	22	13	121

Table 10 - AOI 23 XRF Screening Results
Torch Lake Area Assessment
September 5, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	C&H-XRF13	C&H-XRF14	C&H-XRF15
			Sampling Date	09/05/07	09/05/07	09/05/07
			Sample Matrix	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF
			Sample Number/ Location	C&H Power Plant	C&H Power Plant	C&H Power Plant
			Units	mg/kg	mg/kg	mg/kg
Metals						
Titanium	--	--	mg/kg	<LOD	3,082	1,505
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	<LOD	<LOD	<LOD
Iron	12,000	160,000	mg/kg	46,303	10,542	13,184
Cobalt	6.8	2,600	mg/kg	<LOD	<LOD	<LOD
Nickel	20	4,000	mg/kg	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	2,735,217	274	5,377
Zinc	47	170,000	mg/kg	<LOD	19	<LOD
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	<LOD	62	64
Strontium	NA	330,000	mg/kg	146	55	22
Zirconium	--	--	mg/kg	104	221	131
Molybdenum	NA	2,600	mg/kg	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD
Antimony	NA	180	mg/kg	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	518	15	<LOD

Table 10 - AOI 23 XRF Screening Results
Torch Lake Area Assessment
September 5, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

< – Less than

Table 11 - AOI 24 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	LL-2-7	LL-S2-8	LL-2-8	LL-2'-8	LL-2-9
			Sampling Date	09/12/07	09/12/07	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	Laboratory	XRF	XRF	XRF
			Sample Number/ Location	Torch Lake Backwater Area	Torch Lake Backwater Area	Torch Lake Backwater Area	Torch Lake Backwater Area	Torch Lake Backwater Area
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals								
Titanium	--	--	mg/kg	3,393	NT	1,605	2,255	4,855
Chromium	18	790,000	mg/kg	<LOD	20 J	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	<LOD	350	<LOD	<LOD	<LOD
Iron	12,000	160,000	mg/kg	25,196	NT	20,383	21,498	34,617
Cobalt	6.8	2,600	mg/kg	<LOD	14 J	<LOD	<LOD	<LOD
Nickel	20	40,000	mg/kg	<LOD	34 J	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	623	2,100 J	4,620	602	7,731
Zinc	47	170,000	mg/kg	31	130	29	41	<LOD
Arsenic	5.8	7.6	mg/kg	<LOD	1.1 J *	9	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	NT	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	48	NT	38	42	58
Strontium	--	330,000	mg/kg	106	<270	71	109	120
Zirconium	--	--	mg/kg	288	NT	249	270	277
Molybdenum	--	2,600	mg/kg	<LOD	NT	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	1.3 J	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	57	NT	<LOD	51	<LOD
Tin	--	--	mg/kg	<LOD	NT	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	NT	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	NT	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	0.029	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	6.9 J *	13	8	16
Aluminum	6,900	50,000	mg/kg	NT	11,000 J	NT	NT	NT
Beryllium	--	410	mg/kg	NT	0.94 J *	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	6.00	NT	NT	NT

Table 11 - AOI 24 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 12, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000)

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

U.S. EPA – United States Environmental Protection Agency

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

J - Data qualified as estimated based on data validation

* - Analyte detected below quantitation limits

< – Less than

Table 12 - AOI 25 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 11, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	TraprockB-5	TraprockB-6	TraprockB-7	TraprockB-8	TraprockB-8	TraprockB-9
			Sampling Date	09/11/07	09/11/07	09/11/07	09/11/07	09/11/07	09/11/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	Laboratory	XRF	XRF
			Sample Number/ Location	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals									
Titanium	--	--	mg/kg	3,995	8,194	<LOD	NT	2,505	3,559
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	4.5 J *	<LOD	<LOD
Manganese	440	25,000	mg/kg	262	1,362	<LOD	390	217	<LOD
Iron	12,000	160,000	mg/kg	31,322	79,835	6,214	NT	10,175	11,147
Cobalt	6.8	2,600	mg/kg	578	924	173	9.4 J	<LOD	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	30 J	<LOD	<LOD
Copper	32	20,000	mg/kg	2,619	288	382	360 J	148	223
Zinc	47	170,000	mg/kg	66	388	34	95	70	82
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	4.6 J	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Rubidium	--	--	mg/kg	75	11	5	NT	44	16
Strontium	--	330,000	mg/kg	86	169	27	<250	116	505
Zirconium	--	--	mg/kg	367	92	34	NT	137	188
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	26	NT	<LOD	21
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	1.7 J	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	0.052	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	27	24	48 J	38	90
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	9,800 J	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	0.59 J *	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	7.30	NT	NT

Table 12 - AOI 25 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 11, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	TraprockB-10	TraprockB-11	TraprockB-12	TraprockB-12	TraprockB-13	TraprockB-14
			Sampling Date	09/11/07	09/11/07	09/11/07	09/11/07	09/11/07	09/11/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	Laboratory	XRF	XRF	XRF
			Sample Number/ Location	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump	Traprock Slag Dump
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals									
Titanium	--	--	mg/kg	2,691	12,948	NT	4,282	4,932	<LOD
Chromium	18	790,000	mg/kg	<LOD	<LOD	<11 J	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	219	1,842	17	<LOD	<LOD	288
Iron	12,000	160,000	mg/kg	27,244	82,869	NT	24,745	10,904	2,252
Cobalt	6.8	2,600	mg/kg	393	<LOD	0.44 J *	<LOD	<LOD	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	1.2 J *	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	184	446	47 J	98	66	<LOD
Zinc	47	170,000	mg/kg	225	<LOD	14	85	<LOD	<LOD
Arsenic	5.8	7.6	mg/kg	33	<LOD	4.2 J	<LOD	<LOD	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	NT	<LOD	<LOD	6
Rubidium	--	--	mg/kg	41	47	NT	86	47	<LOD
Strontium	--	330,000	mg/kg	293	855	440	266	106	43
Zirconium	--	--	mg/kg	155	237	NT	139	316	63
Molybdenum	--	2,600	mg/kg	15	<LOD	NT	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	118	0.18 J	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	<LOD	0.0047	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	241	<LOD	17 J	192	15	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	13,000 J	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	1.4 J *	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	11	NT	NT	NT

Table 12 - AOI 25 XRF Screening and Laboratory Analytical Results
Torch Lake Area Assessment
September 11, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000)

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J - Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

* – Analyte detected below quantitation limits

< – Less than

Table 13 - AOI 26 XRF Screening Results
Torch Lake Area Assessment
September 12, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	BootjackB-15	BootjackB-16	BootjackB-17
			Sampling Date	09/12/07	09/12/07	09/12/07
			Sample Matrix	Soil	Soil	Soil
			Sample Type	XRF	XRF	Laboratory
			Sample Number/ Location	Bootjack Stampsand	Bootjack Stampsand	Bootjack Stampsand
			Units	mg/kg	mg/kg	mg/kg
Metals						
Titanium	--	--	mg/kg	5,830	5,830	NT
Chromium	18	790,000	mg/kg	<LOD	<LOD	<9.9 J
Manganese	440	25,000	mg/kg	740	740	48
Iron	12,000	160,000	mg/kg	52,547	52,547	NT
Cobalt	6.8	2,600	mg/kg	654	654	1.7 J *
Nickel	20	40,000	mg/kg	<LOD	<LOD	5.3 J *
Copper	32	20,000	mg/kg	1,943	1,943	110 J
Zinc	47	170,000	mg/kg	64	64	26
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	1.7 J
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	NT
Rubidium	--	--	mg/kg	24	24	NT
Strontium	--	330,000	mg/kg	165	165	<250
Zirconium	--	--	mg/kg	220	220	NT
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	NT
Silver	1	2,500	mg/kg	<LOD	<LOD	0.064 J *
Cadmium	1.2	550	mg/kg	<LOD	<LOD	NT
Tin	--	--	mg/kg	<LOD	<LOD	NT
Antimony	--	180	mg/kg	<LOD	<LOD	NT
Barium	75	37,000	mg/kg	<LOD	<LOD	NT
Mecury	0.13	160	mg/kg	<LOD	<LOD	0.016
Lead	21	400	mg/kg	<LOD	<LOD	23 J
Aluminum	6,900	50,000	mg/kg	NT	NT	2,600 J
Beryllium	--	410	mg/kg	NT	NT	<5 J
Lithium	9.8	4,200	mg/kg	NT	NT	2.60

Table 13 - AOI 26 XRF Screening Results
Torch Lake Area Assessment
September 12, 2007

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J – Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ – Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"-" – Not listed in MDEQ Part 201 Tables

* – Analyte detected below quantitation limits

< – Less than

Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
September 10, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GayB-2	GayB-3	GayB-4	GayB-5	GayB-6	GayB-6	GayB-7	GayB-8
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	Laboratory	XRF	XRF	XRF
			Sample Number/ Location	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals											
Titanium	--	--	mg/kg	6,743	11,503	11,224	22,214	NT	30,265	7,908	20,461
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	16	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	614	625	791	1,323	270	<LOD	844	<LOD
Iron	12,000	160,000	mg/kg	149,596	84,797	85,090	296,329	NT	368,539	75,486	268,277
Cobalt	6.8	2,600	mg/kg	1,278	1,078	799	<LOD	13	<LOD	775	<LOD
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	33	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	1,421	2,586	1,371	450,143	320,000	653,430	9,606	596,985
Zinc	47	170,000	mg/kg	243	76	94	<LOD	180 J	<LOD	212	<LOD
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	325	350	409	<LOD	325
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	21	NT	46	<LOD	34
Rubidium	--	--	mg/kg	12	<LOD	<LOD	20	NT	21	19	<LOD
Strontium	--	330,000	mg/kg	95	256	132	166	<230	228	170	153
Zirconium	--	--	mg/kg	122	144	139	<LOD	NT	<LOD	166	<LOD
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	1,971	220	2,941	111	2,646
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	1.30	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	88	20	<LOD	95	290	<LOD	144	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	8,200 J	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	0.52 *	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	3	NT	NT	NT

Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
September 10, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GayB-9	GayB-11	GayB-11	GayB-12	GayB-13	GayB-14	GayB-14	GayB-15
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	Laboratory	XRF	XRF	XRF	Laboratory	XRF	XRF
			Sample Number/ Location	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins	Gay Sands Ruins
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Metals											
Titanium	--	--	mg/kg	11,513	NT	16,167	14,455	10,290	NT	8,885	6,235
Chromium	18	790,000	mg/kg	<LOD	45	<LOD	<LOD	<LOD	61	<LOD	<LOD
Manganese	440	25,000	mg/kg	995	200	918	782	501	610	660	1,980
Iron	12,000	160,000	mg/kg	92,730	NT	94,199	79,604	59,432	NT	61,926	367,120
Cobalt	6.8	2,600	mg/kg	655	14	<LOD	870	<LOD	12	512	<LOD
Nickel	20	40,000	mg/kg	<LOD	39	<LOD	<LOD	<LOD	31	<LOD	<LOD
Copper	32	20,000	mg/kg	17,720	430,000	286,596	1,624	1,219	990	1,073	1,082
Zinc	47	170,000	mg/kg	372	97 J	<LOD	82	53	14,000 J	10,509	1,258
Arsenic	5.8	7.6	mg/kg	<LOD	670	370	27	<LOD	58	132	46
Selenium	0.41	2,600	mg/kg	<LOD	NT	18	<LOD	<LOD	NT	13	<LOD
Rubidium	--	--	mg/kg	7	NT	<LOD	67	24	NT	28	17
Strontium	--	330,000	mg/kg	167	<240	159	236	182	<200	124	200
Zirconium	--	--	mg/kg	122	NT	<LOD	199	142	NT	103	110
Molybdenum	--	2,600	mg/kg	<LOD	NT	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Silver	1	2,500	mg/kg	148	150	1,127	<LOD	<LOD	0.94	111	<LOD
Cadmium	1.2	550	mg/kg	<LOD	NT	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	NT	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	NT	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	NT	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Mecury	0.13	160	mg/kg	<LOD	0.63	<LOD	<LOD	<LOD	0.026	<LOD	<LOD
Lead	21	400	mg/kg	198	82	<LOD	38	19	850	698	123
Aluminum	6,900	50,000	mg/kg	NT	7,200 J	NT	NT	NT	11,000 J	NT	NT
Beryllium	--	410	mg/kg	NT	0.8 *	NT	NT	NT	<4.1	NT	NT
Lithium	9.8	4,200	mg/kg	NT	2.90	NT	NT	NT	5.00	NT	NT

Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
September 10, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GayB-16	GAY-S1-01	GAY-S1-02	GAY-S1-03	GAY-S1-04	GAY-S1-05	GAY-S1-06	GAY-S1-07
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Gay Sands Ruins	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals											
Titanium	--	--	mg/kg	10,134	10,171	10,673	9,024	11,671	10,912	<LOD	13,812
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	440	25,000	mg/kg	651	577	663	693	769	660	<LOD	617
Iron	12,000	160,000	mg/kg	74,650	80,898	79,501	67,592	84,928	80,635	78,331	78,670
Cobalt	6.8	2,600	mg/kg	642	705	681	690	822	834	<LOD	764
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	32	20,000	mg/kg	1,122	1,504	1,640	1,153	1,237	2,590	3,867	1,750
Zinc	47	170,000	mg/kg	595	91	100	66	97	111	<LOD	106
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	11
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rubidium	--	--	mg/kg	20	9	10	14	10	9	<LOD	14
Strontium	--	330,000	mg/kg	155	115	118	153	82	136	169	121
Zirconium	--	--	mg/kg	105	155	140	129	158	143	<LOD	158
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	96	<LOD	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Lead	21	400	mg/kg	45	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT

Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
September 10, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GAY-S1-08	GAY-S1-09	GAY-S1-10	GAY-S1-11	GAY-S1-12	GAY-S1-13	GAY-S1-14	GAY-S1-15	
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals												
Titanium	--	--	mg/kg	8,750	10,213	10,463	11,121	10,560	8,508	9,451	9,974	
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Manganese	440	25,000	mg/kg	547	514	621	787	641	584	623	595	
Iron	12,000	160,000	mg/kg	69,174	75,427	74,525	77,926	73,338	68,150	69,781	69,246	
Cobalt	6.8	2,600	mg/kg	797	793	572	663	961	904	855	857	
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Copper	32	20,000	mg/kg	2,655	1,788	1,438	1,584	1,691	1,378	1,503	1,608	
Zinc	47	170,000	mg/kg	90	89	96	93	68	72	94	68	
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Rubidium	--	--	mg/kg	13	13	9	13	10	14	14	17	
Strontium	--	330,000	mg/kg	160	118	87	113	115	83	128	147	
Zirconium	--	--	mg/kg	131	147	143	158	142	143	143	136	
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	570	<LOD	<LOD	
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	

Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
September 10, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GAY-S1-16	GAY-S1-17	GAY-S1-18	GAY-S1-19	GAY-S1-20	GAY-S1-21	GAY-S1-21	GAY-S1-22
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF	Laboratory	XRF	XRF
			Sample Number/ Location	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals											
Titanium	--	--	mg/kg	9,917	10,636	8,842	10,269	11,052	NT	9,116	10,956
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	19 J	<LOD	<LOD
Manganese	440	25,000	mg/kg	727	747	648	605	718	300	463	437
Iron	12,000	160,000	mg/kg	72,488	76,196	77,658	71,544	77,381	NT	67,952	78,651
Cobalt	6.8	2,600	mg/kg	612	770	787	754	634	18 J	660	968
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	23 J	<LOD	<LOD
Copper	32	20,000	mg/kg	1,363	1,498	1,449	1,399	1,822	1,400 J	1,365	4,132
Zinc	47	170,000	mg/kg	86	69	84	76	90	62 J	76	71
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	0.67 J *	9	<LOD
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Rubidium	--	--	mg/kg	21	13	14	6	16	NT	11	10
Strontium	--	330,000	mg/kg	106	108	129	113	103	<210	90	64
Zirconium	--	--	mg/kg	138	149	156	139	146	NT	147	154
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	0.8 J	<LOD	<LOD
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	NT	86	<LOD
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	NT	<LOD	<LOD
Mercury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	0.0055 *	<LOD	<LOD
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	1.5 J *	<LOD	<LOD
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT	15,000 J	NT	NT
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT	<4.3 J	NT	NT
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT	5.10	NT	NT

**Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
September 10, 2007**

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GAY-S1-23i	GAY-S1-24i	GAY-S1-25	GAY-S1-26	GAY-S1-27	GAY-S1-28i	GAY-S1-29	GAY-S1-30	
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals												
Titanium	--	--	mg/kg	10,414	8,978	10,630	10,800	15,367	7,414	11,585	11,931	
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Manganese	440	25,000	mg/kg	585	687	674	747	988	574	553	781	
Iron	12,000	160,000	mg/kg	72,208	80,007	82,089	79,444	99,957	73,580	76,728	81,050	
Cobalt	6.8	2,600	mg/kg	891	1,293	745	885	956	819	609	878	
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Copper	32	20,000	mg/kg	1,028	1,097	2,222	4,484	1,617	2,028	1,828	1,855	
Zinc	47	170,000	mg/kg	76	83	109	99	109	83	86	91	
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10	
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Rubidium	--	--	mg/kg	6	6	9	10	12	21	18	8	
Strontium	--	330,000	mg/kg	79	101	91	106	111	128	110	89	
Zirconium	--	--	mg/kg	127	138	156	149	183	196	139	160	
Molybdenum	--	2,600	mg/kg	13	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	91	<LOD	<LOD	<LOD	
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Barium	75	37,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	

Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
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Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GAY-S1-31	GAY-S1-32	GAY2-001	GAY2-002	GAY2-003	GAY2-004	GAY2-005	GAY2-006	
			Sampling Date	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07	09/10/07
			Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample Type	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
			Sample Number/ Location	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands	Gay Sands
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals												
Titanium	--	--	mg/kg	11,393	9,286	7,806	8,975	8,622	9,812	10,590	6,915	
Chromium	18	790,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Manganese	440	25,000	mg/kg	740	820	<LOD	<LOD	<LOD	<LOD	232	229	
Iron	12,000	160,000	mg/kg	78,330	77,792	59,779	69,585	71,179	68,757	76,564	54,697	
Cobalt	6.8	2,600	mg/kg	752	681	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Nickel	20	40,000	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Copper	32	20,000	mg/kg	1,628	1,648	1,652	3,124	859	1,176	965	2,509	
Zinc	47	170,000	mg/kg	105	83	<LOD	<LOD	47	77	64	<LOD	
Arsenic	5.8	7.6	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Selenium	0.41	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Rubidium	--	--	mg/kg	13	10	5	<LOD	13	25	25	14	
Strontium	--	330,000	mg/kg	115	106	106	158	75	77	137	71	
Zirconium	--	--	mg/kg	143	152	108	120	149	146	142	131	
Molybdenum	--	2,600	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Silver	1	2,500	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	85	<LOD	
Cadmium	1.2	550	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Tin	--	--	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Antimony	--	180	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Barium	75	37,000	mg/kg	<LOD	607	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Mecury	0.13	160	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Lead	21	400	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Aluminum	6,900	50,000	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	
Beryllium	--	410	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	
Lithium	9.8	4,200	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	

**Table 14 - AOI 14 XRF Screening and Laboratory Analytical Results
Torch Lake Site Assessment
September 10, 2007**

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	GAY2-007
			Sampling Date	09/10/07
			Sample Matrix	Soil
			Sample Type	XRF
			Sample Number/ Location	Gay Sands
			Units	mg/kg
Metals				
Titanium	--	--	mg/kg	10,897
Chromium	18	790,000	mg/kg	262
Manganese	440	25,000	mg/kg	<LOD
Iron	12,000	160,000	mg/kg	91,425
Cobalt	6.8	2,600	mg/kg	<LOD
Nickel	20	40,000	mg/kg	<LOD
Copper	32	20,000	mg/kg	1,306
Zinc	47	170,000	mg/kg	47
Arsenic	5.8	7.6	mg/kg	<LOD
Selenium	0.41	2,600	mg/kg	<LOD
Rubidium	--	--	mg/kg	<LOD
Strontium	--	330,000	mg/kg	150
Zirconium	--	--	mg/kg	153
Molybdenum	--	2,600	mg/kg	<LOD
Silver	1	2,500	mg/kg	<LOD
Cadmium	1.2	550	mg/kg	<LOD
Tin	--	--	mg/kg	<LOD
Antimony	--	180	mg/kg	<LOD
Barium	75	37,000	mg/kg	<LOD
Mecury	0.13	160	mg/kg	<LOD
Lead	21	400	mg/kg	15
Aluminum	6,900	50,000	mg/kg	NT
Beryllium	--	410	mg/kg	NT
Lithium	9.8	4,200	mg/kg	NT

NOTES:

Screening conducted utilizing Innov-X-XRF (Model X-4000).

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

AOI - Area of Investigation

J – Data qualified as estimated based on data validation

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ – Michigan Department of Environmental Quality

mg/kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT – Not Tested

Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

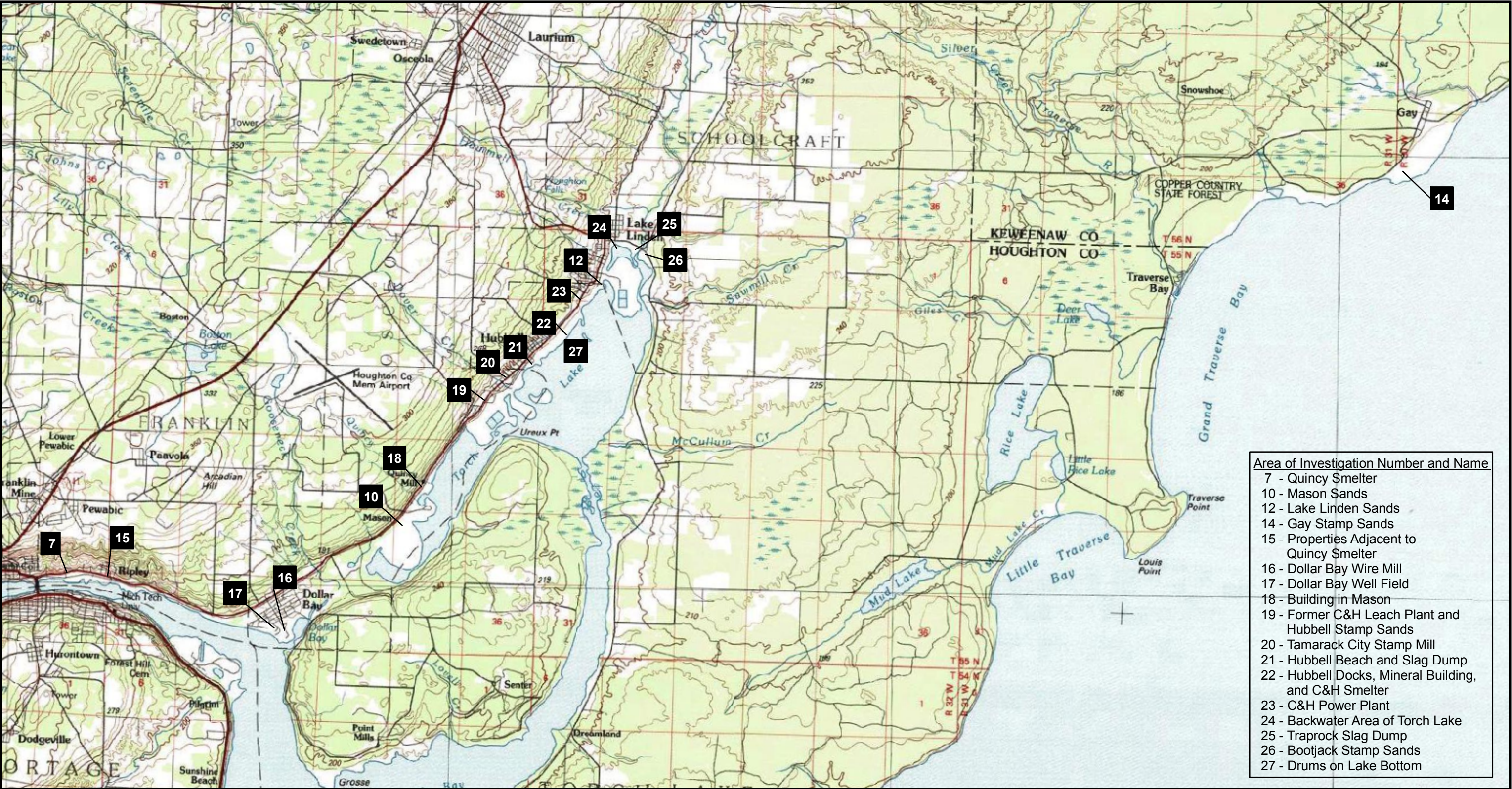
XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

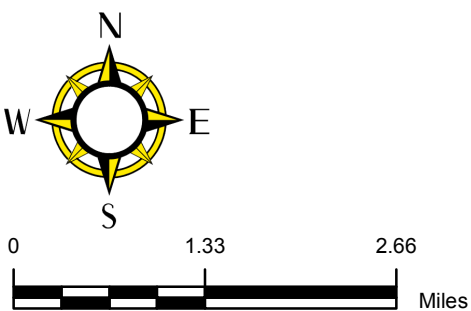
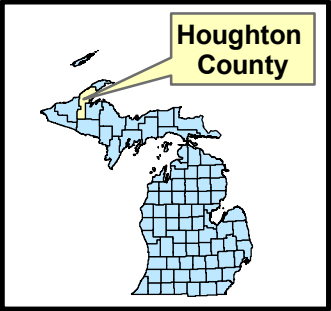
* – Analyte detected below quantitation limits

< – Less than

FIGURES



Source of Imagery: ESRI ArcGIS Map Service (c) 2007



File: \\FSOMI01\\GIS\\GIS_Projects\\Lake_Linden\\mxds\\Final_AA\\Fig1-Overview(11-13-07).mxd, 13-Nov-07 07:26, BROWNK

Figure 1



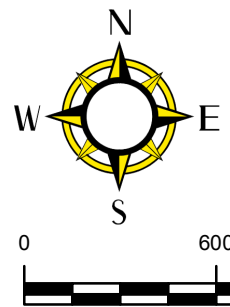
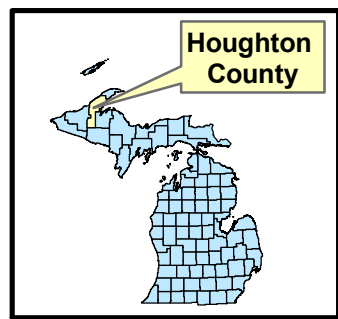
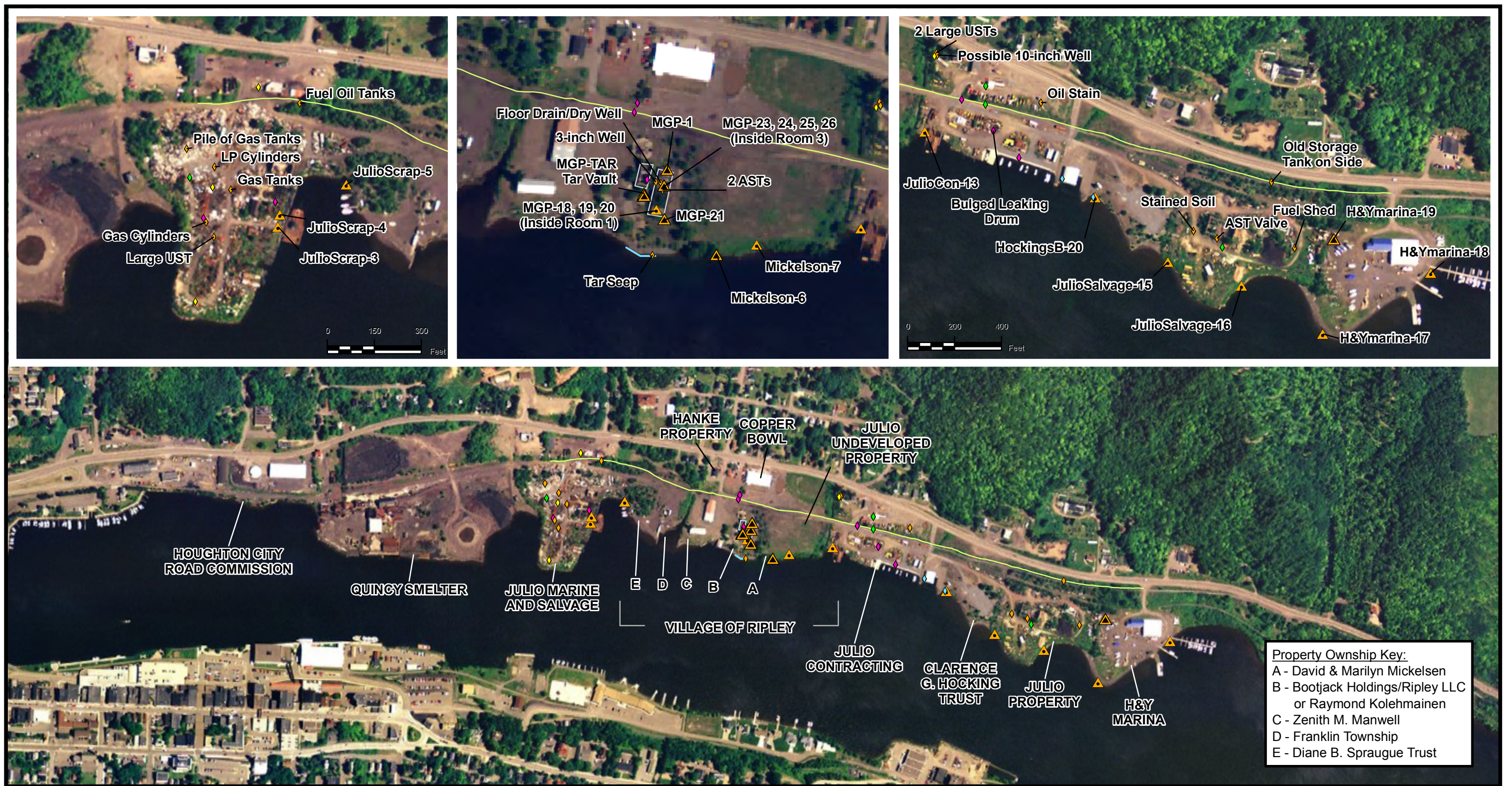
Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04

TDD No.: S05-0002-0708-020
DCN: 274-2A-ABDT



Prepared by:
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**SITE LOCATION/AREA OF INVESTIGATION
LAYOUT MAP**
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007



Legend

- START XRF and Laboratory Sample
- START XRF Sample
- ASTs
- Drums
- Batteries
- Water Edge
- GPS Feature - Other
- Building Outline
- Water Edge
- Hancock/Ripley Trail (HRT)

Note:
Property ownership is based on a cursory review of local tax records. Property boundaries were not located as part of the AA

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



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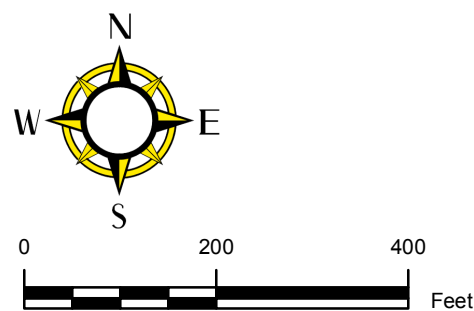
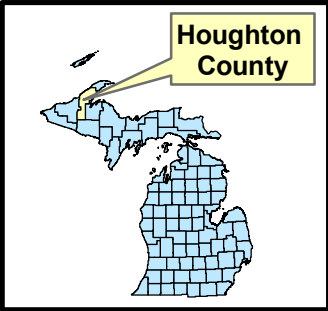
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AOI Nos. 7 and 15
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 2a



Legend

- ▲ Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
- Orange box: XRF results exceeding RDCC are shown in Orange
- Yellow box: Laboratory results exceeding RDCC are shown in Yellow
- J -- Data qualified as estimated based on data validation
- * -- Analyte detected below quantitation limits
- mg/kg -- milligrams per kilogram

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005

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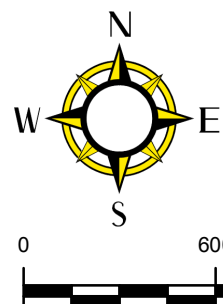
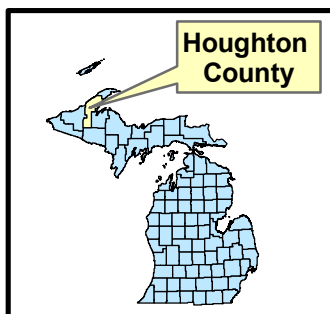
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AOI Nos. 7 and 15
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 2b



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
 Date of Photography: 06/21/2005



Legend

- ▲ START XRF and Laboratory Sample
- ▲ START XRF Sample
- ◆ Water Edge
- ◆ GPS Feature - Other
- ×—× Fenced Area
- Lake Edge

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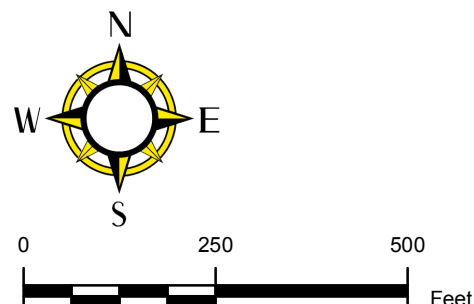
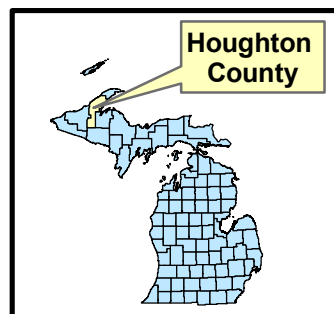
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AOI Nos. 16 and 17
SITE FEATURES AND XRF LOCATIONS
 TORCH LAKE AREA ASSESSMENT
 KEWEENAW PENINSULA, MICHIGAN
 October 2007

Figure 3a



Legend

- Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
- XRF results exceeding RDCC are shown in Orange
- Laboratory results exceeding RDCC are shown in Yellow
- Fenced Area
- Lake Edge
- mg/kg -- milligrams per kilogram

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
 Date of Photography: 06/21/2005



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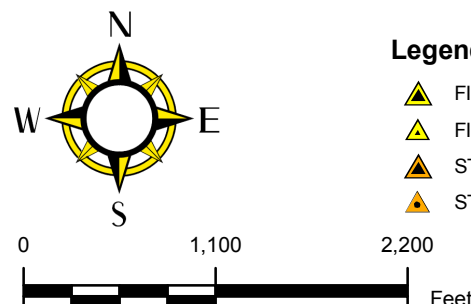
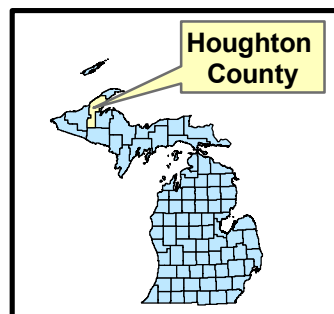
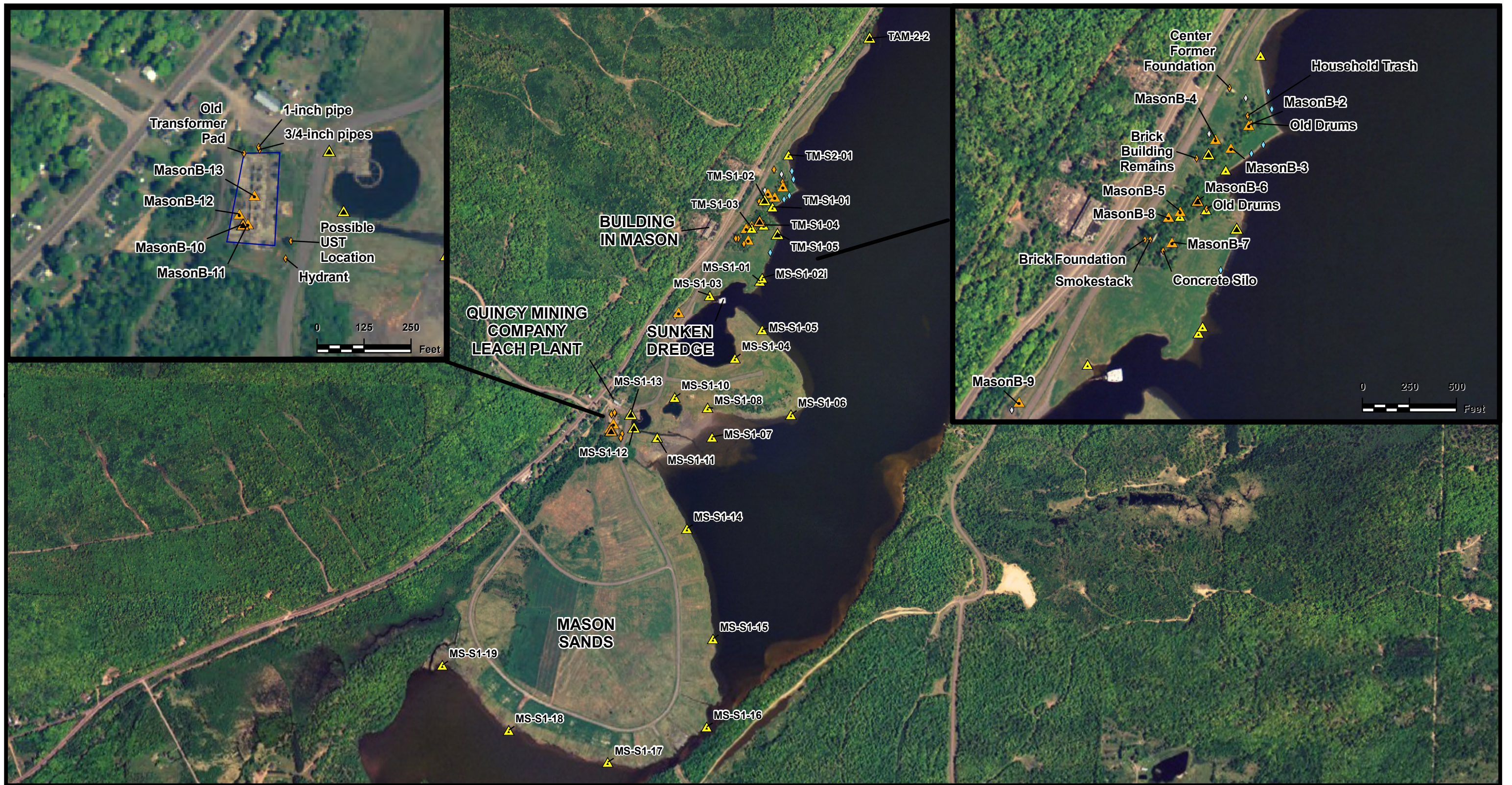
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AOI Nos. 16 and 17
 RDCC EXCEEDANCES IN SOIL
 TORCH LAKE AREA ASSESSMENT
 KEWEENAW PENINSULA, MICHIGAN
 October 2007

Figure 3b



Legend

- ▲ FIELDS Team XRF and Laboratory Sample
- ▲ FIELDS Team XRF Sample
- ▲ START XRF and Laboratory Sample
- ▲ START XRF Sample
- ◆ Debris/Slag Pile
- ◆ Water Edge
- ◆ GPS Feature - Other

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



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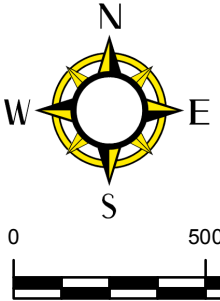
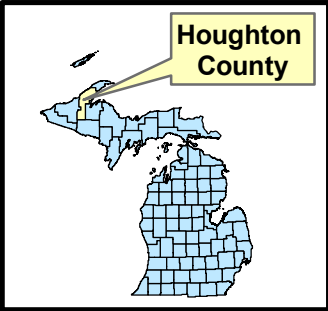
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AOI Nos. 10 and 18
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 4a



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



Legend

- ▲ Soil Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
 - Orange box: XRF results exceeding RDCC are shown in Orange
 - Yellow box: Laboratory results exceeding RDCC are shown in Yellow
- mg/kg -- milligrams per kilogram



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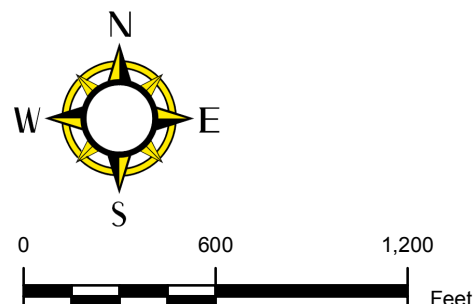
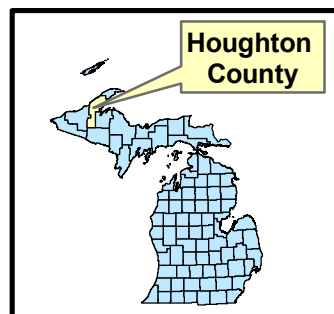
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AOI Nos. 10 and 18
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 4b



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



Legend

- FIELDS Team XRF and Laboratory Sample
- FIELDS Team XRF Sample
- MDEQ Identified Drums/Debris



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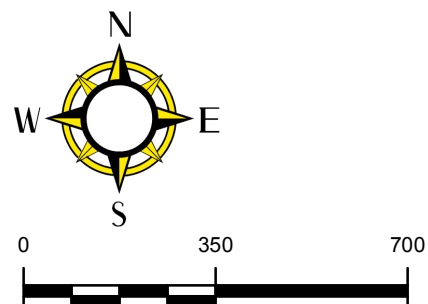
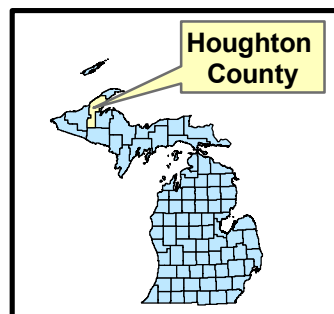
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AOI No. 19
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 5a



Legend

-  Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
 -  XRF results exceeding RDCC are shown in Orange
 -  Laboratory results exceeding RDCC are shown in Yellow
- mg/kg -- milligrams per kilogram

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005

Figure 5b



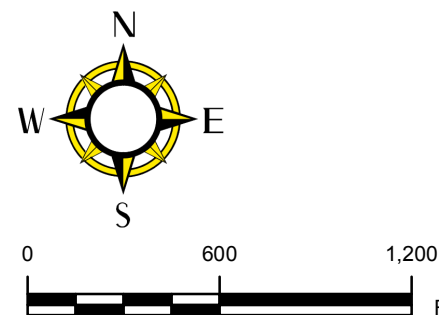
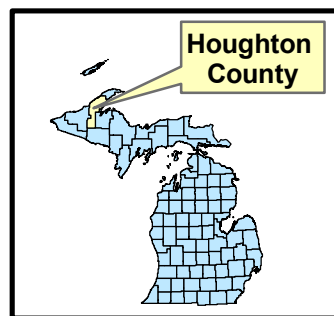
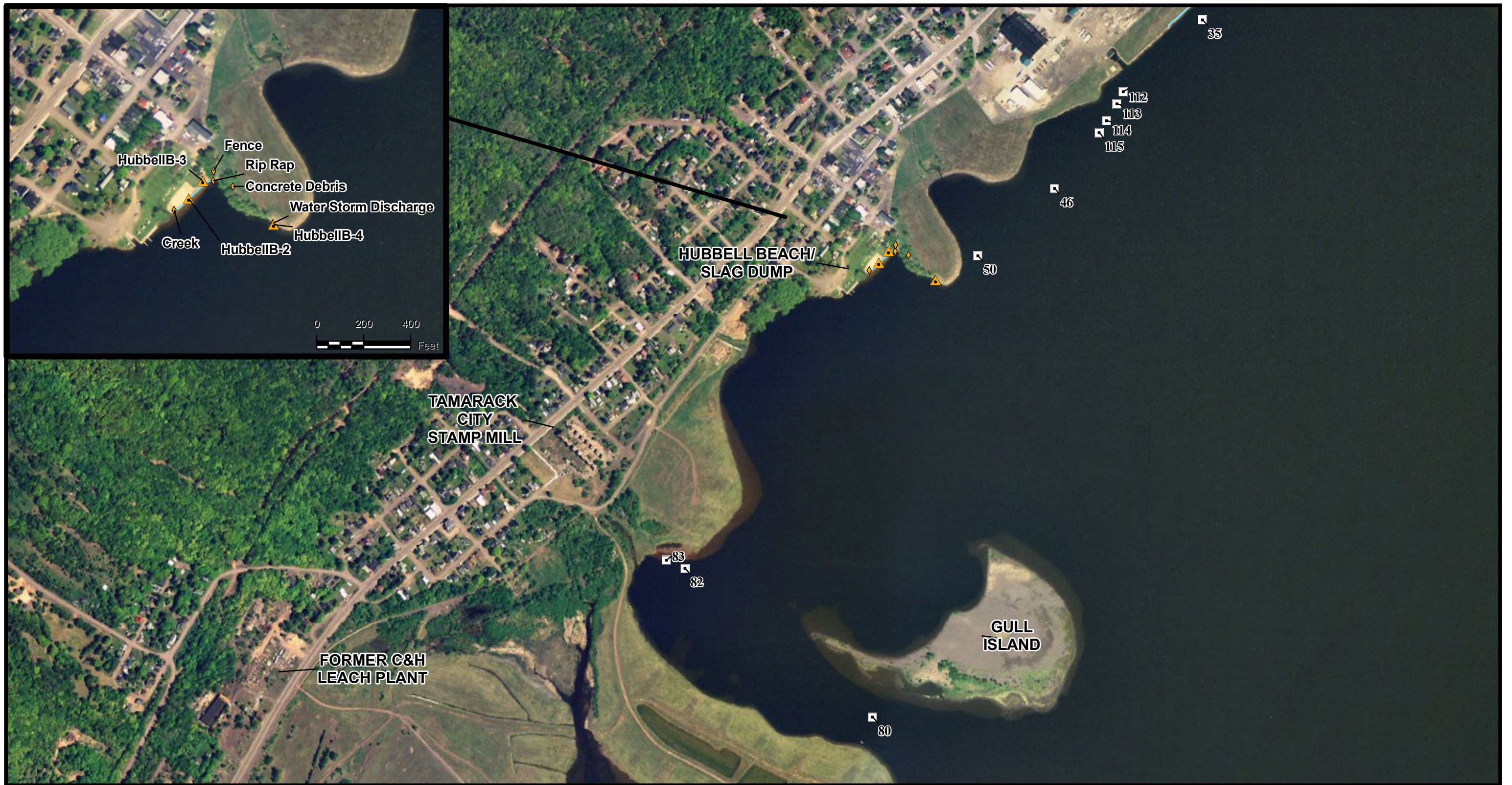
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AOI No. 19
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007



Legend

- ▲ START XRF and Laboratory Sample
- ▲ START XRF Sample
- ◆ GPS Feature - Other
- MDEQ Identified Drums/Debris
- Water Edge

Note: None of the Hubbell Beach XRF Results Exceeded Part 201 Residential Direct Contact Criteria (RDCC)

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



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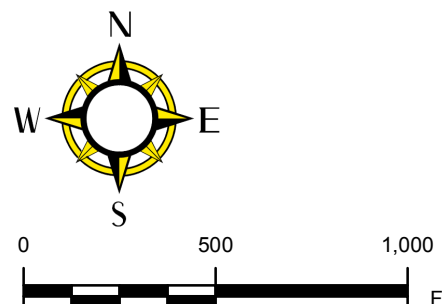
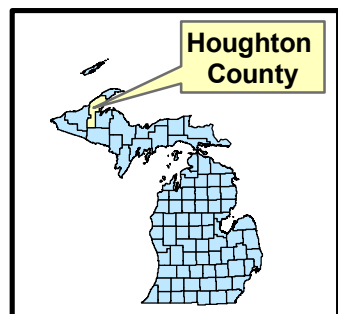
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AOI Nos. 20 and 21
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 6



Legend

- ▲ START XRF and Laboratory Sample
- ◆ START XRF Sample
- ◆ Debris/Slag Pile
- ◆ Water Edge
- ◆ GPS Feature - Other
- MDEQ Identified Drums/Debris
- Water Edge
- Debris Piles

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



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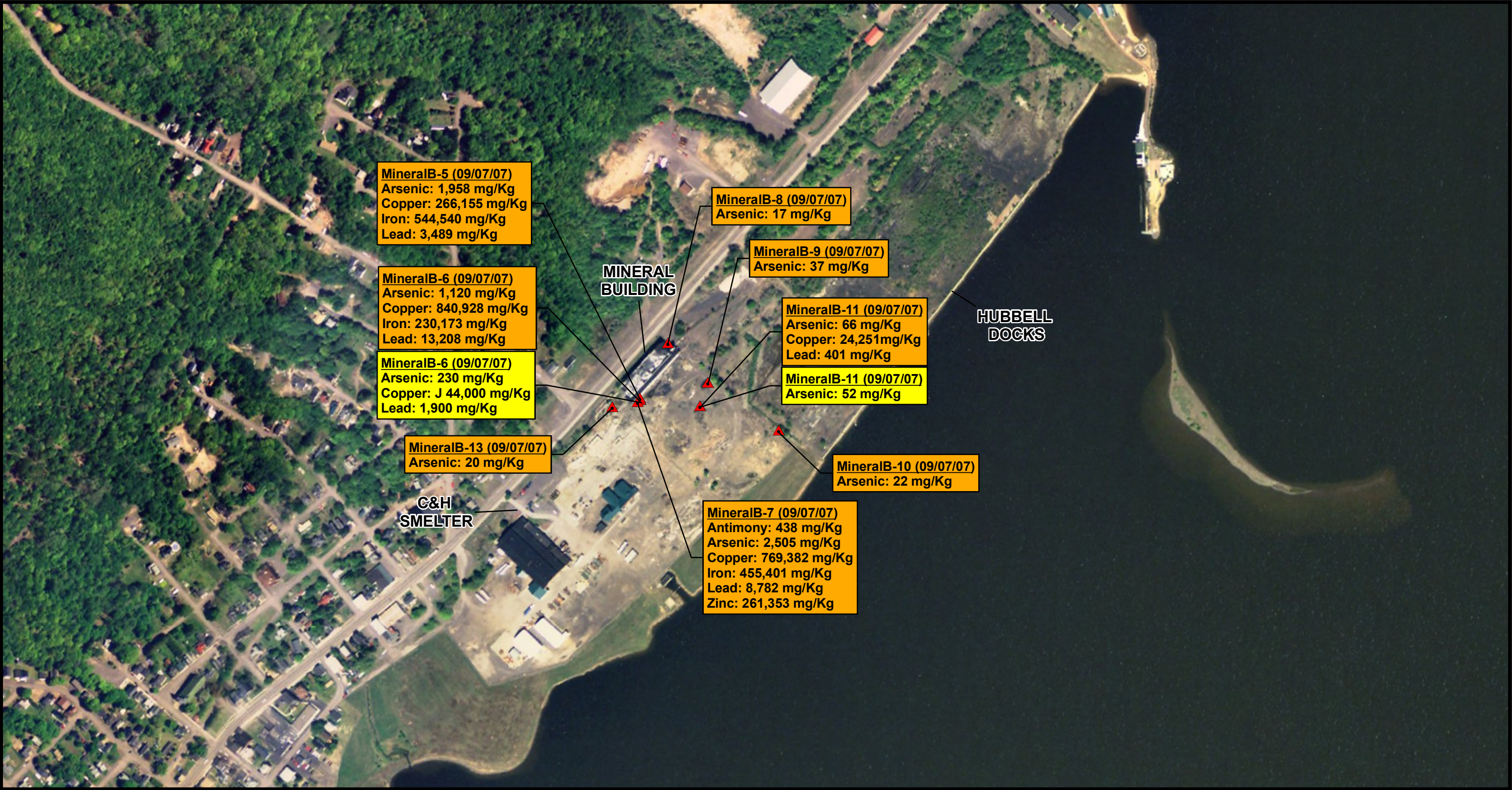
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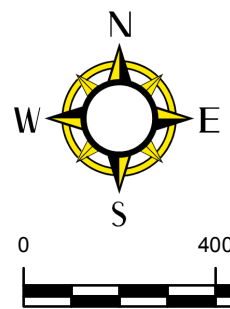
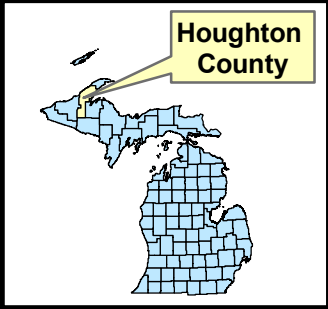
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AOI No. 22
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 7a



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



- Legend**
- ▲ Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
 - Orange box: XRF results exceeding RDCC are shown in Orange
 - Yellow box: Laboratory results exceeding RDCC are shown in Yellow
 - J -- Data qualified as estimated based on data validation
 - mg/kg -- milligrams per kilogram

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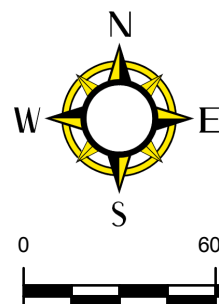
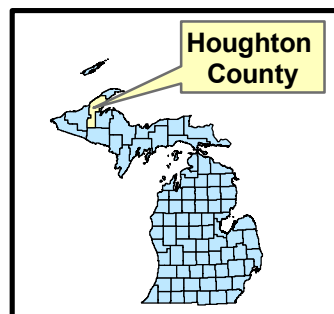
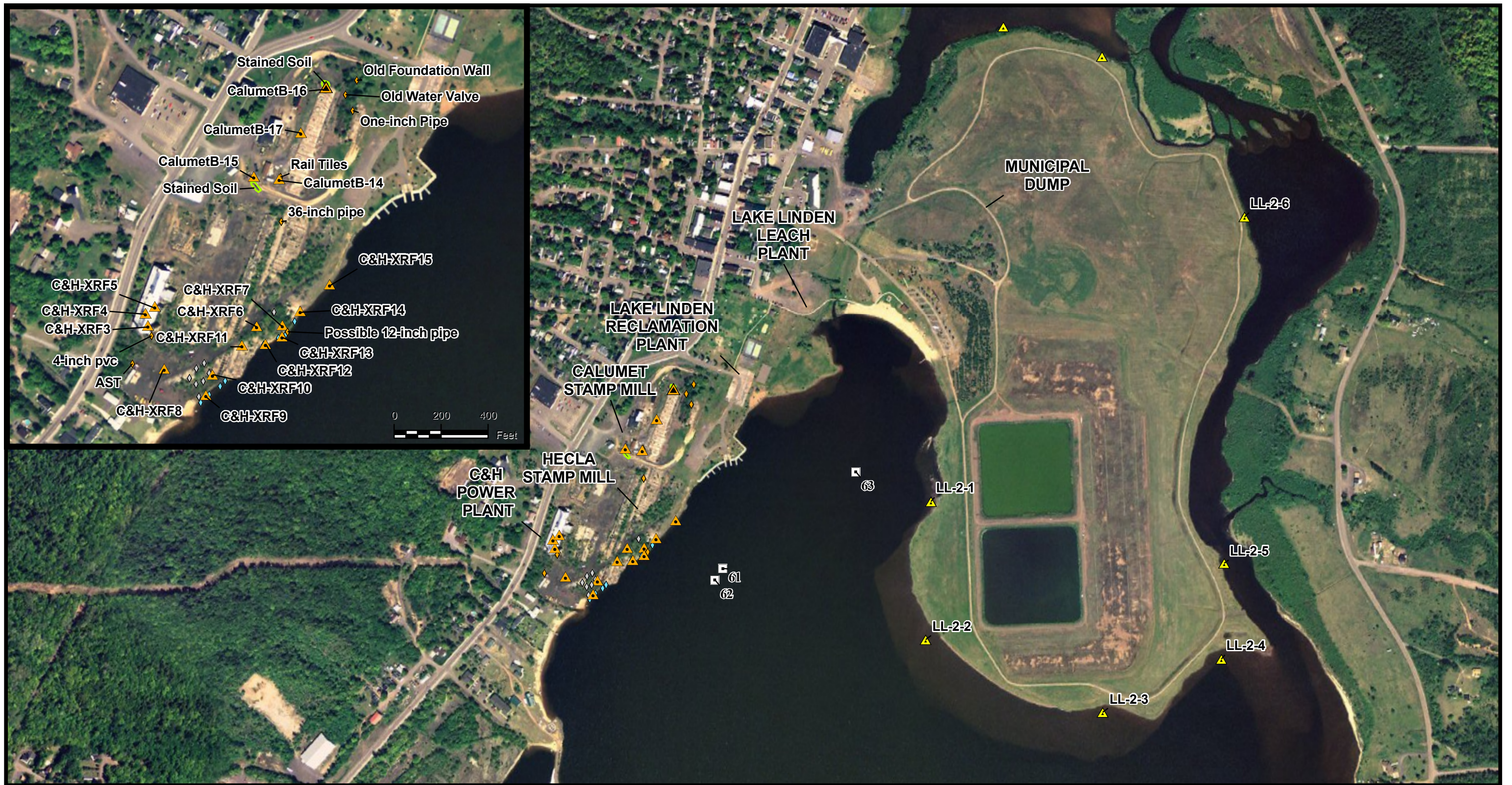
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AOI No. 22
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 7b



Legend

- ▲ FIELDS Team XRF and Laboratory Sample
- ▲ FIELDS Team XRF Sample
- ▲ START XRF and Laboratory Sample
- ▲ START XRF Sample
- ◆ Debris Pile/Drums
- ◆ Water Edge
- ◆ GPS Feature - Other
- MDEQ Identified Drums/Debris
- Debris Area

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



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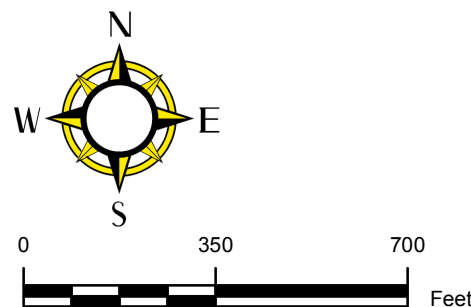
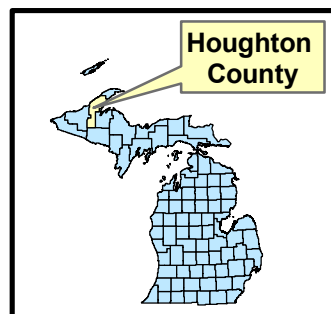
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AOI Nos. 12 and 23
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 8a



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



Legend

- ▲ Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
 - XRF results exceeding RDCC are shown in Orange
 - Laboratory results exceeding RDCC are shown in Yellow
- mg/kg -- milligrams per kilogram



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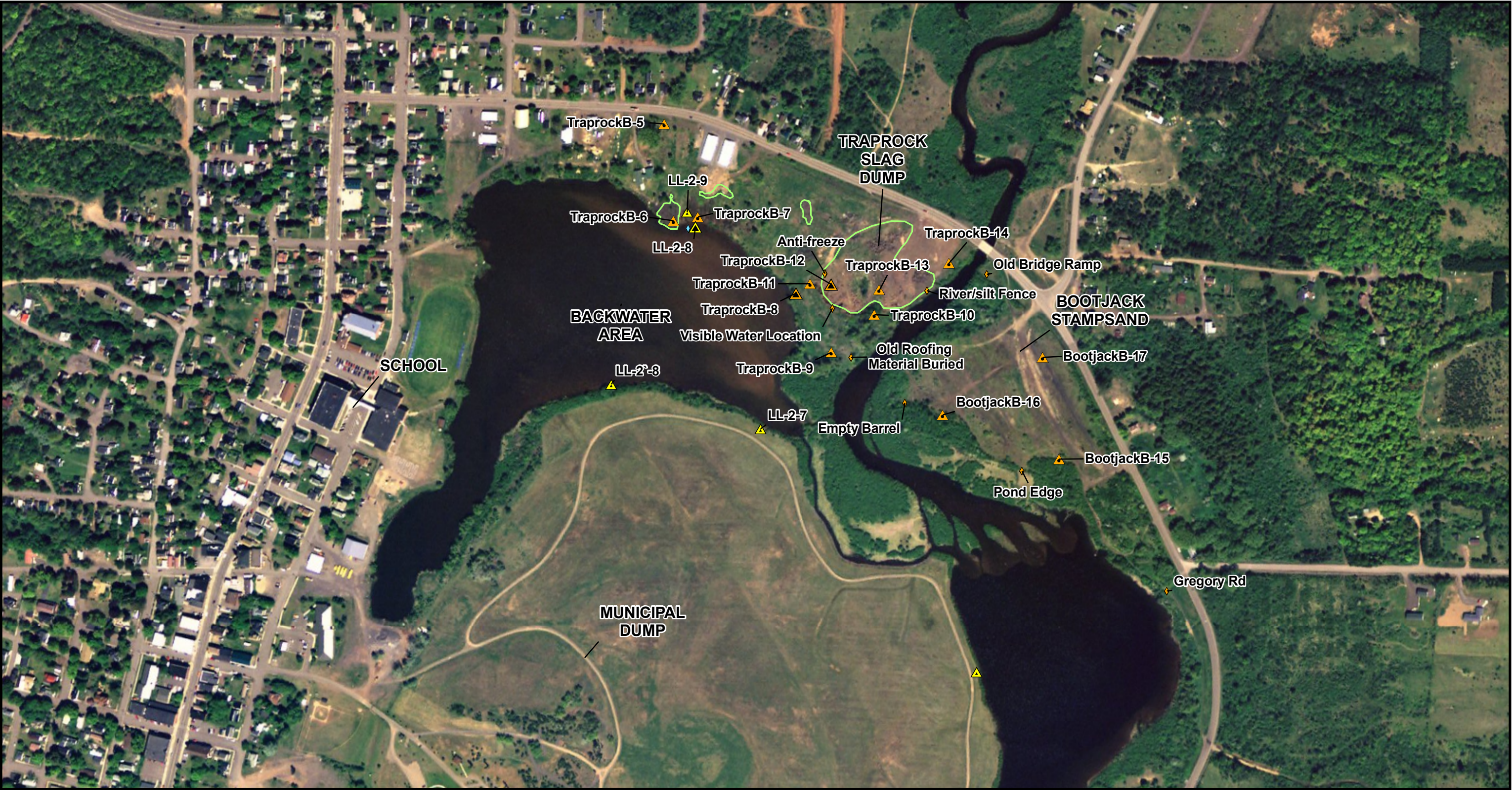
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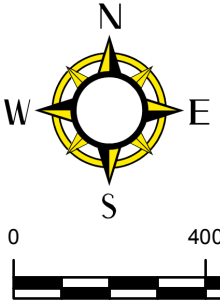
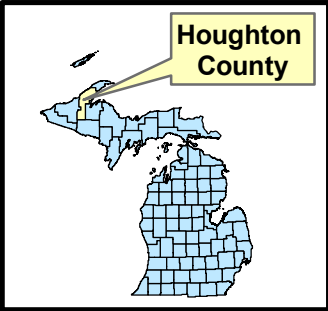
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AOI Nos. 12 and 23
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 8b



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



Legend

- | | |
|---------------------------------------|-----------------------|
| FIELDS Team XRF and Laboratory Sample | Water Edge |
| FIELDS Team XRF Sample | GPS Feature - Other |
| START XRF and Laboratory Sample | Slag/Rock/Debris Pile |
| START XRF Sample | |



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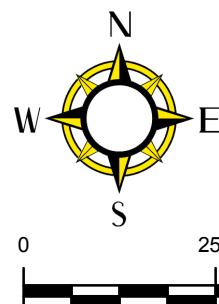
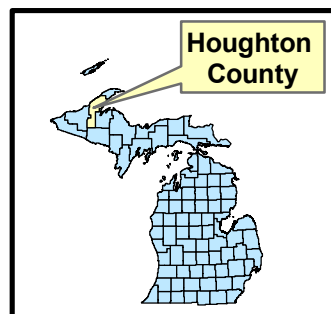
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Figure 9a

AOI Nos. 24, 25 and 26
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



Legend

- XRF results exceeding RDCC are shown in Orange
 - Laboratory results exceeding RDCC are shown in Yellow
 - Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
- mg/kg -- milligrams per kilogram

0 250 500
Feet

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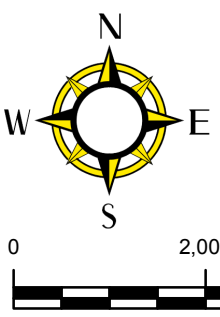
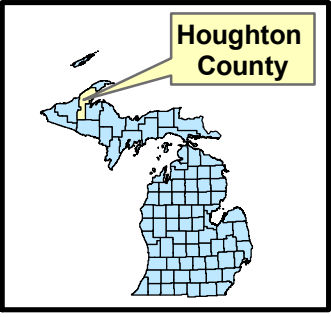
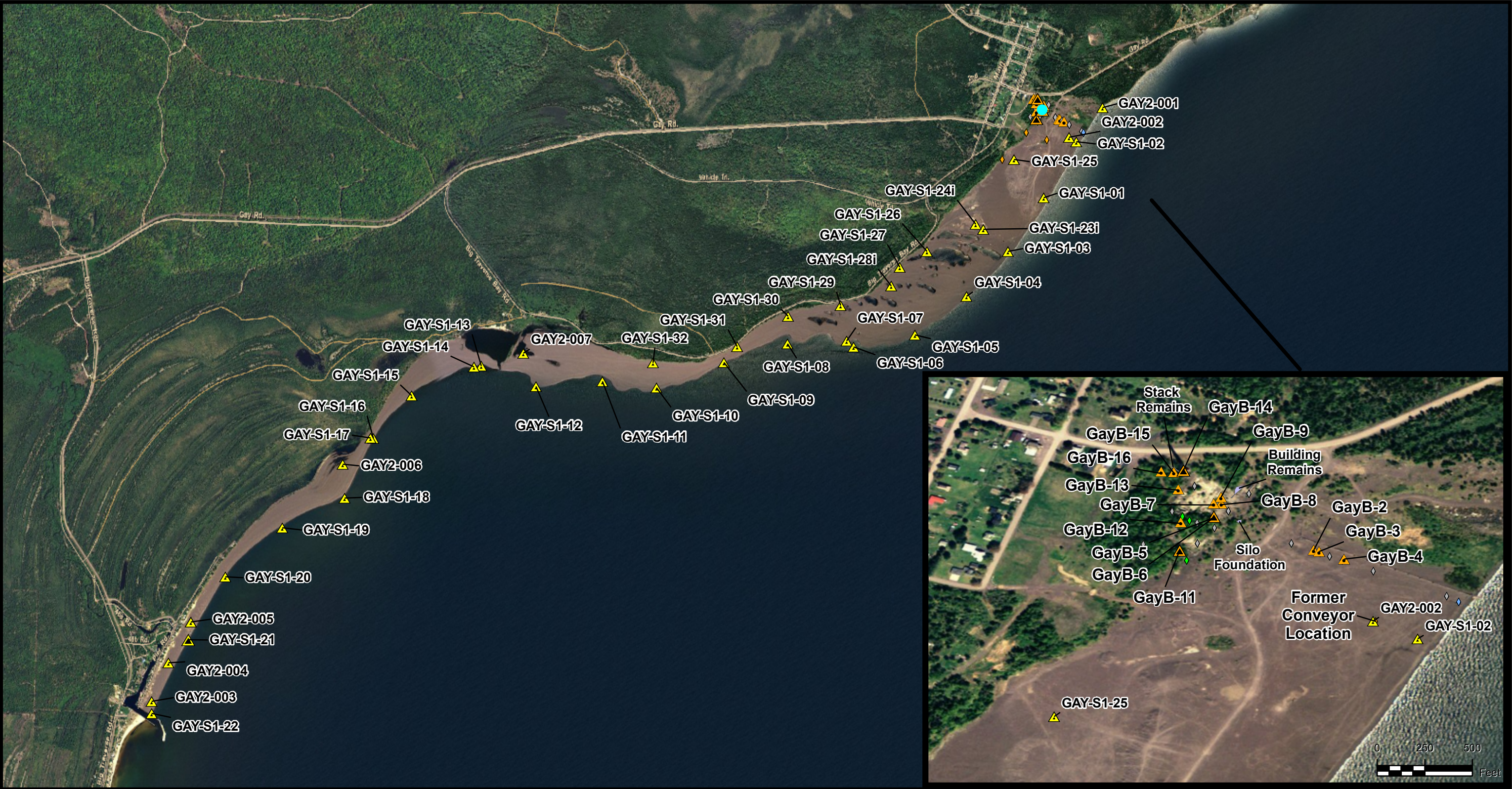
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AOI Nos. 24, 25 and 26
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 9b



Legend

- | | |
|---------------------------------------|---------------------------|
| FIELDS Team XRF and Laboratory Sample | Building Ruins/Foundation |
| FIELDS Team XRF Sample | Roofing Material Pile |
| START XRF and Laboratory Sample | Water Edge |
| START XRF Sample | GPS Feature - Other |
| | GPS Area Feature |

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



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Contract No: EP-S5-06-04

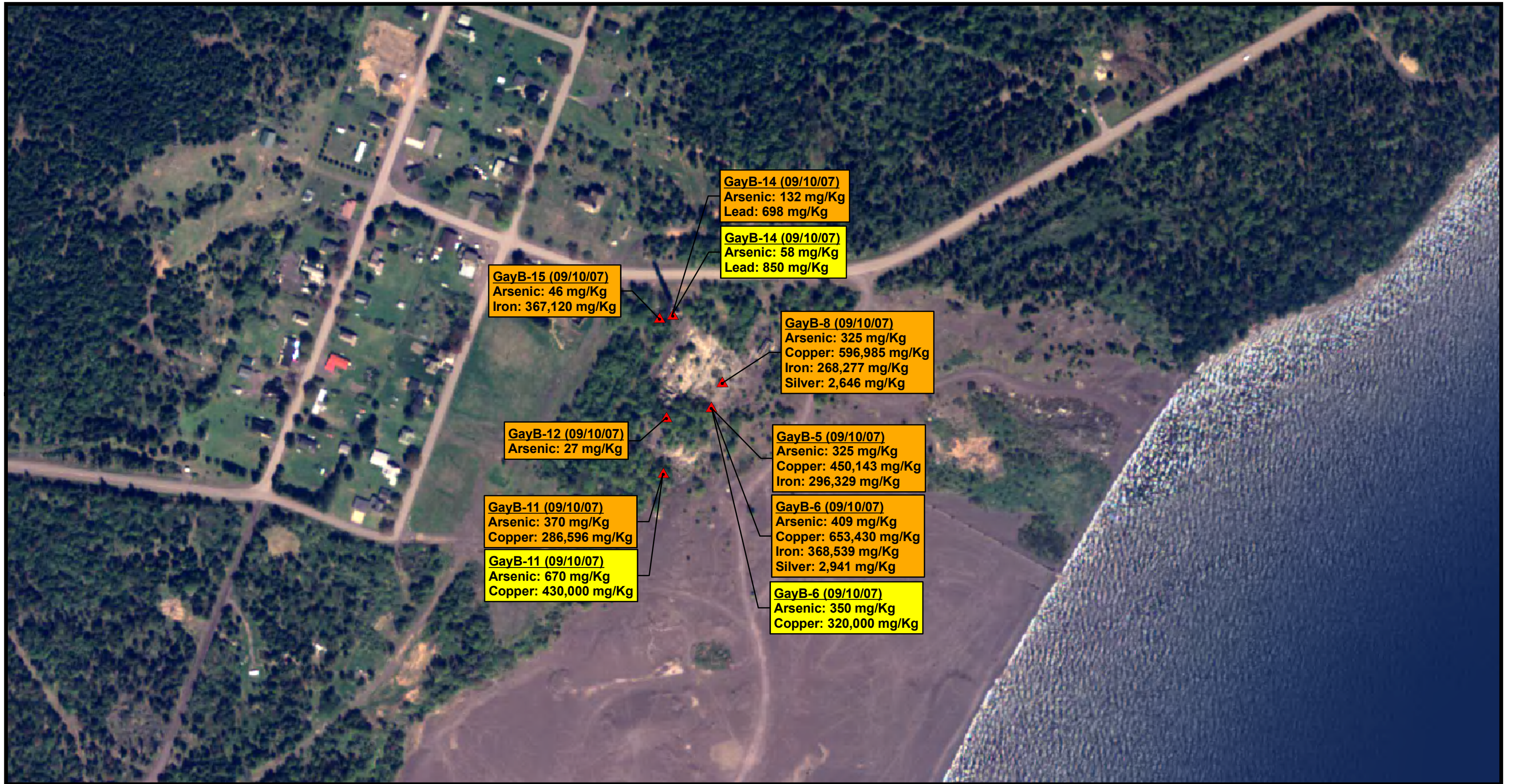
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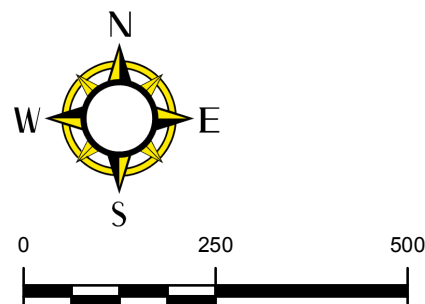
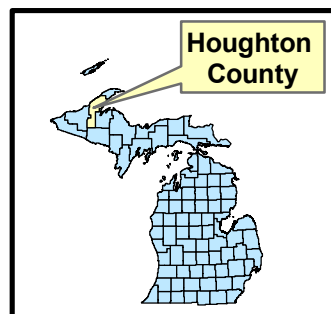
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Okemos, Michigan

AOI No. 14
SITE FEATURES AND XRF LOCATIONS
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 10a



Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005



Legend

- Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
 - XRF results exceeding RDCC are shown in Orange
 - Laboratory results exceeding RDCC are shown in Yellow
- mg/kg -- milligrams per kilogram



Prepared for:
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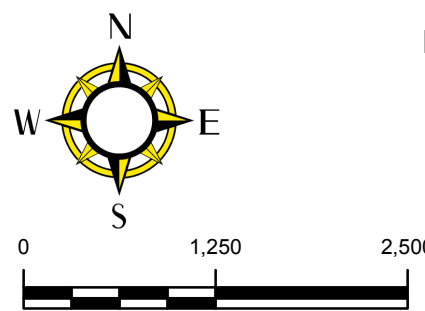
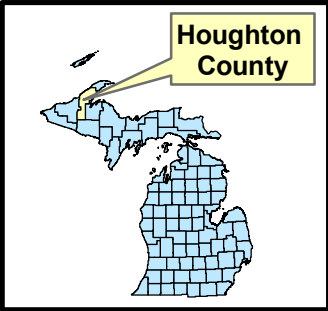
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Prepared by:
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Okemos, Michigan

AOI No. 14 (ENTRANCE)
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

Figure 10b



Legend

- ▲ Soil XRF Sample Exceeds Part 201 Residential Direct Contact Criteria (RDCC)
 - XRF results exceeding RDCC are shown in Orange
 - Laboratory results exceeding RDCC are shown in Yellow
- mg/kg -- milligrams per kilogram

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005

Figure 10c



Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04

TDD No.: S05-0002-0708-020
DCN: 274-2A-ABDT



Prepared by:
WESTON SOLUTIONS, INC.
2501 Jolly Road, Suite 100
Okemos, Michigan

AOI No. 14 (SHORELINE)
RDCC EXCEEDANCES IN SOIL
TORCH LAKE AREA ASSESSMENT
KEWEENAW PENINSULA, MICHIGAN
October 2007

ATTACHMENT A
SITE ACCESS SUMMARY TABLE

Attachment A - Site Access Summary Table
Torch Lake Area Assessment
Keweenaw Peninsula, Michigan
September 20, 2007

Site/ Property Name	AOI Number	Landowner	Contact	Access Granted?	Access Denied?	START AA Completed	FIELDS Shoreline AA Completed
Quincy Smelter	7			NR	NR	NR	NR
Mason Sands	10	See Administrative Order	Same as landowner	Yes ¹	No	Yes	Yes
Lake Linden Sands	12		Same as landowner				
C&H Stamp Mill	12	See Administrative Order	Same as landowner	Yes ¹	No	Yes	Yes
Lake Linden Leach Plant	12	See Administrative Order	Same as landowner	Yes ¹	No	Yes	Yes
Municipal Dump	12	See Administrative Order	Same as landowner	Yes ¹	No	Yes	Yes
Backwater Area of Torch Lake	24	See Administrative Order	Same as landowner	Yes ¹	No	Yes	Yes
Gay Stampsands	14	Keweenaw County Road Commission	Gregg Patrick	Yes	No	Yes	NR
Additional Properties Adjacent to Smelter	15						
Franklin Township	15	Franklin Township	Same as landowner	Yes	No	Yes	NR
Sprague	15	Diane B. Sprague Trust	Same as landowner	No	No	No	No
Usimaki	15	Bruce Usimaki	Same as landowner	No	No	No	No
Manwell	15	Zenith Manwell	Same as landowner	No	No	No	No
Kolehmainen	15	Raymond Kolehmainen/ Bootjack Holdings/Ripley, LLC	Same as landowner	Yes ⁴	No	Yes	NR
Mickelsen	15	David and Marilyn Mickelsen	Same as landowner	Yes	No	Yes	NR
Hocking	15	Clarence G. Hocking Trust	Same as landowner	Yes	No	Yes	NR
H&Y Marina	15	H&Y, Inc.	Same as landowner	Yes	No	Yes	NR
Hanke	15	David and Pamela Hanke	Same as landowner	Yes	No	Yes	NR
Loukus	15	John Loukus	Same as landowner	No	No	No	No
Kotila	15	Jeffery & Iloni Kotila	Same as landowner	No	No	No	No
Copper Bowl Lanes	15	Copper Country, Inc.	Same as landowner	Yes ³	No	Yes	NR

NOTES:

AA – Area Assessment

AOI – Area of Investigation

FIELDS - U.S. EPA Field Environmental Decision Support team

NA – Not Applicable

NR – Not Required

U.S. EPA - United States Environmental Protection Agency

FOOTNOTES:

1 – Access granted under Administrative Order on Consent (Docket No. V-W-'94-C)

2 – Verbal approval only

3 – Visual inspection only – sampling not authorized

4 – Owner would like to be present for the inspection

5 - Property owner out of town during AA field work. May grant access if needed in the future.

Attachment A - Site Access Summary Table
Torch Lake Area Assessment
Keweenaw Peninsula, Michigan
September 20, 2007

Site/ Property Name	AOI Number	Landowner	Contact	Access Granted?	Access Denied?	START AA Completed	FIELDS Shoreline AA Completed
Dollar Bay "Wire Mill"	16	Lawrence Julio	Same as landowner	No	Yes	No	No
Dollar Bay Well Field	17						
	17	Osceola Township	Steve Karpiak	Yes	No	Yes	NR
(Uncovered Area Near #17)	17	Paul and Lois Milanowski	Same as landowner	Yes	No	Yes	NR
Building in Mason	18	Lakeshore Estates	Dave Jukuri	Yes	No	Yes	NR
Tamarack City Stampmill	20	Osceola Township	Steve Karpiak	Yes	No	NR	NR
Hubbell Beach/Slag Dump	21	Torch Lake Township	Brian Cadwell	Yes	No	Yes	Yes
Hubbell Docks/ Smelter Area/Coal Storage Area	22						
Docks/Coal Storage Area	22	Ken Buchanan Forest Products	Ken Buchanan	NR	NR	NR	NR
Mineral Building	22	Silver Shores Enterprise, Inc.	Bill Siler	Yes	No	Yes	NR
C&H Power Plant	23	Louis Meneguzzo	Same as landowner	Yes ²	No	Yes	NR
Former C&H Leach Plant	19						
Tony Burcar	19	Tony Burcar	Same as landowner	No	Yes	No	No
Whiteman Parcel	19	Richard & Guinivere Whiteman	Same as landowner	No ⁵	No	No	No
Traprock Slag Dump	25	Shoreline Development Group, Inc. (AKA Shoreline Development Co.)	Barbara Wilder	Yes ⁴	No	Yes	NR
Bootjack Stampsand	26	Shoreline Development Group, Inc. (AKA Shoreline Development Co.)	Barbara Wilder	Yes ⁴	No	Yes	NR
Drums at Various Locations (lake bottom)	27	NA	NA	NR	NR	NR	NR

NOTES:

AA – Area Assessment

AOI – Area of Investigation

FIELDS - U.S. EPA Field Environmental Decision Support team

NA – Not Applicable

NR – Not Required

U.S. EPA - United States Environmental Protection Agency

FOOTNOTES:

1 – Access granted under Administrative Order on Consent (Docket No. V-W-'94-C)

2 – Verbal approval only

3 – Visual inspection only – sampling not authorized

4 – Owner would like to be present for the inspection

5 - Property owner out of town during AA field work. May grant access if needed in the future.

ATTACHMENT B
PHOTO LOG



Site: Torch Lake Area Assessment

Photo Number: 1

Date: September 7, 2007

Direction: West

Photographer: Nancy Posavatz

Subject: Shoreline at Clarence G. Hocking Trust property (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 2

Date: September 6, 2007

Direction: North

Photographer: Nancy Posavatz

Subject: Bulged, leaking drum at Copper Bowl property (AOI 15)



Site: Torch Lake Area Assessment
Photo Number: 3
Direction: North
Subject: Drum at Building in Mason (AOI 18)

Date: September 6, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 4
Direction: East
Subject: Building 2 at Building in Mason (AOI 18)

Date: September 6, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 5

Direction: North

Subject: Building at Building in Mason (AOI 18)

Date: September 6, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 6

Direction: West

Subject: Potential asbestos-containing material in the Building in Mason (AOI 18)

Date: September 6, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 7

Date: September 6, 2007

Direction: West

Photographer: Nancy Posavatz

Subject: Stained stamp sand and slag at Quincy Leach Plant (AOI 10)



Site: Torch Lake Area Assessment

Photo Number: 8

Date: September 6, 2007

Direction: East

Photographer: Nancy Posavatz

Subject: Possible location of underground storage tank at the Quincy Leach Plant (AOI 10)



Site: Torch Lake Area Assessment

Photo Number: 9

Direction: East

Subject: Beached, dilapidated dredge (AOI 10)

Date: September 6, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 10

Direction: Northeast

Subject: Mineral Building (AOI 22)

Date: September 7, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 11

Date: September 7, 2007

Direction: Northeast

Photographer: Nancy Posavatz

Subject: Screening location MineralB-6 at Mineral Building (AOI 22)



Site: Torch Lake Area Assessment

Photo Number: 12

Date: September 7, 2007

Direction: Southwest

Photographer: Nancy Posavatz

Subject: Debris pile near the Mineral Building (AOI 22)



Site: Torch Lake Area Assessment

Photo Number: 13

Direction: Southwest

Subject: Debris pile near the Mineral Building (AOI 22)

Date: September 7, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 14

Direction: Northeast

Subject: Drum at the Bootjack Stamp Sands (AOI 26)

Date: September 11, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 15

Direction: Northeast

Subject: Sawmill Pond area at the Bootjack Stamp Sands (AOI 26)

Date: September 11, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 16

Direction: West

Subject: Former Hubbell Dump (AOI 21)

Date: September 11, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 17

Direction: East

Subject: Gray, discolored soils at Former Houghton County Gas & Coke (AOI 15)

Date: September 10, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 18

Direction: South

Subject: Suspected former process pipe at Former Houghton County Gas & Coke (AOI 15)

Date: September 10, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 19

Direction: West

Date: September 10, 2007

Photographer: Nancy Posavatz

Subject: Interior of sandstone building at Former Houghton County Gas & Coke (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 20

Direction: East

Date: September 10, 2007

Photographer: Nancy Posavatz

Subject: Brown tar-like material at Former Houghton County Gas & Coke (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 21

Date: September 10, 2007

Direction: North

Photographer: Nancy Posavatz

Subject: Underground vault area at Former Houghton County Gas & Coke (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 22

Date: September 10, 2007

Direction: West

Photographer: Nancy Posavatz

Subject: Black, stained soils at Gay Stamp Sands (AOI 14)



Site: Torch Lake Area Assessment

Photo Number: 23

Direction: West

Subject: Building ruins at Gay Stamp Sands (AOI 14)

Date: September 10, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 24

Direction: West

Subject: Former conveyor belt at Gay Stamp Sands (AOI 14)

Date: September 10, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 25

Direction: North

Subject: Green-stained soils at Gay Stamp Sands (AOI 14)

Date: September 10, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 26

Direction: East

Subject: Smokestack at Gay Stamp Sands (AOI 14)

Date: September 10, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 27
Direction: Southeast
Subject: Gay Stamp Sands (AOI 14)

Date: September 10, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 28
Direction: West
Subject: Pile of asbestos-containing roofing material at Gay Stamp Sands (AOI 14)

Date: September 10, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 29
Direction: North
Subject: Hubbell Beach (AOI 21)

Date: September 10, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 30
Direction: West
Subject: Power plant building at C&H Power Plant Site (AOI 23)

Date: September 5, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 31
Direction: North
Subject: Property at the C&H Power Plant (AOI 23)

Date: September 5, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 32
Direction: West and down (basement level)
Subject: Partially submerged and leaking drums at C&H Power Plant (AOI 23)

Date: September 5, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 33
Direction: Southwest
Subject: Shoreline at C&H Power Plant (AOI 23)

Date: September 5, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 34
Direction: East
Subject: Storm drain at C&H Power Plant (AOI 23)

Date: September 5, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 35
Direction: North
Subject: Capped area at Dollar Bay (AOI 17)

Date: September 7, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 36
Direction: East
Subject: Shoreline at Dollar Bay, uncapped area (AOI 17)

Date: September 7, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 37
Direction: East
Subject: Dollar Bay Well Field (AOI 17)

Date: September 7, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment
Photo Number: 38
Direction: North
Subject: Former building footprint at the Calumet Stamp Mill, Lake Linden Sands (AOI 12)

Date: September 7, 2007
Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 39

Direction: Southeast

Subject: Copper Bowl (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 40

Direction: Southeast

Subject: Dollar Bay Well Field (AOI 17)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 41

Direction: Southwest

Subject: H&Y Marina (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 42

Direction: North

Subject: Hanke property (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 43

Direction: West

Subject: Julio Contracting (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 44

Direction: North

Subject: Bulging and leaking drums at Julio Contracting (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 45

Direction: North

Subject: Bulging above-ground storage tank (AST) at Julio Contracting (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 46

Direction: South

Subject: Julio Marine and Salvage (AOI 15.)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 47

Direction: Southwest

Subject: Pile of automobile gasoline tanks at the Julio Marine and Salvage (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 48

Direction: Southwest

Subject: Pile of electrical equipment at the Julio Marine and Salvage (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 49

Direction: West

Subject: Shoreline at the Julio Marine and Salvage (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 50

Direction: North

Subject: Stack of drums at the Julio Marine and Salvage (AOI 15)

Date: September 12, 2007

Photographer: Nancy Posavatz



Site: Torch Lake Area Assessment

Photo Number: 51

Date: September 12, 2007

Direction: South and down (ground surface)

Photographer: Nancy Posavatz

Subject: Tar seepage near Portage Lake at the Former Houghton County Gas & Coke (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 52

Date: September 12, 2007

Direction: West

Photographer: Nancy Posavatz

Subject: Shoreline at Julio Property (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 53

Direction: West

Date: September 12, 2007

Photographer: Nancy Posavatz

Subject: Large AST, possibly leaking, at Julio Property (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 54

Direction: South

Date: September 12, 2007

Photographer: Nancy Posavatz

Subject: Large excavator leaking hydraulic fluid at Julio Property (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 55

Direction: West

Date: September 12, 2007

Photographer: Nancy Posavatz

Subject: Sheen on surface of creek at Julio Contracting (AOI 15)



Site: Torch Lake Area Assessment

Photo Number: 56

Direction: East

Date: September 12, 2007

Photographer: Nancy Posavatz

Subject: Shoreline at Mickelsen property (AOI 15)

ATTACHMENT C
ANLYTICAL DATA AND VALIDATION REPORT



31628 Glendale St.
Livonia, Michigan 48150
TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

September 25, 2007

Dan Capone
Weston Solutions of Illinois, Inc.
750 E. Bunker Court
Suite 500
Vernon Hills, IL 60061

TEL: (847) 918-4112
FAX (847) 918-4055

RE: Torch Lake SA - 20405.016.002.0274.00

Order No.: 0709373

Dear Dan Capone:

RTI Laboratories received 11 sample(s) on 9/14/2007 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Lynch", with a stylized flourish extending to the right.

Robert Lynch
Manager, Environmental Services



RTI LABORATORIES, INC.

31628 Glendale St.
Livonia, Michigan 48150
TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Case Narrative

WO#: 0709373
Date: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00

This report in its entirety consists of the documents listed below. All documents contain the RTI Work Order Number assigned to this report.

1. Paginated Report including: Case Narrative, Analytical Results and Applicable Quality Control Summary Reports.
2. A Cover Letter that immediately precedes the Paginated Report.
3. Paginated copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the reporting limit (RL) but greater than the established method detection limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Concentrations reported with an E flag in the Qual field are values that exceed the upper quantification range. There is greater uncertainty associated with these results and data should be considered as estimated.

Any comments or problems with the analytical events associated with this report are noted below.

**RTI LABORATORIES, INC.**

31628 Glendale St.
Livonia, Michigan 48150
TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-001**Matrix:** SOIL**Client Sample ID** Gay B - XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1221	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1232	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1242	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1248	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1254	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1260	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1262	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Total PCBs	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Surr: Decachlorobiphenyl	127	70-130		%REC	1	9/18/2007 6:44:07 AM
Surr: Tetrachloro-m-xylene	110	70-130		%REC	1	9/18/2007 6:44:07 AM

METALS, ICP/MS**SW6020A**Analyst: **AB2**

Aluminum	8,200,000	94,000		µg/Kg-dry	1000	9/24/2007 12:00:27 PM
Arsenic	350,000	940		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Beryllium	520	4,700	J	µg/Kg-dry	100	9/21/2007 2:06:22 PM
Chromium	16,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Cobalt	13,000	4,700		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Copper	320,000,000	940,000		µg/Kg-dry	10000	9/24/2007 2:07:57 PM
Lead	290,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Lithium	3,000	940		µg/Kg-dry	10	9/24/2007 5:33:25 PM
Manganese	270,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Nickel	33,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Silver	220,000	95		µg/Kg-dry	10	9/19/2007 6:57:23 PM
Strontium	ND	230,000		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Zinc	180,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM

MERCURY**SW7471A**Analyst: **AB2**

Mercury	1,300	43		µg/Kg-dry	2	9/18/2007 4:18:22 PM
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PERCENT MOISTURE**D2216**Analyst: **JE**

Qualifiers: * / X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit



RTI LABORATORIES, INC.

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Livonia, Michigan 48150
TEL: 734.422.8000
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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-001

Matrix: SOIL

Client Sample ID Gay B - XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	11	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

**RTI LABORATORIES, INC.**

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Livonia, Michigan 48150
TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-002**Matrix:** SOIL**Client Sample ID** Gay B - XRF11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1221	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1232	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1242	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1248	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1254	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1260	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1262	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Total PCBs	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Surr: Decachlorobiphenyl	122	70-130		%REC	1	9/18/2007 7:25:00 AM
Surr: Tetrachloro-m-xylene	107	70-130		%REC	1	9/18/2007 7:25:00 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	7,200,000	96,000		µg/Kg-dry	1000	9/24/2007 12:02:20 PM
Arsenic	670,000	960		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Beryllium	800	4,800	J	µg/Kg-dry	100	9/21/2007 2:13:35 PM
Chromium	45,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Cobalt	14,000	4,800		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Copper	430,000,000	960,000		µg/Kg-dry	10000	9/24/2007 3:10:42 PM
Lead	82,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Lithium	2,900	960		µg/Kg-dry	10	9/24/2007 5:38:42 PM
Manganese	200,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Nickel	39,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Silver	150,000	100		µg/Kg-dry	10	9/19/2007 7:02:23 PM
Strontium	ND	240,000		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Zinc	97,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	630	16		µg/Kg-dry	1	9/18/2007 3:02:19 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



RTI LABORATORIES, INC.

31628 Glendale St.
Livonia, Michigan 48150
TEL: 734.422.8000
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Analytical Report

(consolidated)

WO#: **0709373**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-002

Matrix: SOIL

Client Sample ID Gay B - XRF11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	13	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-003**Matrix:** SOIL**Client Sample ID** Gay B - XRF14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1221	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1232	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1242	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1248	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1254	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1260	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1262	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Total PCBs	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Surr: Decachlorobiphenyl	118	70-130		%REC	1	9/18/2007 8:05:34 AM
Surr: Tetrachloro-m-xylene	104	70-130		%REC	1	9/18/2007 8:05:34 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	11,000,000	81,000		µg/Kg-dry	1000	9/24/2007 12:04:12 PM
Arsenic	58,000	810		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Beryllium	ND	4,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Chromium	61,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Cobalt	12,000	4,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Copper	990,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Lead	850,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Lithium	5,000	810		µg/Kg-dry	10	9/24/2007 5:40:27 PM
Manganese	610,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Nickel	31,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Silver	940	100		µg/Kg-dry	10	9/19/2007 7:20:08 PM
Strontium	ND	200,000		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Zinc	14,000,000	81,000		µg/Kg-dry	1000	9/24/2007 4:10:00 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	26	21		µg/Kg-dry	1	9/18/2007 3:04:25 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: **0709373**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-003

Matrix: SOIL

Client Sample ID Gay B - XRF14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	12	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-004**Matrix:** SOIL**Client Sample ID** Gay B - XRF21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1221	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1232	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1242	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1248	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1254	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1260	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1262	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Total PCBs	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Surr: Decachlorobiphenyl	131	70-130	S	%REC	1	9/18/2007 8:46:00 AM
Surr: Tetrachloro-m-xylene	106	70-130		%REC	1	9/18/2007 8:46:00 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	7,600,000	97,000		µg/Kg-dry	1000	9/24/2007 12:06:04 PM
Arsenic	12,000	970		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Beryllium	ND	4,800		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Chromium	35,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Cobalt	7,500	4,800		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Copper	650,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Lead	61,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Lithium	6,600	970		µg/Kg-dry	10	9/24/2007 5:42:14 PM
Manganese	250,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Nickel	13,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Silver	1,100	98		µg/Kg-dry	10	9/19/2007 7:21:59 PM
Strontium	ND	240,000		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Zinc	100,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	200	26		µg/Kg-dry	1	9/18/2007 3:06:04 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-004

Matrix: SOIL

Client Sample ID Gay B - XRF21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	18	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-005**Matrix:** SOIL**Client Sample ID** Gay B - XRF26

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1221	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1232	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1242	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1248	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1254	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1260	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1262	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Total PCBs	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Surr: Decachlorobiphenyl	140	70-130	S	%REC	1	9/18/2007 2:11:05 PM
Surr: Tetrachloro-m-xylene	102	70-130		%REC	1	9/18/2007 2:11:05 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	6,700,000	110,000		µg/Kg-dry	1000	9/24/2007 12:07:57 PM
Arsenic	17,000	1,100		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Beryllium	ND	5,600		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Chromium	59,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Cobalt	17,000	5,600		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Copper	1,100,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Lead	310,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Lithium	3,900	1,100		µg/Kg-dry	10	9/24/2007 5:44:00 PM
Manganese	930,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Nickel	45,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Silver	1,200	130		µg/Kg-dry	10	9/19/2007 7:23:51 PM
Strontium	ND	280,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Zinc	4,300,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	460	31		µg/Kg-dry	1	9/18/2007 3:11:07 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-005

Matrix: SOIL

Client Sample ID Gay B - XRF26

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	32	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-006**Matrix:** SOLID**Client Sample ID** MGP-TAR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1221	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1232	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1242	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1248	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1254	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1260	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1262	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Total PCBs	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Surr: Decachlorobiphenyl	85.1	70-130		%REC	1	9/18/2007 12:08:49 PM
Surr: Tetrachloro-m-xylene	98.7	70-130		%REC	1	9/18/2007 12:08:49 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	720,000	90,000		µg/Kg	1000	9/24/2007 12:55:14 PM
Arsenic	1,000	900		µg/Kg	100	9/21/2007 2:23:17 PM
Beryllium	ND	4,500		µg/Kg	100	9/21/2007 2:23:17 PM
Chromium	ND	9,000		µg/Kg	100	9/21/2007 2:23:17 PM
Cobalt	500	4,500	J	µg/Kg	100	9/21/2007 2:23:17 PM
Copper	350,000	9,000		µg/Kg	100	9/21/2007 2:23:17 PM
Lead	4,200	9,000	J	µg/Kg	100	9/21/2007 2:23:17 PM
Lithium	ND	900		µg/Kg	10	9/24/2007 5:45:47 PM
Manganese	16,000	9,000		µg/Kg	100	9/21/2007 2:23:17 PM
Nickel	1,500	9,000	J	µg/Kg	100	9/21/2007 2:23:17 PM
Silver	670	85		µg/Kg	10	9/19/2007 7:25:40 PM
Strontium	ND	230,000		µg/Kg	100	9/21/2007 2:23:17 PM
Zinc	7,900	9,000	J	µg/Kg	100	9/21/2007 2:23:17 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	30	25		µg/Kg	1	9/18/2007 3:12:47 PM

POLYNUCLEAR AROMATIC HYDROCARBONS SEMI-VOLATILE ORGANIC COMPOUNDS		SW8270C			Analyst: JW	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

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Analytical Report

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WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-006

Matrix: SOLID

Client Sample ID MGP-TAR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYNUCLEAR AROMATIC HYDROCARBONS				SW8270C		Analyst: JW
SEMI-VOLATILE ORGANIC COMPOUNDS						
2-Methylnaphthalene	3,600,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Acenaphthene	400,000	960,000	J	µg/Kg	200	9/20/2007 3:13:00 PM
Acenaphthylene	4,900,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Anthracene	3,200,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(a)anthracene	2,500,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(a)pyrene	2,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(b)fluoranthene	2,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(g,h,i)perylene	1,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(k)fluoranthene	1,100,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Chrysene	1,800,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Dibenz(a,h)anthracene	270,000	960,000	J	µg/Kg	200	9/20/2007 3:13:00 PM
Fluoranthene	7,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Fluorene	3,000,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Indeno(1,2,3-cd)pyrene	1,200,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Naphthalene	21,000,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Phenanthrene	11,000,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Pyrene	7,900,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Surr: 2,4,6-Tribromophenol	0	25-93.9	S	%REC	200	9/20/2007 3:13:00 PM
Surr: 2-Fluorobiphenyl	44.0	26-105		%REC	200	9/20/2007 3:13:00 PM
Surr: 2-Fluorophenol	36.0	25-120		%REC	200	9/20/2007 3:13:00 PM
Surr: Nitrobenzene-d5	32.0	30.1-104		%REC	200	9/20/2007 3:13:00 PM
Surr: Phenol-d5	44.0	25-118		%REC	200	9/20/2007 3:13:00 PM
Surr: Terphenyl-d14	68.0	27.1-115		%REC	200	9/20/2007 3:13:00 PM

VOLATILE ORGANIC COMPOUNDS**SW8260B**

Analyst: MT3

1,1,1,2-Tetrachloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,1-Trichloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,2,2-Tetrachloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,2-Trichloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1-Dichloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1-Dichloroethene	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1-Dichloropropene	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

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WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-006**Matrix:** SOLID**Client Sample ID** MGP-TAR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				SW8260B	Analyst: MT3	
1,2,3-Trichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,3-Trichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,3-Trimethylbenzene	92,000	200,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,4-Trichlorobenzene	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,4-Trimethylbenzene	260,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dibromo-3-chloropropane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dichloroethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,3,5-Trimethylbenzene	100,000	200,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
1,3-Dichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,3-Dichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,4-Dichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2,2-Dichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Chloroethyl vinyl ether	ND	2,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Chlorotoluene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Hexanone	ND	10,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Methylnaphthalene	3,200,000	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Nitropropane	ND	800,000		µg/Kg	200000	9/22/2007 3:15:00 PM
4-Chlorotoluene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Acetone	630,000	10,000,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
Acrylonitrile	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Benzene	1,200,000	120,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromochloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromodichloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromoform	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromomethane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Carbon disulfide	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Carbon tetrachloride	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chloroethane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chloroform	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

**RTI LABORATORIES, INC.**

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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-006**Matrix:** SOLID**Client Sample ID** MGP-TAR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				SW8260B	Analyst: MT3	
cis-1,2-Dichloroethene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
cis-1,3-Dichloropropene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dibromochloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dibromomethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dichlorodifluoromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dichloromethane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Diethyl ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Ethyl methacrylate	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Ethylbenzene	80,000	200,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
Ethylene dibromide	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Hexachlorobutadiene	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Hexachloroethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Isopropyl ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Isopropylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
m,p-Xylene	520,000	400,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl ethyl ketone	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl Iodide	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl isobutyl ketone	ND	2,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl tert-butyl ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Naphthalene	29,000,000	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
n-Butylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
n-Propylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
o-Xylene	210,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
p-Isopropyltoluene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
sec-Butylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Styrene	210,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
t-Butyl alcohol	ND	8,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
tert-Amyl Methyl Ether	ND	800,000		µg/Kg	200000	9/22/2007 3:15:00 PM
tert-Butyl Ethyl Ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
tert-Butylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Tetrachloroethene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Toluene	640,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
trans-1,2-Dichloroethene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
trans-1,3-Dichloropropene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM

Qualifiers: * / X Value exceeds Maximum Contaminant Level
 E Value above quantitation range
 J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 M Manual Integration used to determine area response
 RL Reporting Detection Limit

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-006**Matrix:** SOLID**Client Sample ID** MGP-TAR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				SW8260B	Analyst: MT3	
trans-1,4-Dichloro-2-butene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Trichloroethene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Trichlorofluoromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Vinyl chloride	ND	160,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Xylenes, Total	730,000	600,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Surr: 4-Bromofluorobenzene	114	90-115		%REC	200000	9/22/2007 3:15:00 PM
Surr: Dibromofluoromethane	117	88.4-108	S	%REC	200000	9/22/2007 3:15:00 PM
Surr: Toluene-d8	109	90-112		%REC	200000	9/22/2007 3:15:00 PM
CYANIDE				SW9012A	Analyst: JT	
Cyanide, Total	3.5	0.12		mg/Kg	1	9/21/2007

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/7/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-007**Matrix:** SOIL**Client Sample ID** Calument XRF 16

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1221	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1232	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1242	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1248	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1254	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1260	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1262	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Total PCBs	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Surr: Decachlorobiphenyl	499	70-130	S	%REC	1	9/18/2007 2:51:43 PM
Surr: Tetrachloro-m-xylene	102	70-130		%REC	1	9/18/2007 2:51:43 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	13,000,000	140,000		µg/Kg-dry	1000	9/24/2007 12:09:49 PM
Arsenic	36,000	1,400		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Beryllium	1,600	6,800	J	µg/Kg-dry	100	9/21/2007 2:30:34 PM
Chromium	28,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Cobalt	18,000	6,800		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Copper	10,000,000	140,000		µg/Kg-dry	1000	9/25/2007 4:11:17 PM
Lead	1,100,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Lithium	9,700	1,400		µg/Kg-dry	10	9/24/2007 5:54:00 PM
Manganese	740,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Nickel	49,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Silver	2,400	150		µg/Kg-dry	10	9/19/2007 7:27:28 PM
Strontium	ND	340,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Zinc	420,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	230	43		µg/Kg-dry	1	9/18/2007 3:14:27 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/7/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-007

Matrix: SOIL

Client Sample ID Calument XRF 16

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	42	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/6/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-008**Matrix:** SOIL**Client Sample ID** Mason XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1221	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1232	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1242	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1248	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1254	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1260	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1262	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Total PCBs	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Surr: Decachlorobiphenyl	112	70-130		%REC	1	9/18/2007 12:49:42 PM
Surr: Tetrachloro-m-xylene	99.7	70-130		%REC	1	9/18/2007 12:49:42 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	16,000,000	96,000		µg/Kg-dry	1000	9/24/2007 12:11:41 PM
Arsenic	6,700	960		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Beryllium	750	4,800	J	µg/Kg-dry	100	9/21/2007 2:33:00 PM
Chromium	8,200	9,600	J	µg/Kg-dry	100	9/21/2007 2:33:00 PM
Cobalt	17,000	4,800		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Copper	1,900,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Lead	1,100,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Lithium	7,100	960		µg/Kg-dry	10	9/24/2007 5:55:48 PM
Manganese	790,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Nickel	31,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Silver	5,300	100		µg/Kg-dry	10	9/19/2007 7:29:17 PM
Strontium	ND	240,000		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Zinc	110,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	510	28		µg/Kg-dry	1	9/18/2007 3:16:08 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: **0709373**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/6/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-008

Matrix: SOIL

Client Sample ID Mason XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	14	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/7/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-009**Matrix:** SOIL**Client Sample ID** Mineral XRF11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1221	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1232	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1242	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1248	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1254	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1260	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1262	24	68	J	µg/Kg-dry	1	9/18/2007 9:26:29 AM
Total PCBs	24	68	J	µg/Kg-dry	1	9/18/2007 9:26:29 AM
Surr: Decachlorobiphenyl	94.9	70-130		%REC	1	9/18/2007 9:26:29 AM
Surr: Tetrachloro-m-xylene	84.3	70-130		%REC	1	9/18/2007 9:26:29 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	6,200,000	73,000		µg/Kg-dry	1000	9/24/2007 12:13:34 PM
Arsenic	52,000	730		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Beryllium	500	3,600	J	µg/Kg-dry	100	9/21/2007 2:35:26 PM
Chromium	6,900	7,300	J	µg/Kg-dry	100	9/21/2007 2:35:26 PM
Cobalt	6,900	3,600		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Copper	17,000,000	73,000		µg/Kg-dry	1000	9/24/2007 2:12:11 PM
Lead	280,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Lithium	4,700	730		µg/Kg-dry	10	9/24/2007 5:57:35 PM
Manganese	180,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Nickel	24,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Silver	5,000	90		µg/Kg-dry	10	9/19/2007 7:31:05 PM
Strontium	ND	180,000		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Zinc	490,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	100	17		µg/Kg-dry	1	9/18/2007 3:17:47 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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WO#: **0709373**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/7/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-009

Matrix: SOIL

Client Sample ID Mineral XRF11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	2.3	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/6/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-010**Matrix:** SOIL**Client Sample ID** Mason XRF10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Total PCBs	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Surr: Decachlorobiphenyl	130	70-130		%REC	1	9/18/2007 10:07:02 AM
Surr: Tetrachloro-m-xylene	104	70-130		%REC	1	9/18/2007 10:07:02 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	21,000,000	72,000		µg/Kg-dry	1000	9/24/2007 12:15:27 PM
Arsenic	1,700	720		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Beryllium	ND	3,600		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Chromium	10,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Cobalt	17,000	3,600		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Copper	19,000,000	72,000		µg/Kg-dry	1000	9/24/2007 2:14:06 PM
Lead	200,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Lithium	3,400	720		µg/Kg-dry	10	9/24/2007 5:59:21 PM
Manganese	520,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Nickel	32,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Silver	5,400	70		µg/Kg-dry	10	9/19/2007 7:32:54 PM
Strontium	ND	180,000		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Zinc	110,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	120	23		µg/Kg-dry	1	9/18/2007 3:19:24 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



RTI LABORATORIES, INC.

31628 Glendale St.
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TEL: 734.422.8000
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Analytical Report

(consolidated)

WO#: **0709373**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/6/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-010

Matrix: SOIL

Client Sample ID Mason XRF10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	4.5	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709373**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/7/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-011**Matrix:** SOIL**Client Sample ID** Mineral XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1221	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1232	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1242	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1248	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1254	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1260	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1262	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Total PCBs	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Surr: Decachlorobiphenyl	122	70-130		%REC	1	9/18/2007 1:30:34 PM
Surr: Tetrachloro-m-xylene	104	70-130		%REC	1	9/18/2007 1:30:34 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	3,200,000	64,000		µg/Kg-dry	1000	9/24/2007 12:57:08 PM
Arsenic	230,000	640		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Beryllium	ND	3,200		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Chromium	56,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Cobalt	48,000	3,200		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Copper	44,000,000	640,000		µg/Kg-dry	10000	9/24/2007 3:12:37 PM
Lead	1,900,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Lithium	ND	640		µg/Kg-dry	10	9/24/2007 6:01:06 PM
Manganese	73,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Nickel	540,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Silver	9,000	87		µg/Kg-dry	10	9/19/2007 7:34:43 PM
Strontium	ND	160,000		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Zinc	5,400,000	64,000		µg/Kg-dry	1000	9/24/2007 4:01:23 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	22	14		µg/Kg-dry	1	9/18/2007 3:32:39 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/7/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-011

Matrix: SOIL

Client Sample ID Mineral XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	6.4	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT**TestCode: PMOIST**

Sample ID: 0709373-010ADUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 16264						
Client ID: Mason XRF10	Batch ID: R16264	TestNo: D2216		Analysis Date: 9/17/2007	SeqNo: 257565						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	5.2	1.0						4.494	13.8	20	

Sample ID: 0709387-010ADUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 16264						
Client ID: ZZZZZZ	Batch ID: R16264	TestNo: D2216		Analysis Date: 9/17/2007	SeqNo: 257577						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	9.1	1.0						9.963	9.15	20	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: LCS-8390	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: LCSS	Batch ID: 8390	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258640						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	1,100	100	1,000	0	109	80	120				
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Sample ID: MB-8390	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: PBS	Batch ID: 8390	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258642						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	ND	10									
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Sample ID: 0709373-001A-MS	SampType: MS	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: Gay B - XRF6	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259885						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	4,300,000	9,000	45,070	5,375,000	-2,470	75	125				S
Arsenic	370,000	900	45,070	354,700	27.5	75	125				S
Beryllium	44,000	4,500	45,070	521.9	97.0	75	125				
Chromium	65,000	9,000	45,070	16,440	109	75	125				
Cobalt	53,000	4,500	45,070	13,140	89.5	75	125				
Copper	270,000,000	9,000	45,070	277,700,000	-22,100	75	125				S
Lead	250,000	9,000	45,070	291,000	-97.6	75	125				S
Manganese	250,000	9,000	45,070	272,500	-57.1	75	125				S
Nickel	67,000	9,000	45,070	32,890	75.9	75	125				
Zinc	170,000	9,000	45,070	182,700	-33.3	75	125				S

Sample ID: 0709373-001A-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: Gay B - XRF6	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259886						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	5,300,000	10,000	50,300	5,375,000	-125	75	125	4,261,000	21.9	25	S
Arsenic	510,000	1,000	50,300	354,700	301	75	125	367,100	31.8	25	SR
Beryllium	55,000	5,000	50,300	521.9	108	75	125	44,250	21.3	25	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: 0709373-001A-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: Gay B - XRF6	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259886						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	78,000	10,000	50,300	16,440	122	75	125	65,360	17.6	25	
Cobalt	62,000	5,000	50,300	13,140	96.8	75	125	53,470	14.5	25	
Copper	370,000,000	10,000	50,300	277,700,000	188,000	75	125	267,700,000	32.6	25	SR
Lead	380,000	10,000	50,300	291,000	170	75	125	247,000	41.6	25	SR
Manganese	280,000	10,000	50,300	272,500	18.8	75	125	246,800	13.3	25	S
Nickel	80,000	10,000	50,300	32,890	93.8	75	125	67,130	17.6	25	
Zinc	230,000	10,000	50,300	182,700	98.4	75	125	167,600	32.3	25	R

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259914						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	1,000	1,000	1,000	0	102	80	120				
Arsenic	1,000	100	1,000	0	102	80	120				
Beryllium	1,000	500	1,000	0	100	80	120				
Chromium	1,000	1,000	1,000	0	104	80	120				
Cobalt	1,000	500	1,000	0	104	80	120				
Copper	1,000	1,000	1,000	0	105	80	120				
Lead	980	1,000	1,000	0	97.9	80	120				J
Manganese	1,000	1,000	1,000	0	104	80	120				
Nickel	1,000	1,000	1,000	0	102	80	120				
Zinc	950	1,000	1,000	0	94.8	80	120				J

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259915						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	ND	100									
Arsenic	ND	10									
Beryllium	ND	50									
Chromium	ND	100									

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation lin
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259915						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cobalt	ND	50
Copper	ND	100
Lead	ND	100
Manganese	ND	100
Nickel	ND	100
Strontium	ND	2,500
Zinc	ND	100

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260416						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	980	1,000	1,000	0	98.0	80	120				J
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Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260417						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	ND	100
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Sample ID: 0709373-001A-MS	SampType: MS	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: Gay B - XRF6	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260594						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium	54,000	900	45,070	2,975	114	75	125				
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Sample ID: 0709373-001A-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: Gay B - XRF6	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260595						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: 0709373-001A-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: Gay B - XRF6	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260595						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium	59,000	1,000	50,300	2,975	112	75	125	54,490	8.42	25	
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Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260622						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium	1,200	1,000	1,000	0	115	80	120				
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Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260624						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium	ND	100									
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Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 261241						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	ND	1,000	1,000	0	0	80	120				S
Arsenic	ND	100	1,000	0	0	80	120				S
Beryllium	ND	500	1,000	0	0	80	120				S
Chromium	ND	1,000	1,000	0	0	80	120				S
Cobalt	ND	500	1,000	0	0	80	120				S
Copper	ND	1,000	1,000	0	0	80	120				S
Lead	ND	1,000	1,000	0	0	80	120				S
Manganese	1,100	1,000	1,000	0	109	80	120				
Nickel	ND	1,000	1,000	0	0	80	120				S
Silver	ND	100	1,000	0	0	80	120				S
Zinc	1,000	1,000	1,000	0	105	80	120				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 261242						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									
Arsenic	ND	10									
Beryllium	ND	50									
Chromium	ND	100									
Cobalt	ND	50									
Copper	ND	100									
Lead	ND	100									
Lithium	ND	100									
Manganese	ND	100									
Nickel	ND	100									
Silver	ND	10									
Strontium	ND	2,500									
Zinc	ND	100									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_7471S

Sample ID: MB-8401	SampType: MBLK	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: PBS	Batch ID: 8401	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257909						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 16

Sample ID: LCS-8401	SampType: LCS	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: LCSS	Batch ID: 8401	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257910						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 170 17 166.7 0 104 80 120

Sample ID: 0709345-003A-MS	SampType: MS	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8401	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257912						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 320 23 231.6 122.9 83.3 80 120

Sample ID: 0709345-003A-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8401	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257913						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 330 22 215.6 122.9 97.1 80 120 315.7 5.06 25

Sample ID: 0709361-006B-MS	SampType: MS	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8401	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257926						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 930 25 248.9 866.8 26.2 80 120 S

Sample ID: 0709361-006B-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8401	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257927						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation lin
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_7471S

Sample ID: 0709361-006B-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8401	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257927						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	960	27	270.5	866.8	36.0	80	120	931.9	3.42	25	S
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Sample ID: MB-8402	SampType: MBLK	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: PBS	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257939						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	ND	24									
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Sample ID: LCS-8402	SampType: LCS	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: LCSS	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257940						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	190	21	208.3	0	91.3	80	120				
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Sample ID: 0709387-001A-MS	SampType: MS	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257942						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	260	21	209.9	52.07	99.6	80	120				
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Sample ID: 0709387-001A-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257945						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	310	25	246.4	52.07	104	80	120	261.1	16.5	25	
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Sample ID: 0709421-001A-MS	SampType: MS	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257958						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_7471S

Sample ID: 0709421-001A-MS	SampType: MS	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257958						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	370	13	128.2	187.1	141	80	120				S
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Sample ID: 0709421-001A-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257959						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	360	15	147.1	187.1	120	80	120	367.8	1.27	25	
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Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: lcs-8383	SampType: LCS	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: LCSS	Batch ID: 8383	TestNo: SW8082	Analysis Date: 9/17/2007	SeqNo: 257552							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	170	33	166.7	0	103	70	130				
Aroclor 1260	180	33	166.7	0	106	70	130				
AROCLOR-1016-1	170	33	166.7	0	102	70	130				
AROCLOR-1016-2	170	33	166.7	0	102	70	130				
AROCLOR-1016-3	160	33	166.7	0	98.2	70	130				
AROCLOR-1016-4	180	33	166.7	0	110	70	130				
AROCLOR-1016-5	170	33	166.7	0	105	70	130				
AROCLOR-1260-1	170	33	166.7	0	101	70	130				
AROCLOR-1260-2	170	33	166.7	0	103	70	130				
AROCLOR-1260-3	190	33	166.7	0	111	70	130				
AROCLOR-1260-4	180	33	166.7	0	111	70	130				
AROCLOR-1260-5	170	33	166.7	0	103	70	130				
Surr: Decachlorobiphenyl	9.5		8.300		114	70	130				
Surr: Tetrachloro-m-xylene	8.9		8.300		108	70	130				

Sample ID: mb-8383	SampType: MBLK	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 257553						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	33									
Aroclor 1221	ND	33									
Aroclor 1232	ND	33									
Aroclor 1242	ND	33									
Aroclor 1248	ND	33									
Aroclor 1254	ND	33									
Aroclor 1260	ND	33									
Aroclor 1262	ND	33									
Total PCBs	ND	33									
AROCLOR-1016-1	ND	33									
AROCLOR-1016-2	ND	33									
AROCLOR-1016-3	ND	33									

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: mb-8383	SampType: MBLK	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 257553						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
AROCLOR-1016-4	ND	33									
AROCLOR-1016-5	ND	33									
AROCLOR-1221-1	ND	33									
AROCLOR-1221-2	ND	33									
AROCLOR-1221-3	ND	33									
AROCLOR-1221-4	ND	33									
AROCLOR-1221-5	ND	33									
AROCLOR-1232-1	ND	33									
AROCLOR-1232-2	ND	33									
AROCLOR-1232-3	ND	33									
AROCLOR-1232-4	ND	33									
AROCLOR-1232-5	ND	33									
AROCLOR-1242-1	ND	33									
AROCLOR-1242-2	ND	33									
AROCLOR-1242-3	ND	33									
AROCLOR-1242-4	ND	33									
AROCLOR-1242-5	ND	33									
AROCLOR-1248-1	ND	33									
AROCLOR-1248-2	ND	33									
AROCLOR-1248-3	ND	33									
AROCLOR-1248-4	ND	33									
AROCLOR-1248-5	ND	33									
AROCLOR-1254-1	ND	33									
AROCLOR-1254-2	ND	33									
AROCLOR-1254-3	ND	33									
AROCLOR-1254-4	ND	33									
AROCLOR-1254-5	ND	33									
AROCLOR-1260-1	ND	33									
AROCLOR-1260-2	ND	33									
AROCLOR-1260-3	ND	33									
AROCLOR-1260-4	ND	33									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: mb-8383	SampType: MBLK	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 257553						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

AROCLOR-1260-5	ND	33									
AROCLOR-1262-1	ND	33									
AROCLOR-1262-2	ND	33									
AROCLOR-1262-3	ND	33									
AROCLOR-1262-4	ND	33									
AROCLOR-1262-5	ND	33									
Surr: Decachlorobiphenyl	9.7		8.300		117	70	130				
Surr: Tetrachloro-m-xylene	9.2		8.300		111	70	130				

Sample ID: 0709387-006a-ms	SampType: ms	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: ZZZZZZ	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258437						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aroclor 1016	170	36	183.0	0	94.8	70	130				
Aroclor 1260	220	36	183.0	0	121	70	130				
AROCLOR-1016-1	160	36	183.0	0	88.8	70	130				
AROCLOR-1016-2	170	36	183.0	0	90.5	70	130				
AROCLOR-1016-3	160	36	183.0	0	86.7	70	130				
AROCLOR-1016-4	190	36	183.0	0	102	70	130				
AROCLOR-1016-5	190	36	183.0	0	106	70	130				
AROCLOR-1260-1	220	36	183.0	0	120	70	130				
AROCLOR-1260-2	220	36	183.0	0	118	70	130				
AROCLOR-1260-3	220	36	183.0	0	121	70	130				
AROCLOR-1260-4	230	36	183.0	0	127	70	130				
AROCLOR-1260-5	220	36	183.0	0	120	70	130				
Surr: Decachlorobiphenyl	12		9.114		127	70	130				
Surr: Tetrachloro-m-xylene	10		9.114		110	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: 0709387-006a-msd	SampType: msd	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: ZZZZZZ	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258438						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	160	36	183.0	0	87.5	17.2	175	173.4	7.92	25	
Aroclor 1260	220	36	183.0	0	121	51.6	142	221.6	0.328	25	
AROCLOR-1016-1	150	36	183.0	0	83.5	40.4	138	162.6	0	25	
AROCLOR-1016-2	150	36	183.0	0	83.9	45.1	146	165.6	0	25	
AROCLOR-1016-3	150	36	183.0	0	79.5	41.2	140	158.8	0	25	
AROCLOR-1016-4	170	36	183.0	0	90.7	48.8	137	185.8	0	25	
AROCLOR-1016-5	180	36	183.0	0	100	40	138	194.3	0	25	
AROCLOR-1260-1	220	36	183.0	0	122	62	144	219.5	0	25	
AROCLOR-1260-2	210	36	183.0	0	117	46.5	149	215.7	0	25	
AROCLOR-1260-3	210	36	183.0	0	117	50.6	147	221.4	0	25	
AROCLOR-1260-4	230	36	183.0	0	127	40.3	143	232.5	0	25	
AROCLOR-1260-5	220	36	183.0	0	120	38.8	150	218.9	0	25	
Surr: Decachlorobiphenyl	11		9.114		118	66.8	151		0	25	
Surr: Tetrachloro-m-xylene	9.4		9.114		103	49.4	143		0	25	

Sample ID: 0709387-010a-ms	SampType: ms	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: ZZZZZZ	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/18/2007	SeqNo: 258443						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	170	37	185.1	0	92.0	70	130				
Aroclor 1260	200	37	185.1	0	110	70	130				
AROCLOR-1016-1	150	37	185.1	0	79.5	70	130				
AROCLOR-1016-2	160	37	185.1	0	87.7	70	130				
AROCLOR-1016-3	180	37	185.1	0	95.9	70	130				
AROCLOR-1016-4	180	37	185.1	0	98.1	70	130				
AROCLOR-1016-5	180	37	185.1	0	99.1	70	130				
AROCLOR-1260-1	190	37	185.1	0	103	70	130				
AROCLOR-1260-2	190	37	185.1	0	105	70	130				
AROCLOR-1260-3	210	37	185.1	0	116	70	130				
AROCLOR-1260-4	220	37	185.1	0	117	70	130				
AROCLOR-1260-5	200	37	185.1	0	110	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: 0709387-010a-ms	SampType: ms	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: ZZZZZZ	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/18/2007	SeqNo: 258443						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	13		9.218		136	70	130				S
Surr: Tetrachloro-m-xylene	9.7		9.218		105	70	130				

Sample ID: 0709387-010a-msd	SampType: msd	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: ZZZZZZ	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/18/2007	SeqNo: 258444						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	170	37	185.1	0	94.1	17.2	175	170.4	2.16	25	
Aroclor 1260	210	37	185.1	0	113	51.6	142	203.8	2.99	25	
AROCLOR-1016-1	150	37	185.1	0	81.1	40.4	138	147.2	0	25	
AROCLOR-1016-2	170	37	185.1	0	89.4	45.1	146	162.3	0	25	
AROCLOR-1016-3	180	37	185.1	0	98.2	41.2	140	177.4	0	25	
AROCLOR-1016-4	190	37	185.1	0	100	48.8	137	181.6	0	25	
AROCLOR-1016-5	190	37	185.1	0	102	40	138	183.5	0	25	
AROCLOR-1260-1	190	37	185.1	0	103	62	144	189.8	0	25	
AROCLOR-1260-2	200	37	185.1	0	109	46.5	149	194.7	0	25	
AROCLOR-1260-3	220	37	185.1	0	120	50.6	147	214.6	0	25	
AROCLOR-1260-4	220	37	185.1	0	121	40.3	143	216.4	0	25	
AROCLOR-1260-5	210	37	185.1	0	115	38.8	150	203.4	0	25	
Surr: Decachlorobiphenyl	0		9.218		0	66.8	151		0	25	S
Surr: Tetrachloro-m-xylene	9.8		9.218		107	49.4	143		0	25	

Sample ID: lcs-8381	SampType: lcs	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: LCSS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258466						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	180	33	166.7	0	111	70	130				
Aroclor 1260	180	33	166.7	0	105	70	130				
AROCLOR-1016-1	160	33	166.7	0	97.3	70	130				
AROCLOR-1016-2	180	33	166.7	0	108	70	130				
AROCLOR-1016-3	150	33	166.7	0	91.8	70	130				

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation lin
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: lcs-8381	SampType: lcs	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: LCSS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258466						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
AROCLOR-1016-4	170	33	166.7	0	102	70	130				
AROCLOR-1016-5	260	33	166.7	0	155	70	130				S
AROCLOR-1260-1	160	33	166.7	0	96.5	70	130				
AROCLOR-1260-2	170	33	166.7	0	103	70	130				
AROCLOR-1260-3	180	33	166.7	0	110	70	130				
AROCLOR-1260-4	180	33	166.7	0	110	70	130				
AROCLOR-1260-5	180	33	166.7	0	106	70	130				
Surr: Decachlorobiphenyl	9.5		8.300		115	70	130				
Surr: Tetrachloro-m-xylene	8.2		8.300		98.4	70	130				

Sample ID: mb-8381	SampType: mblik	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258471						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	33									
Aroclor 1221	ND	33									
Aroclor 1232	ND	33									
Aroclor 1242	ND	33									
Aroclor 1248	ND	33									
Aroclor 1254	ND	33									
Aroclor 1260	ND	33									
Aroclor 1262	ND	33									
Total PCBs	ND	33									
AROCLOR-1016-1	ND	33									
AROCLOR-1016-2	ND	33									
AROCLOR-1016-3	ND	33									
AROCLOR-1016-4	ND	33									
AROCLOR-1016-5	ND	33									
AROCLOR-1221-1	ND	33									
AROCLOR-1221-2	ND	33									
AROCLOR-1221-3	ND	33									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: mb-8381	SampType: mblk	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258471						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
AROCLOR-1221-4	ND	33									
AROCLOR-1221-5	ND	33									
AROCLOR-1232-1	ND	33									
AROCLOR-1232-2	ND	33									
AROCLOR-1232-3	ND	33									
AROCLOR-1232-4	ND	33									
AROCLOR-1232-5	ND	33									
AROCLOR-1242-1	ND	33									
AROCLOR-1242-2	ND	33									
AROCLOR-1242-3	ND	33									
AROCLOR-1242-4	ND	33									
AROCLOR-1242-5	ND	33									
AROCLOR-1248-1	ND	33									
AROCLOR-1248-2	ND	33									
AROCLOR-1248-3	ND	33									
AROCLOR-1248-4	ND	33									
AROCLOR-1248-5	ND	33									
AROCLOR-1254-1	ND	33									
AROCLOR-1254-2	ND	33									
AROCLOR-1254-3	ND	33									
AROCLOR-1254-4	ND	33									
AROCLOR-1254-5	ND	33									
AROCLOR-1260-1	ND	33									
AROCLOR-1260-2	ND	33									
AROCLOR-1260-3	ND	33									
AROCLOR-1260-4	ND	33									
AROCLOR-1260-5	ND	33									
AROCLOR-1262-1	ND	33									
AROCLOR-1262-2	ND	33									
AROCLOR-1262-3	ND	33									
AROCLOR-1262-4	ND	33									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: mb-8381	SampType: mblk	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258471						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
AROCLOR-1262-5	ND	33									
Surr: Decachlorobiphenyl	9.0		8.300		109	70	130				
Surr: Tetrachloro-m-xylene	8.4		8.300		101	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 10ug/KG LCS 10uL	SampType: LCS	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: LCSS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260307						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	460	50	500.0	0	92.7	70	130				
1,1,1-Trichloroethane	490	50	500.0	0	98.9	70	130				
1,1,2,2-Tetrachloroethane	450	50	500.0	0	90.5	70	130				
1,1,2-Trichloro-1,2,2-trifluoroethane	390	50	500.0	0	77.5	70	130				
1,1,2-Trichloroethane	430	50	500.0	0	85.4	70	130				
1,1-Dichloroethane	530	50	500.0	0	106	70	130				
1,1-Dichloroethene	530	50	500.0	0	105	70	130				
1,1-Dichloropropene	450	50	500.0	0	89.2	70	130				
1,2,3-Trichlorobenzene	420	50	500.0	0	85.0	70	130				
1,2,3-Trichloropropane	390	50	500.0	0	78.1	70	130				
1,2,3-Trimethylbenzene	430	50	500.0	0	86.0	70	130				
1,2,4-Trichlorobenzene	430	250	500.0	0	86.9	70	130				
1,2,4-Trimethylbenzene	450	50	500.0	0	90.6	70	130				
1,2-Dibromo-3-chloropropane	390	250	500.0	0	78.8	70	130				
1,2-Dichlorobenzene	450	50	500.0	0	90.8	70	130				
1,2-Dichloroethane	590	50	500.0	0	117	70	130				
1,2-Dichloropropane	460	50	500.0	0	92.3	70	130				
1,3,5-Trimethylbenzene	460	50	500.0	0	92.2	70	130				
1,3-Dichlorobenzene	480	50	500.0	0	96.2	70	130				
1,3-Dichloropropane	460	50	500.0	0	92.7	70	130				
1,4-Dichlorobenzene	450	50	500.0	0	90.8	70	130				
2,2-Dichloropropane	470	50	500.0	0	94.4	70	130				
2-Chloroethyl vinyl ether	440	500	500.0	0	87.9	70	130				J
2-Chlorotoluene	440	50	500.0	0	87.4	70	130				
2-Hexanone	440	2,500	500.0	0	88.2	70	130				J
2-Methylnaphthalene	450	250	500.0	0	89.3	70	130				
2-Nitropropane	390	200	500.0	0	78.8	70	130				
4-Chlorotoluene	450	50	500.0	0	90.6	70	130				
Acetone	480	2,500	500.0	0	95.9	70	130				J
Acrylonitrile	480	250	500.0	0	95.7	70	130				
Benzene	440	30	500.0	0	88.7	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 10ug/KG LCS 10uL	SampType: LCS	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: LCSS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260307						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	460	50	500.0	0	92.3	70	130				
Bromochloromethane	510	50	500.0	0	101	70	130				
Bromodichloromethane	480	50	500.0	0	95.8	70	130				
Bromoform	430	50	500.0	0	85.9	70	130				
Bromomethane	820	250	500.0	0	165	70	130				S
Carbon disulfide	470	250	500.0	0	93.6	70	130				
Carbon tetrachloride	480	50	500.0	0	95.9	70	130				
Chlorobenzene	430	50	500.0	0	85.8	70	130				
Chloroethane	700	250	500.0	0	141	70	130				S
Chloroform	490	50	500.0	0	98.7	70	130				
Chloromethane	420	50	500.0	0	83.6	70	130				
cis-1,2-Dichloroethene	480	50	500.0	0	95.4	70	130				
cis-1,3-Dichloropropene	430	50	500.0	0	85.2	70	130				
Dibromochloromethane	470	50	500.0	0	94.3	70	130				
Dibromomethane	480	50	500.0	0	96.3	70	130				
Dichlorodifluoromethane	380	50	500.0	0	76.3	70	130				
Dichloromethane	540	250	500.0	0	107	70	130				
Diethyl ether	520	250	500.0	0	103	70	130				
Ethyl methacrylate	430	50	500.0	0	86.1	70	130				
Ethylbenzene	460	50	500.0	0	91.2	70	130				
Ethylene dibromide	480	50	500.0	0	95.0	70	130				
Hexachlorobutadiene	500	250	500.0	0	99.3	70	130				
Hexachloroethane	270	50	500.0	0	54.3	70	130				S
Isopropyl ether	550	250	500.0	0	110	70	130				
Isopropylbenzene	460	50	500.0	0	91.9	70	130				
m,p-Xylene	920	100	1,000	0	91.5	70	130				
Methyl ethyl ketone	470	250	500.0	0	93.7	70	130				
Methyl Iodide	540	250	500.0	0	108	70	130				
Methyl isobutyl ketone	460	500	500.0	0	92.5	70	130				J
Methyl tert-butyl ether	1,100	250	1,000	0	106	70	130				
Naphthalene	420	250	500.0	0	84.4	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 10ug/KG LCS 10uL	SampType: LCS	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: LCSS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260307						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

n-Butylbenzene	430	50	500.0	0	86.2	70	130				
n-Propylbenzene	450	50	500.0	0	90.8	70	130				
o-Xylene	440	50	500.0	0	87.2	70	130				
p-Isopropyltoluene	460	50	500.0	0	91.6	70	130				
sec-Butylbenzene	440	50	500.0	0	88.0	70	130				
Styrene	460	50	500.0	0	91.3	70	130				
t-Butyl alcohol	2,800	2,000	2,500	0	111	70	130				
tert-Amyl Methyl Ether	470	200	500.0	0	93.3	70	130				
tert-Butyl Ethyl Ether	530	250	500.0	0	107	70	130				
tert-Butylbenzene	450	50	500.0	0	90.0	70	130				
Tetrachloroethene	470	50	500.0	0	94.1	70	130				
Toluene	440	50	500.0	0	87.5	70	130				
trans-1,2-Dichloroethene	530	50	500.0	0	106	70	130				
trans-1,3-Dichloropropene	430	50	500.0	0	85.2	70	130				
trans-1,4-Dichloro-2-butene	470	50	500.0	0	94.0	70	130				
Trichloroethene	440	50	500.0	0	88.6	70	130				
Trichlorofluoromethane	190	50	500.0	0	37.7	70	130				S
Vinyl chloride	460	40	500.0	0	91.6	70	130				
Xylenes, Total	1,400	150	1,500	0	90.1	70	130				
Surr: 4-Bromofluorobenzene	2,900		2,500		117	90	115				S
Surr: Dibromofluoromethane	2,900		2,500		116	88.4	108				S
Surr: Toluene-d8	2,700		2,500		109	90	112				

Sample ID: MLKB 1mLJW07100	SampType: MBLK	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: PBS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260308						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	ND	50									
1,1,1-Trichloroethane	ND	50									
1,1,2,2-Tetrachloroethane	ND	50									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	50									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: MLKB 1mLJW07100	SampType: MBLK	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: PBS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260308						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	50									
1,1-Dichloroethane	ND	50									
1,1-Dichloroethene	ND	50									
1,1-Dichloropropene	ND	50									
1,2,3-Trichlorobenzene	ND	50									
1,2,3-Trichloropropane	ND	50									
1,2,3-Trimethylbenzene	ND	50									
1,2,4-Trichlorobenzene	ND	250									
1,2,4-Trimethylbenzene	ND	50									
1,2-Dibromo-3-chloropropane	ND	250									
1,2-Dichlorobenzene	ND	50									
1,2-Dichloroethane	ND	50									
1,2-Dichloropropane	ND	50									
1,3,5-Trimethylbenzene	ND	50									
1,3-Dichlorobenzene	ND	50									
1,3-Dichloropropane	ND	50									
1,4-Dichlorobenzene	ND	50									
2,2-Dichloropropane	ND	50									
2-Chloroethyl vinyl ether	ND	500									
2-Chlorotoluene	ND	50									
2-Hexanone	ND	2,500									
2-Methylnaphthalene	ND	250									
2-Nitropropane	ND	200									
4-Chlorotoluene	ND	50									
Acetone	320	2,500									J
Acrylonitrile	ND	250									
Benzene	ND	30									
Bromobenzene	ND	50									
Bromochloromethane	ND	50									
Bromodichloromethane	ND	50									
Bromoform	ND	50									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: MLKB 1mLJW07100	SampType: MBLK	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: PBS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260308						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	250									
Carbon disulfide	ND	250									
Carbon tetrachloride	ND	50									
Chlorobenzene	ND	50									
Chloroethane	ND	250									
Chloroform	ND	50									
Chloromethane	ND	50									
cis-1,2-Dichloroethene	ND	50									
cis-1,3-Dichloropropene	ND	50									
Dibromochloromethane	ND	50									
Dibromomethane	ND	50									
Dichlorodifluoromethane	ND	50									
Dichloromethane	56	250									J
Diethyl ether	ND	250									
Ethyl methacrylate	ND	50									
Ethylbenzene	ND	50									
Ethylene dibromide	ND	50									
Hexachlorobutadiene	ND	250									
Hexachloroethane	ND	50									
Isopropyl ether	ND	250									
Isopropylbenzene	ND	50									
m,p-Xylene	ND	100									
Methyl ethyl ketone	ND	250									
Methyl Iodide	26	250									J
Methyl isobutyl ketone	ND	500									
Methyl tert-butyl ether	ND	250									
Naphthalene	ND	250									
n-Butylbenzene	ND	50									
n-Propylbenzene	ND	50									
o-Xylene	ND	50									
p-Isopropyltoluene	ND	50									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: MLKB 1mLJW07100	SampType: MBLK	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: PBS	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/21/2007	SeqNo: 260308							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

sec-Butylbenzene	ND	50									
Styrene	ND	50									
t-Butyl alcohol	ND	2,000									
tert-Amyl Methyl Ether	ND	200									
tert-Butyl Ethyl Ether	ND	250									
tert-Butylbenzene	ND	50									
Tetrachloroethene	ND	50									
Toluene	ND	50									
trans-1,2-Dichloroethene	ND	50									
trans-1,3-Dichloropropene	ND	50									
trans-1,4-Dichloro-2-butene	ND	50									
Trichloroethene	ND	50									
Trichlorofluoromethane	ND	50									
Vinyl chloride	ND	40									
Xylenes, Total	ND	150									
Surr: 4-Bromofluorobenzene	2,900		2,500		116	90	115				S
Surr: Dibromofluoromethane	2,800		2,500		114	88.4	108				S
Surr: Toluene-d8	2,700		2,500		109	90	112				
1,4-Dioxane	ND	25,000									

Sample ID: 0709505-006A-MS	SampType: MS	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260315						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	490	52	515.2	0	94.6	81.7	109				
1,1,1-Trichloroethane	540	52	515.2	0	105	73.7	114				
1,1,2,2-Tetrachloroethane	490	52	515.2	0	94.6	72.6	139				
1,1,2-Trichloro-1,2,2-trifluoroethane	420	52	515.2	0	82.0	62.1	118				
1,1,2-Trichloroethane	500	52	515.2	0	96.2	68.8	130				
1,1-Dichloroethane	590	52	515.2	0	114	79.3	111				S
1,1-Dichloroethene	600	52	515.2	0	116	67.3	116				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709505-006A-MS	SampType: MS	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260315						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloropropene	510	52	515.2	0	99.2	32	140				
1,2,3-Trichlorobenzene	480	52	515.2	0	92.2	87.3	130				
1,2,3-Trichloropropane	430	52	515.2	0	84.3	68.8	112				
1,2,3-Trimethylbenzene	550	52	515.2	72.64	92.8	51.6	132				
1,2,4-Trichlorobenzene	490	260	515.2	0	94.9	87.8	130				
1,2,4-Trimethylbenzene	690	52	515.2	179.3	99.7	76.2	131				
1,2-Dibromo-3-chloropropane	410	260	515.2	0	78.7	45.6	162				
1,2-Dichlorobenzene	500	52	515.2	0	96.1	85.9	113				
1,2-Dichloroethane	660	52	515.2	0	128	85.8	116				S
1,2-Dichloropropane	520	52	515.2	0	101	83.6	110				
1,3,5-Trimethylbenzene	690	52	515.2	156.6	104	44.6	174				
1,3-Dichlorobenzene	530	52	515.2	0	104	84.7	119				
1,3-Dichloropropane	520	52	515.2	0	100	86.2	113				
1,4-Dichlorobenzene	500	52	515.2	0	96.8	85.2	111				
2,2-Dichloropropane	490	52	515.2	0	95.9	40	108				
2-Chloroethyl vinyl ether	480	520	515.2	0	94.0	82	114				J
2-Chlorotoluene	530	52	515.2	0	104	75.7	126				
2-Hexanone	550	2,600	515.2	0	106	51.3	170				J
2-Methylnaphthalene	510	260	515.2	0	99.8	75.2	127				
2-Nitropropane	3,400	210	515.2	0	669	70	130				S
4-Chlorotoluene	510	52	515.2	0	98.2	79.6	130				
Acetone	750	2,600	515.2	280.8	91.5	77.5	159				J
Acrylonitrile	540	260	515.2	0	104	64.8	137				
Benzene	500	31	515.2	0	97.5	52.5	136				
Bromobenzene	530	52	515.2	0	102	84.7	114				
Bromochloromethane	540	52	515.2	0	105	83.1	118				
Bromodichloromethane	580	52	515.2	0	112	60.9	129				
Bromoform	420	52	515.2	0	82.1	77.4	111				
Bromomethane	800	260	515.2	0	155	63.1	189				
Carbon disulfide	510	260	515.2	0	98.7	65.3	113				
Carbon tetrachloride	510	52	515.2	0	99.1	69.7	116				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709505-006A-MS	SampType: MS	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260315						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	470	52	515.2	0	91.8	80.9	120				
Chloroethane	640	260	515.2	0	124	79.8	154				
Chloroform	550	52	515.2	0	106	80.7	112				
Chloromethane	470	52	515.2	0	90.4	36.2	126				
cis-1,2-Dichloroethene	510	52	515.2	0	99.3	65.6	111				
cis-1,3-Dichloropropene	460	52	515.2	0	88.8	76.4	112				
Dibromochloromethane	480	52	515.2	0	92.5	81.3	110				
Dibromomethane	520	52	515.2	0	100	87.9	118				
Dichlorodifluoromethane	400	52	515.2	0	77.6	27.1	121				
Dichloromethane	570	260	515.2	0	111	65	121				
Diethyl ether	570	260	515.2	0	111	88.2	110				S
Ethyl methacrylate	560	52	515.2	0	109	72.1	128				
Ethylbenzene	530	52	515.2	34.52	97.1	82.3	119				
Ethylene dibromide	500	52	515.2	0	96.6	89.2	115				
Hexachlorobutadiene	570	260	515.2	0	111	69.8	144				
Hexachloroethane	310	52	515.2	0	59.9	27.8	139				
Isopropyl ether	610	260	515.2	0	118	76.7	117				S
Isopropylbenzene	580	52	515.2	51.52	102	77.3	131				
m,p-Xylene	1,100	100	1,030	43.79	99.4	80.2	120				
Methyl ethyl ketone	450	260	515.2	0	87.0	61	126				
Methyl Iodide	550	260	515.2	0	106	70	130				
Methyl isobutyl ketone	600	520	515.2	0	115	59	146				
Methyl tert-butyl ether	1,200	260	1,030	0	116	81.2	116				
Naphthalene	560	260	515.2	79.34	93.3	86.9	133				
n-Butylbenzene	620	52	515.2	112.8	97.7	67.8	125				
n-Propylbenzene	760	52	515.2	246.3	99.5	80.9	125				
o-Xylene	490	52	515.2	0	94.7	71.1	130				
p-Isopropyltoluene	550	52	515.2	0	106	50.1	163				
sec-Butylbenzene	540	52	515.2	31.43	99.6	71.3	139				
Styrene	510	52	515.2	0	98.2	87.8	123				
t-Butyl alcohol	130,000	2,100	2,576	0	4,890	70	130				S

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709505-006A-MS	SampType: MS	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/21/2007	SeqNo: 260315							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Amyl Methyl Ether	530	210	515.2	0	103	78.9	111				
tert-Butyl Ethyl Ether	590	260	515.2	0	115	69.9	132				
tert-Butylbenzene	500	52	515.2	0	97.4	80.7	119				
Tetrachloroethene	580	52	515.2	0	113	42.7	186				
Toluene	510	52	515.2	0	98.4	81.9	119				
trans-1,2-Dichloroethene	580	52	515.2	0	113	75.7	115				
trans-1,3-Dichloropropene	460	52	515.2	0	88.8	75.7	111				
trans-1,4-Dichloro-2-butene	540	52	515.2	0	105	52.9	136				
Trichloroethene	510	52	515.2	0	98.2	78.2	120				
Trichlorofluoromethane	740	52	515.2	0	144	70	130				S
Vinyl chloride	490	41	515.2	0	95.2	37.5	128				
Xylenes, Total	1,600	150	1,546	0	101	62.1	143				
Surr: 4-Bromofluorobenzene	3,000		2,576		117	95.9	130				
Surr: Dibromofluoromethane	3,000		2,576		116	90.4	111				S
Surr: Toluene-d8	2,800		2,576		110	100	116				

Sample ID: 0709505-006A-MSD	SampType: MSD	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/21/2007	SeqNo: 260316						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	480	52	515.2	0	92.7	81.7	109	487.4	2.03	15.7	
1,1,1-Trichloroethane	520	52	515.2	0	102	73.7	114	542.0	3.29	16.8	
1,1,2,2-Tetrachloroethane	490	52	515.2	0	95.6	72.6	139	487.4	1.05	16.7	
1,1,2-Trichloro-1,2,2-trifluoroethane	430	52	515.2	0	82.6	62.1	118	422.5	0.729	25.7	
1,1,2-Trichloroethane	500	52	515.2	0	96.8	68.8	130	495.6	0.622	15.9	
1,1-Dichloroethane	590	52	515.2	0	114	79.3	111	586.3	0.0878	16.6	S
1,1-Dichloroethene	580	52	515.2	0	112	67.3	116	595.6	3.07	20	
1,1-Dichloropropene	490	52	515.2	0	94.4	32	140	511.1	4.96	18.5	
1,2,3-Trichlorobenzene	500	52	515.2	0	96.5	87.3	130	475.0	4.56	18.8	
1,2,3-Trichloropropane	440	52	515.2	0	86.1	68.8	112	434.3	2.11	19.4	
1,2,3-Trimethylbenzene	550	52	515.2	72.64	92.7	51.6	132	550.7	0.0936	16.2	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709505-006A-MSD	SampType: MSD	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/21/2007	SeqNo: 260316							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	500	260	515.2	0	96.4	87.8	130	488.9	1.57	23	
1,2,4-Trimethylbenzene	690	52	515.2	179.3	99.6	76.2	131	692.9	0.0744	20.6	
1,2-Dibromo-3-chloropropane	410	260	515.2	0	79.4	45.6	162	405.5	0.886	48.7	
1,2-Dichlorobenzene	500	52	515.2	0	96.2	85.9	113	495.1	0.104	17.5	
1,2-Dichloroethane	650	52	515.2	0	126	85.8	116	657.4	1.10	13.9	S
1,2-Dichloropropane	530	52	515.2	0	102	83.6	110	520.9	1.08	18.1	
1,3,5-Trimethylbenzene	680	52	515.2	156.6	101	44.6	174	692.4	2.33	19.2	
1,3-Dichlorobenzene	550	52	515.2	0	106	84.7	119	534.8	1.91	22.5	
1,3-Dichloropropane	510	52	515.2	0	98.7	86.2	113	515.2	1.31	17.2	
1,4-Dichlorobenzene	500	52	515.2	0	97.9	85.2	111	498.7	1.13	16.2	
2,2-Dichloropropane	470	52	515.2	0	90.6	40	108	494.1	5.68	16	
2-Chloroethyl vinyl ether	490	520	515.2	0	95.6	82	114	484.3	0	18.4	J
2-Chlorotoluene	530	52	515.2	0	103	75.7	126	533.7	0.290	17.2	
2-Hexanone	570	2,600	515.2	0	110	51.3	170	547.7	0	40	J
2-Methylnaphthalene	540	260	515.2	0	104	75.2	127	514.2	4.60	26.8	
2-Nitropropane	2,400	210	3,606	0	67.0	70	130	3,446	35.2	56.4	S
4-Chlorotoluene	490	52	515.2	0	95.8	79.6	130	505.9	2.47	35.6	
Acetone	790	2,600	515.2	280.8	99.7	77.5	159	752.2	0	40	J
Acrylonitrile	540	260	515.2	0	104	64.8	137	535.8	0.0962	24.5	
Benzene	500	31	515.2	0	96.5	52.5	136	502.3	1.03	13.5	
Bromobenzene	510	52	515.2	0	99.6	84.7	114	526.0	2.48	19.6	
Bromochloromethane	520	52	515.2	0	101	83.1	118	542.0	3.97	17	
Bromodichloromethane	590	52	515.2	0	114	60.9	129	577.0	1.68	18.3	
Bromoform	430	52	515.2	0	83.9	77.4	111	423.0	2.17	16.4	
Bromomethane	650	260	515.2	0	126	63.1	189	800.6	21.1	40.4	
Carbon disulfide	490	260	515.2	0	95.3	65.3	113	508.5	3.51	22	
Carbon tetrachloride	500	52	515.2	0	97.1	69.7	116	510.6	2.04	21	
Chlorobenzene	470	52	515.2	0	92.0	80.9	120	473.0	0.218	16	
Chloroethane	580	260	515.2	0	112	79.8	154	637.3	10.0	28.2	
Chloroform	530	52	515.2	0	103	80.7	112	546.6	3.16	14.7	
Chloromethane	440	52	515.2	0	85.4	36.2	126	465.7	5.69	33.6	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709505-006A-MSD	SampType: MSD	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/21/2007	SeqNo: 260316							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	500	52	515.2	0	96.7	65.6	111	511.6	2.65	24.9	
cis-1,3-Dichloropropene	460	52	515.2	0	89.4	76.4	112	457.5	0.673	18.7	
Dibromochloromethane	490	52	515.2	0	94.5	81.3	110	476.6	2.14	19.4	
Dibromomethane	520	52	515.2	0	101	87.9	118	515.7	0.895	15.2	
Dichlorodifluoromethane	380	52	515.2	0	74.6	27.1	121	399.8	3.94	34.1	
Dichloromethane	560	260	515.2	0	108	65	121	569.8	1.92	31.8	
Diethyl ether	570	260	515.2	0	111	88.2	110	571.4	0.271	21.2	S
Ethyl methacrylate	570	52	515.2	0	111	72.1	128	561.1	1.64	18.3	
Ethylbenzene	530	52	515.2	34.52	97.1	82.3	119	534.8	0	15.5	
Ethylene dibromide	510	52	515.2	0	99.0	89.2	115	497.7	2.45	17.6	
Hexachlorobutadiene	580	260	515.2	0	113	69.8	144	571.9	1.96	24	
Hexachloroethane	310	52	515.2	0	59.6	27.8	139	308.6	0.502	15.7	
Isopropyl ether	600	260	515.2	0	117	76.7	117	610.5	0.933	15.4	S
Isopropylbenzene	570	52	515.2	51.52	100	77.3	131	575.5	1.35	15.9	
m,p-Xylene	1,000	100	1,030	43.79	97.3	80.2	120	1,069	2.05	17.3	
Methyl ethyl ketone	510	260	515.2	0	99.0	61	126	448.2	12.9	34	
Methyl Iodide	570	260	515.2	0	110	70	130	547.7	3.33	25	
Methyl isobutyl ketone	620	520	515.2	0	120	59	146	595.1	4.07	33.7	
Methyl tert-butyl ether	1,200	260	1,030	0	115	81.2	116	1,195	0.432	17.5	
Naphthalene	570	260	515.2	79.34	96.2	86.9	133	560.0	2.63	17.1	
n-Butylbenzene	620	52	515.2	112.8	98.4	67.8	125	616.2	0.584	22.4	
n-Propylbenzene	750	52	515.2	246.3	98.5	80.9	125	758.9	0.681	16.5	
o-Xylene	490	52	515.2	0	94.4	71.1	130	487.9	0.317	16	
p-Isopropyltoluene	530	52	515.2	0	104	50.1	163	546.1	2.19	19.2	
sec-Butylbenzene	540	52	515.2	31.43	99.2	71.3	139	544.6	0.379	18.8	
Styrene	500	52	515.2	0	98.0	87.8	123	505.9	0.204	16	
t-Butyl alcohol	120,000	2,100	2,576	0	4,830	70	130	125,800	1.15	17.1	S
tert-Amyl Methyl Ether	520	210	515.2	0	101	78.9	111	529.1	1.87	14.3	
tert-Butyl Ethyl Ether	580	260	515.2	0	112	69.9	132	591.4	2.56	30.6	
tert-Butylbenzene	500	52	515.2	0	97.5	80.7	119	501.8	0.103	19.2	
Tetrachloroethene	570	52	515.2	0	111	42.7	186	582.2	1.61	41.2	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709505-006A-MSD	SampType: MSD	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/21/2007	SeqNo: 260316							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	490	52	515.2	0	95.7	81.9	119	507.0	2.78	16.2	
trans-1,2-Dichloroethene	580	52	515.2	0	112	75.7	115	584.8	1.42	17.1	
trans-1,3-Dichloropropene	460	52	515.2	0	89.4	75.7	111	457.5	0.673	19.3	
trans-1,4-Dichloro-2-butene	530	52	515.2	0	102	52.9	136	543.0	2.89	17	
Trichloroethene	500	52	515.2	0	96.7	78.2	120	505.9	1.54	19	
Trichlorofluoromethane	820	52	515.2	0	158	70	130	744.5	9.05	25	S
Vinyl chloride	470	41	515.2	0	90.4	37.5	128	490.5	5.17	33.3	
Xylenes, Total	1,500	150	1,546	0	99.2	62.1	143	1,556	1.50	16.5	
Surr: 4-Bromofluorobenzene	3,000		2,576		118	95.9	130		0	25	
Surr: Dibromofluoromethane	2,900		2,576		113	90.4	111		0	25	S
Surr: Toluene-d8	2,800		2,576		110	100	116		0	25	

Sample ID: 10ug/KG LCS 10uL	SampType: LCS	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: LCSS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/22/2007	SeqNo: 260333						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	500	50	500.0	0	100	70	130				
1,1,1-Trichloroethane	530	50	500.0	0	106	70	130				
1,1,2,2-Tetrachloroethane	390	50	500.0	0	77.4	70	130				
1,1,2-Trichloro-1,2,2-trifluoroethane	410	50	500.0	0	81.5	70	130				
1,1,2-Trichloroethane	470	50	500.0	0	94.4	70	130				
1,1-Dichloroethane	560	50	500.0	0	112	70	130				
1,1-Dichloroethene	570	50	500.0	0	114	70	130				
1,1-Dichloropropene	470	50	500.0	0	94.1	70	130				
1,2,3-Trichlorobenzene	430	50	500.0	0	86.0	70	130				
1,2,3-Trichloropropane	400	50	500.0	0	79.6	70	130				
1,2,3-Trimethylbenzene	460	50	500.0	0	91.7	70	130				
1,2,4-Trichlorobenzene	440	250	500.0	0	87.8	70	130				
1,2,4-Trimethylbenzene	500	50	500.0	0	99.6	70	130				
1,2-Dibromo-3-chloropropane	400	250	500.0	0	80.2	70	130				
1,2-Dichlorobenzene	480	50	500.0	0	96.5	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 10ug/KG LCS 10uL	SampType: LCS	TestCode: SW_8260S	Units: µg/Kg	Prep Date:				RunNo: 16416			
Client ID: LCSS	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007				SeqNo: 260333				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	600	50	500.0	0	120	70	130				
1,2-Dichloropropane	490	50	500.0	0	98.0	70	130				
1,3,5-Trimethylbenzene	500	50	500.0	0	100	70	130				
1,3-Dichlorobenzene	510	50	500.0	0	102	70	130				
1,3-Dichloropropane	480	50	500.0	0	96.4	70	130				
1,4-Dichlorobenzene	480	50	500.0	0	96.2	70	130				
2,2-Dichloropropane	350	50	500.0	0	70.1	70	130				
2-Chloroethyl vinyl ether	450	500	500.0	0	90.7	70	130				J
2-Chlorotoluene	460	50	500.0	0	92.7	70	130				
2-Hexanone	450	2,500	500.0	0	89.4	70	130				J
2-Methylnaphthalene	440	250	500.0	0	88.0	70	130				
2-Nitropropane	450	200	500.0	0	89.3	70	130				
4-Chlorotoluene	470	50	500.0	0	94.6	70	130				
Acetone	800	2,500	500.0	0	161	70	130				JS
Acrylonitrile	500	250	500.0	0	99.9	70	130				
Benzene	480	30	500.0	0	95.7	70	130				
Bromobenzene	490	50	500.0	0	98.2	70	130				
Bromochloromethane	530	50	500.0	0	106	70	130				
Bromodichloromethane	510	50	500.0	0	102	70	130				
Bromoform	480	50	500.0	0	95.3	70	130				
Bromomethane	1,100	250	500.0	0	217	70	130				S
Carbon disulfide	500	250	500.0	0	101	70	130				
Carbon tetrachloride	540	50	500.0	0	108	70	130				
Chlorobenzene	450	50	500.0	0	89.3	70	130				
Chloroethane	780	250	500.0	0	156	70	130				S
Chloroform	510	50	500.0	0	103	70	130				
Chloromethane	430	50	500.0	0	86.9	70	130				
cis-1,2-Dichloroethene	500	50	500.0	0	99.6	70	130				
cis-1,3-Dichloropropene	440	50	500.0	0	87.1	70	130				
Dibromochloromethane	530	50	500.0	0	106	70	130				
Dibromomethane	510	50	500.0	0	102	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 10ug/KG LCS 10uL	SampType: LCS	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: LCSS	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007	SeqNo: 260333							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	410	50	500.0	0	82.4	70	130				
Dichloromethane	560	250	500.0	0	112	70	130				
Diethyl ether	520	250	500.0	0	105	70	130				
Ethyl methacrylate	450	50	500.0	0	89.6	70	130				
Ethylbenzene	490	50	500.0	0	97.6	70	130				
Ethylene dibromide	490	50	500.0	0	98.9	70	130				
Hexachlorobutadiene	500	250	500.0	0	101	70	130				
Hexachloroethane	310	50	500.0	0	61.2	70	130				S
Isopropyl ether	600	250	500.0	0	119	70	130				
Isopropylbenzene	500	50	500.0	0	100	70	130				
m,p-Xylene	990	100	1,000	0	98.6	70	130				
Methyl ethyl ketone	490	250	500.0	0	98.9	70	130				
Methyl Iodide	550	250	500.0	0	109	70	130				
Methyl isobutyl ketone	470	500	500.0	0	94.0	70	130				J
Methyl tert-butyl ether	1,100	250	1,000	0	112	70	130				
Naphthalene	420	250	500.0	0	83.7	70	130				
n-Butylbenzene	450	50	500.0	0	89.2	70	130				
n-Propylbenzene	480	50	500.0	0	95.7	70	130				
o-Xylene	460	50	500.0	0	92.5	70	130				
p-Isopropyltoluene	500	50	500.0	0	99.0	70	130				
sec-Butylbenzene	480	50	500.0	0	96.2	70	130				
Styrene	490	50	500.0	0	98.1	70	130				
t-Butyl alcohol	ND	2,000	2,500	0	0	70	130				S
tert-Amyl Methyl Ether	490	200	500.0	0	98.1	70	130				
tert-Butyl Ethyl Ether	610	250	500.0	0	122	70	130				
tert-Butylbenzene	490	50	500.0	0	97.2	70	130				
Tetrachloroethene	870	50	500.0	0	175	70	130				S
Toluene	490	50	500.0	0	98.1	70	130				
trans-1,2-Dichloroethene	560	50	500.0	0	113	70	130				
trans-1,3-Dichloropropene	440	50	500.0	0	87.1	70	130				
trans-1,4-Dichloro-2-butene	430	50	500.0	0	85.8	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 10ug/KG LCS 10uL	SampType: LCS	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: LCSS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/22/2007	SeqNo: 260333						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Trichloroethene	560	50	500.0	0	112	70	130				
Trichlorofluoromethane	200	50	500.0	0	39.0	70	130				S
Vinyl chloride	500	40	500.0	0	99.3	70	130				
Xylenes, Total	1,400	150	1,500	0	96.6	70	130				
Surr: 4-Bromofluorobenzene	2,900		2,500		115	90	115				S
Surr: Dibromofluoromethane	2,800		2,500		110	88.4	108				S
Surr: Toluene-d8	2,700		2,500		109	90	112				

Sample ID: MLKB 1mLJW07100	SampType: MBLK	TestCode: SW_8260S	Units: µg/Kg	Prep Date:				RunNo: 16416			
Client ID: PBS	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007				SeqNo: 260334				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	ND	50
1,1,1-Trichloroethane	ND	50
1,1,2,2-Tetrachloroethane	ND	50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	50
1,1,2-Trichloroethane	ND	50
1,1-Dichloroethane	ND	50
1,1-Dichloroethene	ND	50
1,1-Dichloropropene	ND	50
1,2,3-Trichlorobenzene	ND	50
1,2,3-Trichloropropane	ND	50
1,2,3-Trimethylbenzene	ND	50
1,2,4-Trichlorobenzene	ND	250
1,2,4-Trimethylbenzene	ND	50
1,2-Dibromo-3-chloropropane	ND	250
1,2-Dichlorobenzene	ND	50
1,2-Dichloroethane	ND	50
1,2-Dichloropropane	ND	50
1,3,5-Trimethylbenzene	ND	50
1,3-Dichlorobenzene	ND	50

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: MLKB 1mLJW07100	SampType: MBLK	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: PBS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/22/2007	SeqNo: 260334						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	50									
1,4-Dichlorobenzene	ND	50									
2,2-Dichloropropane	ND	50									
2-Chloroethyl vinyl ether	ND	500									
2-Chlorotoluene	ND	50									
2-Hexanone	ND	2,500									
2-Methylnaphthalene	ND	250									
2-Nitropropane	ND	200									
4-Chlorotoluene	ND	50									
Acetone	320	2,500									J
Acrylonitrile	ND	250									
Benzene	ND	30									
Bromobenzene	ND	50									
Bromochloromethane	ND	50									
Bromodichloromethane	ND	50									
Bromoform	ND	50									
Bromomethane	ND	250									
Carbon disulfide	ND	250									
Carbon tetrachloride	ND	50									
Chlorobenzene	ND	50									
Chloroethane	ND	250									
Chloroform	ND	50									
Chloromethane	ND	50									
cis-1,2-Dichloroethene	ND	50									
cis-1,3-Dichloropropene	ND	50									
Dibromochloromethane	ND	50									
Dibromomethane	ND	50									
Dichlorodifluoromethane	ND	50									
Dichloromethane	49	250									J
Diethyl ether	ND	250									
Ethyl methacrylate	ND	50									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: MLKB 1mLJW07100	SampType: MBLK	TestCode: SW_8260S	Units: µg/Kg	Prep Date:	RunNo: 16416						
Client ID: PBS	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/22/2007	SeqNo: 260334						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	50									
Ethylene dibromide	ND	50									
Hexachlorobutadiene	ND	250									
Hexachloroethane	ND	50									
Isopropyl ether	ND	250									
Isopropylbenzene	ND	50									
m,p-Xylene	ND	100									
Methyl ethyl ketone	ND	250									
Methyl Iodide	ND	250									
Methyl isobutyl ketone	ND	500									
Methyl tert-butyl ether	ND	250									
Naphthalene	ND	250									
n-Butylbenzene	ND	50									
n-Propylbenzene	ND	50									
o-Xylene	ND	50									
p-Isopropyltoluene	ND	50									
sec-Butylbenzene	ND	50									
Styrene	ND	50									
t-Butyl alcohol	ND	2,000									
tert-Amyl Methyl Ether	ND	200									
tert-Butyl Ethyl Ether	ND	250									
tert-Butylbenzene	ND	50									
Tetrachloroethene	ND	50									
Toluene	ND	50									
trans-1,2-Dichloroethene	ND	50									
trans-1,3-Dichloropropene	ND	50									
trans-1,4-Dichloro-2-butene	ND	50									
Trichloroethene	ND	50									
Trichlorofluoromethane	ND	50									
Vinyl chloride	ND	40									
Xylenes, Total	ND	150									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: MLKB 1mLJW07100		SampType: MBLK	TestCode: SW_8260S		Units: µg/Kg	Prep Date:			RunNo: 16416		
Client ID: PBS		Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/22/2007			SeqNo: 260334			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	2,900		2,500		115	90	115				S
Surr: Dibromofluoromethane	2,800		2,500		111	88.4	108				S
Surr: Toluene-d8	2,700		2,500		109	90	112				
1,4-Dioxane	ND	25,000									

Sample ID: 0709450-004A-MS	SampType: MS	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B		Analysis Date: 9/22/2007	SeqNo: 260343						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	470	50	495.5	0	95.1	81.7	109				
1,1,1-Trichloroethane	550	50	495.5	0	111	73.7	114				
1,1,2,2-Tetrachloroethane	450	50	495.5	0	90.6	72.6	139				
1,1,2-Trichloro-1,2,2-trifluoroethane	410	50	495.5	0	83.4	62.1	118				
1,1,2-Trichloroethane	490	50	495.5	0	99.7	68.8	130				
1,1-Dichloroethane	590	50	495.5	0	120	79.3	111				S
1,1-Dichloroethene	590	50	495.5	0	119	67.3	116				S
1,1-Dichloropropene	500	50	495.5	0	102	32	140				
1,2,3-Trichlorobenzene	450	50	495.5	0	89.9	87.3	130				
1,2,3-Trichloropropane	410	50	495.5	0	83.6	68.8	112				
1,2,3-Trimethylbenzene	470	50	495.5	0	94.2	51.6	132				
1,2,4-Trichlorobenzene	460	250	495.5	0	93.6	87.8	130				
1,2,4-Trimethylbenzene	510	50	495.5	0	102	76.2	131				
1,2-Dibromo-3-chloropropane	390	250	495.5	0	78.6	45.6	162				
1,2-Dichlorobenzene	490	50	495.5	0	99.5	85.9	113				
1,2-Dichloroethane	640	50	495.5	0	130	85.8	116				S
1,2-Dichloropropane	500	50	495.5	0	101	83.6	110				
1,3,5-Trimethylbenzene	500	50	495.5	0	102	44.6	174				
1,3-Dichlorobenzene	530	50	495.5	0	108	84.7	119				
1,3-Dichloropropane	500	50	495.5	0	101	86.2	113				
1,4-Dichlorobenzene	490	50	495.5	0	99.1	85.2	111				
2,2-Dichloropropane	330	50	495.5	0	67.0	40	108				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709450-004A-MS	SampType: MS	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007	SeqNo: 260343							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	480	500	495.5	0	97.6	82	114				J
2-Chlorotoluene	480	50	495.5	0	96.6	75.7	126				
2-Hexanone	500	2,500	495.5	0	100	51.3	170				J
2-Methylnaphthalene	370	250	495.5	0	74.4	75.2	127				S
2-Nitropropane	450	200	495.5	0	90.2	70	130				
4-Chlorotoluene	490	50	495.5	0	98.0	79.6	130				
Acetone	670	2,500	495.5	0	135	77.5	159				J
Acrylonitrile	530	250	495.5	0	107	64.8	137				
Benzene	490	30	495.5	0	98.0	52.5	136				
Bromobenzene	500	50	495.5	0	101	84.7	114				
Bromochloromethane	580	50	495.5	0	116	83.1	118				
Bromodichloromethane	490	50	495.5	0	99.3	60.9	129				
Bromoform	430	50	495.5	0	86.1	77.4	111				
Bromomethane	1,200	250	495.5	0	245	63.1	189				S
Carbon disulfide	490	250	495.5	0	99.3	65.3	113				
Carbon tetrachloride	530	50	495.5	0	107	69.7	116				
Chlorobenzene	460	50	495.5	0	93.1	80.9	120				
Chloroethane	790	250	495.5	0	160	79.8	154				S
Chloroform	520	50	495.5	0	106	80.7	112				
Chloromethane	440	50	495.5	0	88.3	36.2	126				
cis-1,2-Dichloroethene	490	50	495.5	0	99.1	65.6	111				
cis-1,3-Dichloropropene	430	50	495.5	0	85.9	76.4	112				
Dibromochloromethane	490	50	495.5	0	98.4	81.3	110				
Dibromomethane	510	50	495.5	0	104	87.9	118				
Dichlorodifluoromethane	390	50	495.5	0	78.5	27.1	121				
Dichloromethane	570	250	495.5	0	115	65	121				
Diethyl ether	570	250	495.5	0	116	88.2	110				S
Ethyl methacrylate	480	50	495.5	0	96.6	72.1	128				
Ethylbenzene	490	50	495.5	0	99.4	82.3	119				
Ethylene dibromide	500	50	495.5	0	99.9	89.2	115				
Hexachlorobutadiene	490	250	495.5	0	98.9	69.8	144				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709450-004A-MS	SampType: MS	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007	SeqNo: 260343							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloroethane	270	50	495.5	0	54.7	27.8	139				
Isopropyl ether	620	250	495.5	0	126	76.7	117				S
Isopropylbenzene	510	50	495.5	0	104	77.3	131				
m,p-Xylene	1,000	99	991.0	0	101	80.2	120				
Methyl ethyl ketone	600	250	495.5	0	122	61	126				
Methyl Iodide	520	250	495.5	0	106	70	130				
Methyl isobutyl ketone	510	500	495.5	0	103	59	146				
Methyl tert-butyl ether	1,200	250	991.0	0	123	81.2	116				S
Naphthalene	450	250	495.5	0	91.0	86.9	133				
n-Butylbenzene	460	50	495.5	0	92.6	67.8	125				
n-Propylbenzene	490	50	495.5	0	99.1	80.9	125				
o-Xylene	470	50	495.5	0	95.7	71.1	130				
p-Isopropyltoluene	510	50	495.5	0	103	50.1	163				
sec-Butylbenzene	490	50	495.5	0	98.1	71.3	139				
Styrene	500	50	495.5	0	102	87.8	123				
t-Butyl alcohol	5,000	2,000	2,478	0	203	70	130				S
tert-Amyl Methyl Ether	530	200	495.5	0	106	78.9	111				
tert-Butyl Ethyl Ether	600	250	495.5	0	122	69.9	132				
tert-Butylbenzene	500	50	495.5	0	100	80.7	119				
Tetrachloroethene	850	50	495.5	0	173	42.7	186				
Toluene	490	50	495.5	0	99.6	81.9	119				
trans-1,2-Dichloroethene	600	50	495.5	0	120	75.7	115				S
trans-1,3-Dichloropropene	430	50	495.5	0	85.9	75.7	111				
trans-1,4-Dichloro-2-butene	460	50	495.5	0	93.3	52.9	136				
Trichloroethene	520	50	495.5	0	105	78.2	120				
Trichlorofluoromethane	200	50	495.5	0	40.4	70	130				S
Vinyl chloride	490	40	495.5	0	98.7	37.5	128				
Xylenes, Total	1,500	150	1,487	0	99.5	62.1	143				
Surr: 4-Bromofluorobenzene	2,900		2,478		116	95.9	130				
Surr: Dibromofluoromethane	2,800		2,478		113	90.4	111				S
Surr: Toluene-d8	2,700		2,478		109	100	116				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709450-004A-MSD	SampType: MSD	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007	SeqNo: 260344							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	460	50	495.5	0	92.3	81.7	109	471.2	2.99	15.7	
1,1,1-Trichloroethane	500	50	495.5	0	99.9	73.7	114	550.0	10.5	16.8	
1,1,2,2-Tetrachloroethane	420	50	495.5	0	84.0	72.6	139	448.9	7.56	16.7	
1,1,2-Trichloro-1,2,2-trifluoroethane	380	50	495.5	0	76.0	62.1	118	413.3	9.28	25.7	
1,1,2-Trichloroethane	460	50	495.5	0	93.7	68.8	130	494.0	6.20	15.9	
1,1-Dichloroethane	550	50	495.5	0	112	79.3	111	592.6	7.01	16.6	S
1,1-Dichloroethene	550	50	495.5	0	111	67.3	116	591.7	7.65	20	
1,1-Dichloropropene	450	50	495.5	0	91.3	32	140	503.0	10.6	18.5	
1,2,3-Trichlorobenzene	420	50	495.5	0	84.2	87.3	130	445.5	6.55	18.8	S
1,2,3-Trichloropropane	380	50	495.5	0	76.8	68.8	112	414.3	8.48	19.4	
1,2,3-Trimethylbenzene	440	50	495.5	0	88.1	51.6	132	466.8	6.69	16.2	
1,2,4-Trichlorobenzene	430	250	495.5	0	87.0	87.8	130	463.8	7.31	23	S
1,2,4-Trimethylbenzene	460	50	495.5	0	92.9	76.2	131	506.4	9.53	20.6	
1,2-Dibromo-3-chloropropane	380	250	495.5	0	77.2	45.6	162	389.5	1.80	48.7	
1,2-Dichlorobenzene	460	50	495.5	0	92.0	85.9	113	493.0	7.83	17.5	
1,2-Dichloroethane	610	50	495.5	0	122	85.8	116	642.2	5.71	13.9	S
1,2-Dichloropropane	450	50	495.5	0	91.5	83.6	110	500.5	9.87	18.1	
1,3,5-Trimethylbenzene	470	50	495.5	0	94.2	44.6	174	503.0	7.46	19.2	
1,3-Dichlorobenzene	490	50	495.5	0	98.6	84.7	119	533.2	8.73	22.5	
1,3-Dichloropropane	470	50	495.5	0	94.7	86.2	113	499.0	6.14	17.2	
1,4-Dichlorobenzene	460	50	495.5	0	92.1	85.2	111	491.1	7.32	16.2	
2,2-Dichloropropane	310	50	495.5	0	62.6	40	108	332.0	6.79	16	
2-Chloroethyl vinyl ether	450	500	495.5	0	91.3	82	114	483.6	0	18.4	J
2-Chlorotoluene	440	50	495.5	0	89.6	75.7	126	478.7	7.52	17.2	
2-Hexanone	450	2,500	495.5	0	91.1	51.3	170	496.0	0	40	J
2-Methylnaphthalene	380	250	495.5	0	77.1	75.2	127	368.7	3.56	26.8	
2-Nitropropane	ND	200	3,469	0	0	70	130	447.0	0	56.4	S
4-Chlorotoluene	450	50	495.5	0	90.5	79.6	130	485.6	7.96	35.6	
Acetone	680	2,500	495.5	0	137	77.5	159	670.4	0	40	J
Acrylonitrile	500	250	495.5	0	100	64.8	137	527.7	6.20	24.5	
Benzene	460	30	495.5	0	93.1	52.5	136	485.6	5.13	13.5	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709450-004A-MSD	SampType: MSD	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007	SeqNo: 260344							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	460	50	495.5	0	93.0	84.7	114	502.0	8.54	19.6	
Bromochloromethane	530	50	495.5	0	107	83.1	118	576.3	8.05	17	
Bromodichloromethane	460	50	495.5	0	93.5	60.9	129	492.1	6.02	18.3	
Bromoform	430	50	495.5	0	86.3	77.4	111	426.6	0.232	16.4	
Bromomethane	1,000	250	495.5	0	204	63.1	189	1,215	18.3	40.4	S
Carbon disulfide	450	250	495.5	0	91.5	65.3	113	492.1	8.18	22	
Carbon tetrachloride	490	50	495.5	0	97.9	69.7	116	532.2	9.25	21	
Chlorobenzene	440	50	495.5	0	89.6	80.9	120	461.3	3.83	16	
Chloroethane	760	250	495.5	0	154	79.8	154	794.3	3.81	28.2	S
Chloroform	480	50	495.5	0	97.5	80.7	112	524.8	8.26	14.7	
Chloromethane	400	50	495.5	0	80.6	36.2	126	437.5	9.12	33.6	
cis-1,2-Dichloroethene	460	50	495.5	0	92.3	65.6	111	491.1	7.11	24.9	
cis-1,3-Dichloropropene	390	50	495.5	0	79.5	76.4	112	425.7	7.74	18.7	
Dibromochloromethane	470	50	495.5	0	94.5	81.3	110	487.6	4.04	19.4	
Dibromomethane	470	50	495.5	0	95.6	87.9	118	513.9	8.13	15.2	
Dichlorodifluoromethane	340	50	495.5	0	69.6	27.1	121	389.0	12.0	34.1	
Dichloromethane	530	250	495.5	0	107	65	121	568.9	7.03	31.8	
Diethyl ether	540	250	495.5	0	109	88.2	110	572.3	6.16	21.2	
Ethyl methacrylate	440	50	495.5	0	89.2	72.1	128	478.7	7.97	18.3	
Ethylbenzene	460	50	495.5	0	93.4	82.3	119	492.6	6.22	15.5	
Ethylene dibromide	470	50	495.5	0	95.2	89.2	115	495.0	4.82	17.6	
Hexachlorobutadiene	470	250	495.5	0	94.9	69.8	144	490.1	4.13	24	
Hexachloroethane	260	50	495.5	0	51.7	27.8	139	271.1	5.64	15.7	
Isopropyl ether	580	250	495.5	0	117	76.7	117	621.9	7.10	15.4	
Isopropylbenzene	470	50	495.5	0	94.2	77.3	131	513.4	9.50	15.9	
m,p-Xylene	940	99	991.0	0	94.5	80.2	120	1,005	7.09	17.3	
Methyl ethyl ketone	550	250	495.5	0	111	61	126	602.6	8.84	34	
Methyl Iodide	530	250	495.5	0	107	70	130	522.8	1.60	25	
Methyl isobutyl ketone	480	500	495.5	0	96.6	59	146	508.9	0	33.7	J
Methyl tert-butyl ether	1,200	250	991.0	0	117	81.2	116	1,218	5.17	17.5	S
Naphthalene	430	250	495.5	0	87.5	86.9	133	450.9	3.92	17.1	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8260S

Sample ID: 0709450-004A-MSD	SampType: MSD	TestCode: SW_8260S	Units: µg/Kg-dry	Prep Date:	RunNo: 16416						
Client ID: ZZZZZZ	Batch ID: R16416	TestNo: SW8260B	Analysis Date: 9/22/2007	SeqNo: 260344							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
n-Butylbenzene	410	50	495.5	0	83.4	67.8	125	458.9	10.5	22.4	
n-Propylbenzene	450	50	495.5	0	91.5	80.9	125	491.1	7.97	16.5	
o-Xylene	440	50	495.5	0	89.7	71.1	130	474.2	6.47	16	
p-Isopropyltoluene	470	50	495.5	0	94.1	50.1	163	509.4	8.84	19.2	
sec-Butylbenzene	460	50	495.5	0	92.0	71.3	139	486.1	6.42	18.8	
Styrene	470	50	495.5	0	94.2	87.8	123	504.9	7.85	16	
t-Butyl alcohol	5,200	2,000	2,478	0	209	70	130	5,024	3.21	17.1	S
tert-Amyl Methyl Ether	490	200	495.5	0	98.9	78.9	111	525.8	7.02	14.3	
tert-Butyl Ethyl Ether	560	250	495.5	0	113	69.9	132	603.1	7.41	30.6	
tert-Butylbenzene	450	50	495.5	0	91.5	80.7	119	496.0	8.98	19.2	
Tetrachloroethene	780	50	495.5	0	157	42.7	186	854.8	9.28	41.2	
Toluene	460	50	495.5	0	92.9	81.9	119	493.5	6.96	16.2	
trans-1,2-Dichloroethene	560	50	495.5	0	113	75.7	115	595.6	6.26	17.1	
trans-1,3-Dichloropropene	390	50	495.5	0	79.5	75.7	111	425.7	7.74	19.3	
trans-1,4-Dichloro-2-butene	430	50	495.5	0	87.1	52.9	136	462.3	6.87	17	
Trichloroethene	490	50	495.5	0	98.2	78.2	120	520.3	6.69	19	
Trichlorofluoromethane	200	50	495.5	0	39.7	70	130	200.2	1.75	25	S
Vinyl chloride	450	40	495.5	0	90.4	37.5	128	489.1	8.78	33.3	
Xylenes, Total	1,400	150	1,487	0	92.9	62.1	143	1,480	6.89	16.5	
Surr: 4-Bromofluorobenzene	2,900		2,478		116	95.9	130		0	25	
Surr: Dibromofluoromethane	2,800		2,478		114	90.4	111		0	25	S
Surr: Toluene-d8	2,700		2,478		109	100	116		0	25	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8270S

Sample ID: LCS-8386	SampType: LCS	TestCode: SW_8270S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16287						
Client ID: LCSS	Batch ID: 8386	TestNo: SW8270C		Analysis Date: 9/18/2007	SeqNo: 257834						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylnaphthalene	620	160	833.3	0	74.2	50	130				
Acenaphthene	670	160	833.3	0	80.1	50	130				
Acenaphthylene	640	160	833.3	0	76.7	50	130				
Anthracene	650	160	833.3	0	78.4	50	130				
Benzo(a)anthracene	660	160	833.3	0	79.7	50	130				
Benzo(a)pyrene	680	160	833.3	0	81.9	50	130				
Benzo(b)fluoranthene	710	160	833.3	0	85.5	50	130				
Benzo(g,h,i)perylene	600	160	833.3	0	71.5	50	130				
Benzo(k)fluoranthene	650	160	833.3	0	77.9	50	130				
Chrysene	680	160	833.3	0	81.5	50	130				
Dibenz(a,h)anthracene	630	160	833.3	0	75.7	50	130				
Fluoranthene	620	160	833.3	0	74.4	50	130				
Fluorene	670	160	833.3	0	79.9	50	130				
Indeno(1,2,3-cd)pyrene	630	160	833.3	0	75.8	50	130				
Naphthalene	610	160	833.3	0	73.8	50	130				
Phenanthrene	660	160	833.3	0	79.3	50	130				
Pyrene	710	160	833.3	0	84.7	50	130				
Surr: 2,4,6-Tribromophenol	1,400		1,333		102	50	130				
Surr: 2-Fluorobiphenyl	840		1,333		63.1	50	130				
Surr: 2-Fluorophenol	1,100		1,333		84.0	50	130				
Surr: Nitrobenzene-d5	810		1,333		60.8	50	130				
Surr: Phenol-d5	1,100		1,333		80.2	50	130				
Surr: Terphenyl-d14	920		1,333		69.0	50	130				

Sample ID: MB-8386	SampType: MBLK	TestCode: SW_8270S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16287						
Client ID: PBS	Batch ID: 8386	TestNo: SW8270C		Analysis Date: 9/18/2007	SeqNo: 257836						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylnaphthalene	ND	160									
Acenaphthene	ND	160									
Acenaphthylene	ND	160									

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation lin
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8270S

Sample ID: MB-8386	SampType: MBLK	TestCode: SW_8270S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16287						
Client ID: PBS	Batch ID: 8386	TestNo: SW8270C		Analysis Date: 9/18/2007	SeqNo: 257836						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Anthracene	ND	160									
Benzo(a)anthracene	ND	160									
Benzo(a)pyrene	ND	160									
Benzo(b)fluoranthene	ND	160									
Benzo(g,h,i)perylene	ND	160									
Benzo(k)fluoranthene	ND	160									
Chrysene	ND	160									
Dibenz(a,h)anthracene	ND	160									
Fluoranthene	ND	160									
Fluorene	ND	160									
Indeno(1,2,3-cd)pyrene	ND	160									
Naphthalene	ND	160									
Phenanthrene	ND	160									
Pyrene	ND	160									
Surr: 2,4,6-Tribromophenol	1,200		1,667		72.7	50	130				
Surr: 2-Fluorobiphenyl	890		1,667		53.4	50	130				
Surr: 2-Fluorophenol	1,200		1,667		69.0	50	130				
Surr: Nitrobenzene-d5	780		1,667		47.0	50	130				S
Surr: Phenol-d5	1,100		1,667		67.1	50	130				
Surr: Terphenyl-d14	1,100		1,667		63.8	50	130				

Sample ID: 0709397-001B-MS	SampType: MS	TestCode: SW_8270S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16287						
Client ID: ZZZZZZ	Batch ID: 8386	TestNo: SW8270C		Analysis Date: 9/18/2007	SeqNo: 257839						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2-Methylnaphthalene	890	180	950.4	0	94.0	50	130				
Acenaphthene	810	180	950.4	0	85.2	50	130				
Acenaphthylene	910	180	950.4	0	95.4	50	130				
Anthracene	870	180	950.4	0	91.9	50	130				
Benzo(a)anthracene	830	180	950.4	0	87.4	50	130				
Benzo(a)pyrene	860	180	950.4	0	90.5	50	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8270S

Sample ID: 0709397-001B-MS	SampType: MS	TestCode: SW_8270S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16287						
Client ID: ZZZZZZ	Batch ID: 8386	TestNo: SW8270C		Analysis Date: 9/18/2007	SeqNo: 257839						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzo(b)fluoranthene	840	180	950.4	0	87.9	50	130				
Benzo(g,h,i)perylene	800	180	950.4	0	84.2	50	130				
Benzo(k)fluoranthene	900	180	950.4	0	94.7	50	130				
Chrysene	850	180	950.4	0	89.9	50	130				
Dibenz(a,h)anthracene	800	180	950.4	0	84.1	50	130				
Fluoranthene	1,000	180	950.4	0	106	50	130				
Fluorene	950	180	950.4	0	100	50	130				
Indeno(1,2,3-cd)pyrene	830	180	950.4	0	87.4	50	130				
Naphthalene	1,500	180	950.4	448.6	108	50	130				
Phenanthrene	1,100	180	950.4	0	119	50	130				
Pyrene	1,000	180	950.4	0	108	50	130				
Surr: 2,4,6-Tribromophenol	2,000		1,521		134	50	130				S
Surr: 2-Fluorobiphenyl	1,000		1,521		67.6	50	130				
Surr: 2-Fluorophenol	1,400		1,521		90.4	50	130				
Surr: Nitrobenzene-d5	1,000		1,521		66.0	50	130				
Surr: Phenol-d5	1,300		1,521		86.3	50	130				
Surr: Terphenyl-d14	1,200		1,521		76.7	50	130				

Sample ID: 0709397-001B-MSD	SampType: MSD	TestCode: SW_8270S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16287						
Client ID: ZZZZZZ	Batch ID: 8386	TestNo: SW8270C		Analysis Date: 9/18/2007	SeqNo: 257900						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2-Methylnaphthalene	670	180	950.4	0	70.1	50	130	893.0	29.1	25	R
Acenaphthene	760	180	950.4	0	80.4	50	130	809.7	5.75	25	
Acenaphthylene	750	180	950.4	0	79.2	50	130	907.1	18.6	25	
Anthracene	810	180	950.4	0	84.9	50	130	873.6	7.92	25	
Benzo(a)anthracene	770	180	950.4	0	80.8	50	130	830.3	7.75	25	
Benzo(a)pyrene	770	180	950.4	0	81.5	50	130	859.9	10.4	25	
Benzo(b)fluoranthene	820	180	950.4	0	86.0	50	130	835.6	2.25	25	
Benzo(g,h,i)perylene	740	180	950.4	0	77.4	50	130	800.6	8.51	25	
Benzo(k)fluoranthene	800	180	950.4	0	84.4	50	130	900.2	11.5	25	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709373
Project: Torch Lake SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8270S

Sample ID: 0709397-001B-MSD	SampType: MSD	TestCode: SW_8270S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16287						
Client ID: ZZZZZZ	Batch ID: 8386	TestNo: SW8270C	Analysis Date: 9/18/2007	SeqNo: 257900							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	780	180	950.4	0	81.7	50	130	854.6	9.60	25	
Dibenz(a,h)anthracene	750	180	950.4	0	79.0	50	130	799.5	6.23	25	
Fluoranthene	760	180	950.4	0	79.8	50	130	1,003	27.8	25	R
Fluorene	800	180	950.4	0	84.6	50	130	952.7	16.9	25	
Indeno(1,2,3-cd)pyrene	750	180	950.4	0	79.4	50	130	831.0	9.64	25	
Naphthalene	700	180	950.4	448.6	26.9	50	130	1,472	70.6	25	SR
Phenanthrene	810	180	950.4	0	85.2	50	130	1,128	32.8	25	R
Pyrene	890	180	950.4	0	93.3	50	130	1,031	15.0	25	
Surr: 2,4,6-Tribromophenol	1,900		1,521		124	50	130		0	25	
Surr: 2-Fluorobiphenyl	980		1,521		64.4	50	130		0	25	
Surr: 2-Fluorophenol	1,300		1,521		84.2	50	130		0	25	
Surr: Nitrobenzene-d5	910		1,521		59.7	50	130		0	25	
Surr: Phenol-d5	1,300		1,521		83.1	50	130		0	25	
Surr: Terphenyl-d14	1,300		1,521		82.6	50	130		0	25	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		



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September 25, 2007

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TEL: (847) 918-4112
FAX (847) 918-4055

RE: Torch Lake AOC SA - 20405.016.002.0274

Order No.: 0709387

Dear Dan Capone:

RTI Laboratories received 14 sample(s) on 9/14/2007 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Lynch", with a stylized flourish extending to the right.

Robert Lynch
Manager, Environmental Services



RTI LABORATORIES, INC.

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Livonia, Michigan 48150
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Website: www.rtilab.com

Case Narrative

WO#: 0709387
Date: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake AOC SA - 20405.016.002.0274.00

This report in its entirety consists of the documents listed below. All documents contain the RTI Work Order Number assigned to this report.

1. Paginated Report including: Case Narrative, Analytical Results and Applicable Quality Control Summary Reports.
2. A Cover Letter that immediately precedes the Paginated Report.
3. Paginated copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the reporting limit (RL) but greater than the established method detection limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Concentrations reported with an E flag in the Qual field are values that exceed the upper quantification range. There is greater uncertainty associated with these results and data should be considered as estimated.

Any comments or problems with the analytical events associated with this report are noted below.

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 10:13:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-001 **Matrix:** SOIL
Client Sample ID Traprock-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1221	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1232	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1242	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1248	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1254	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1260	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1262	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Total PCBs	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Surr: Decachlorobiphenyl	107	70-130		%REC	1	9/17/2007 5:11:02 PM
Surr: Tetrachloro-m-xylene	94.9	70-130		%REC	1	9/17/2007 5:11:02 PM
METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	9,800,000	100,000		µg/Kg-dry	1000	9/24/2007 12:17:21 PM
Arsenic	4,600	1,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Beryllium	590	5,100	J	µg/Kg-dry	100	9/21/2007 2:42:40 PM
Chromium	4,500	10,000	J	µg/Kg-dry	100	9/21/2007 2:42:40 PM
Cobalt	9,400	5,100		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Copper	360,000	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Lead	48,000	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Lithium	7,300	1,000		µg/Kg-dry	10	9/24/2007 6:02:52 PM
Manganese	390,000	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Nickel	30,000	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Silver	1,700	87		µg/Kg-dry	10	9/19/2007 7:36:34 PM
Strontium	ND	250,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Zinc	95,000	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
MERCURY		SW7471A			Analyst: AB2	
Mercury	52	17		µg/Kg-dry	1	9/18/2007 3:24:18 PM
PERCENT MOISTURE		D2216			Analyst: JE	

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit



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Analytical Report

(consolidated)

WO#: **0709387**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 10:13:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-001 **Matrix:** SOIL
Client Sample ID Traprock-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	12	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

*X	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
M	Manual Integration used to determine area response
RL	Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 10:49:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-002 **Matrix:** SOIL
Client Sample ID Traprock B-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**Analyst: **MB**

Aroclor 1016	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Total PCBs	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Surr: Decachlorobiphenyl	111	70-130		%REC	1	9/17/2007 5:51:26 PM
Surr: Tetrachloro-m-xylene	101	70-130		%REC	1	9/17/2007 5:51:26 PM

METALS, ICP/MS**SW6020A**Analyst: **AB2**

Aluminum	13,000,000	110,000		µg/Kg-dry	1000	9/24/2007 12:24:31 PM
Arsenic	4,200	1,100		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Beryllium	1,400	5,300	J	µg/Kg-dry	100	9/21/2007 2:45:05 PM
Chromium	ND	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Cobalt	440	5,300	J	µg/Kg-dry	100	9/21/2007 2:45:05 PM
Copper	47,000	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Lead	17,000	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Lithium	11,000	1,100		µg/Kg-dry	10	9/24/2007 6:04:38 PM
Manganese	17,000	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Nickel	1,200	11,000	J	µg/Kg-dry	100	9/21/2007 2:45:05 PM
Silver	180	64		µg/Kg-dry	10	9/19/2007 7:43:03 PM
Strontium	440,000	270,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Zinc	14,000	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM

MERCURY**SW7471A**Analyst: **AB2**

Mercury	4.7	14	J	µg/Kg-dry	1	9/18/2007 3:34:19 PM
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PERCENT MOISTURE**D2216**Analyst: **JE**

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit



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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 10:49:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-002 **Matrix:** SOIL
Client Sample ID Traprock B-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	5.9	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 12:13:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-003 **Matrix:** SOIL
Client Sample ID Bootjack B-17

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1221	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1232	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1242	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1248	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1254	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1260	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1262	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Total PCBs	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Surr: Decachlorobiphenyl	104	70-130		%REC	1	9/17/2007 6:32:24 PM
Surr: Tetrachloro-m-xylene	93.8	70-130		%REC	1	9/17/2007 6:32:24 PM
METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	2,600,000	99,000		µg/Kg-dry	1000	9/24/2007 12:59:02 PM
Arsenic	1,700	990		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Beryllium	ND	5,000		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Chromium	ND	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Cobalt	1,700	5,000	J	µg/Kg-dry	100	9/21/2007 2:47:30 PM
Copper	110,000	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Lead	23,000	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Lithium	2,600	990		µg/Kg-dry	10	9/24/2007 6:06:24 PM
Manganese	48,000	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Nickel	5,300	9,900	J	µg/Kg-dry	100	9/21/2007 2:47:30 PM
Silver	64	130	J	µg/Kg-dry	10	9/19/2007 7:44:53 PM
Strontium	ND	250,000		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Zinc	26,000	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
MERCURY		SW7471A			Analyst: AB2	
Mercury	16	21	J	µg/Kg-dry	1	9/18/2007 3:35:59 PM
PERCENT MOISTURE		D2216			Analyst: JE	

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit



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Analytical Report

(consolidated)

WO#: **0709387**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 12:13:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-003 **Matrix:** SOIL
Client Sample ID Bootjack B-17

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	24	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- * /X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 4:49:00 PM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-004 **Matrix:** SOIL
Client Sample ID MGPB-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**Analyst: **MB**

Aroclor 1016	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1221	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1232	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1242	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1248	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1254	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1260	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1262	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Total PCBs	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Surr: Decachlorobiphenyl	117	70-130		%REC	1	9/17/2007 7:12:57 PM
Surr: Tetrachloro-m-xylene	107	70-130		%REC	1	9/17/2007 7:12:57 PM

METALS, ICP/MS**SW6020A**Analyst: **AB2**

Aluminum	2,300,000	90,000		µg/Kg-dry	1000	9/24/2007 12:26:25 PM
Arsenic	14,000	900		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Beryllium	ND	4,500		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Chromium	2,100	9,000	J	µg/Kg-dry	100	9/21/2007 2:49:55 PM
Cobalt	13,000	4,500		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Copper	1,500,000	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Lead	64,000	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Lithium	4,500	900		µg/Kg-dry	10	9/24/2007 6:08:09 PM
Manganese	370,000	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Nickel	18,000	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Silver	2,800	81		µg/Kg-dry	10	9/19/2007 7:46:45 PM
Strontium	ND	230,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Zinc	93,000	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM

MERCURY**SW7471A**Analyst: **AB2**

Mercury	500	24		µg/Kg-dry	1	9/18/2007 3:37:39 PM
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PERCENT MOISTURE**D2216**Analyst: **JE**

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit



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Analytical Report

(consolidated)

WO#: **0709387**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 4:49:00 PM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-004 **Matrix:** SOIL
Client Sample ID MGPB-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	16	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007 10:23:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-005 **Matrix:** SOIL
Client Sample ID Mickelson B-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**Analyst: **MB**

Aroclor 1016	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1221	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1232	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1242	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1248	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1254	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1260	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1262	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Total PCBs	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Surr: Decachlorobiphenyl	121	70-130		%REC	1	9/17/2007 7:53:34 PM
Surr: Tetrachloro-m-xylene	113	70-130		%REC	1	9/17/2007 7:53:34 PM

METALS, ICP/MS**SW6020A**Analyst: **AB2**

Aluminum	7,800,000	79,000		µg/Kg-dry	1000	9/24/2007 12:28:19 PM
Arsenic	14,000	790		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Beryllium	730	4,000	J	µg/Kg-dry	100	9/21/2007 2:52:21 PM
Chromium	980,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Cobalt	16,000	4,000		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Copper	490,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Lead	25,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Lithium	4,000	790		µg/Kg-dry	10	9/24/2007 6:09:55 PM
Manganese	650,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Nickel	180,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Silver	510	100		µg/Kg-dry	10	9/19/2007 7:48:37 PM
Strontium	ND	200,000		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Zinc	43,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM

MERCURY**SW7471A**Analyst: **AB2**

Mercury	15	15	J	µg/Kg-dry	1	9/18/2007 3:39:20 PM
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PERCENT MOISTURE**D2216**Analyst: **JE**

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit



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(consolidated)

WO#: **0709387**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007 10:23:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-005 **Matrix:** SOIL
Client Sample ID Mickelson B-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	21	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007 2:42:00 PM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-006 **Matrix:** SOIL
Client Sample ID H & Y Marina B-19

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1221	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1232	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1242	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1248	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1254	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1260	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1262	11	36	J	µg/Kg-dry	1	9/17/2007 8:34:31 PM
Total PCBs	11	36	J	µg/Kg-dry	1	9/17/2007 8:34:31 PM
Surr: Decachlorobiphenyl	105	70-130		%REC	1	9/17/2007 8:34:31 PM
Surr: Tetrachloro-m-xylene	94.9	70-130		%REC	1	9/17/2007 8:34:31 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	1,800,000	69,000		µg/Kg-dry	1000	9/24/2007 1:00:56 PM
Arsenic	30,000	690		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Beryllium	ND	3,400		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Chromium	460,000	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Cobalt	37,000	3,400		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Copper	470,000	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Lead	440,000	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Lithium	740	690		µg/Kg-dry	10	9/24/2007 6:16:08 PM
Manganese	5,500,000	69,000		µg/Kg-dry	1000	9/24/2007 4:03:20 PM
Nickel	250,000	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Silver	380	89		µg/Kg-dry	10	9/19/2007 7:50:28 PM
Strontium	ND	170,000		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Zinc	83,000	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	9.9	27	J	µg/Kg-dry	1	9/18/2007 3:40:59 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007 2:42:00 PM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-006 **Matrix:** SOIL
Client Sample ID H & Y Marina B-19

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	8.9	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-007**Matrix:** SOIL**Client Sample ID** Gay S1-21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1221	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1232	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1242	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1248	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1254	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1260	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1262	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Total PCBs	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Surr: Decachlorobiphenyl	120	70-130		%REC	1	9/17/2007 9:15:09 PM
Surr: Tetrachloro-m-xylene	108	70-130		%REC	1	9/17/2007 9:15:09 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	15,000,000	86,000		µg/Kg-dry	1000	9/24/2007 12:30:11 PM
Arsenic	670	860	J	µg/Kg-dry	100	9/21/2007 3:52:05 PM
Beryllium	ND	4,300		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Chromium	19,000	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Cobalt	18,000	4,300		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Copper	1,400,000	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Lead	1,500	8,600	J	µg/Kg-dry	100	9/21/2007 3:52:05 PM
Lithium	5,100	860		µg/Kg-dry	10	9/24/2007 6:17:54 PM
Manganese	300,000	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Nickel	23,000	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Silver	800	88		µg/Kg-dry	10	9/19/2007 7:52:18 PM
Strontium	ND	210,000		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Zinc	62,000	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	5.5	18	J	µg/Kg-dry	1	9/18/2007 3:42:37 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/10/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-007 **Matrix:** SOIL
Client Sample ID Gay S1-21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	1.7	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-008**Matrix:** SOIL**Client Sample ID** Lake Linden S2-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1221	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1232	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1242	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1248	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1254	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1260	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1262	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Total PCBs	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Surr: Decachlorobiphenyl	101	70-130		%REC	1	9/17/2007 9:55:59 PM
Surr: Tetrachloro-m-xylene	93.7	70-130		%REC	1	9/17/2007 9:55:59 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	11,000,000	110,000		µg/Kg-dry	1000	9/24/2007 12:32:04 PM
Arsenic	1,100	1,100	J	µg/Kg-dry	100	9/21/2007 3:54:31 PM
Beryllium	940	5,400	J	µg/Kg-dry	100	9/21/2007 3:54:31 PM
Chromium	20,000	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Cobalt	14,000	5,400		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Copper	2,100,000	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Lead	6,900	11,000	J	µg/Kg-dry	100	9/21/2007 3:54:31 PM
Lithium	6,000	1,100		µg/Kg-dry	10	9/24/2007 6:19:42 PM
Manganese	350,000	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Nickel	34,000	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Silver	1,300	120		µg/Kg-dry	10	9/19/2007 7:54:07 PM
Strontium	ND	270,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Zinc	130,000	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	29	12		µg/Kg-dry	1	9/18/2007 3:44:15 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-008 **Matrix:** SOIL
Client Sample ID Lake Linden S2-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	24	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- * /X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-009**Matrix:** SOIL**Client Sample ID** TMS1-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Total PCBs	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Surr: Decachlorobiphenyl	113	70-130		%REC	1	9/17/2007 10:36:34 PM
Surr: Tetrachloro-m-xylene	99.6	70-130		%REC	1	9/17/2007 10:36:34 PM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	19,000,000	67,000		µg/Kg-dry	1000	9/24/2007 12:33:57 PM
Arsenic	350	670	J	µg/Kg-dry	100	9/21/2007 3:56:58 PM
Beryllium	ND	3,300		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Chromium	14,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Cobalt	15,000	3,300		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Copper	2,700,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Lead	8,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Lithium	7,100	670		µg/Kg-dry	10	9/24/2007 6:21:30 PM
Manganese	430,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Nickel	24,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Silver	1,200	64		µg/Kg-dry	10	9/19/2007 7:55:57 PM
Strontium	ND	170,000		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Zinc	59,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	38	13		µg/Kg-dry	1	9/18/2007 3:45:54 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: **0709387**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/12/2007

Project: Torch Lake AOC SA - 20405.016.002.0274.00

Lab ID: 0709387-009

Matrix: SOIL

Client Sample ID TMS1-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	4.7	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-010**Matrix:** SOIL**Client Sample ID** TMS1-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1221	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1232	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1242	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1248	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1254	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1260	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1262	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Total PCBs	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Surr: Decachlorobiphenyl	123	70-130		%REC	1	9/18/2007 2:00:07 AM
Surr: Tetrachloro-m-xylene	91.1	70-130		%REC	1	9/18/2007 2:00:07 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	20,000,000	110,000		µg/Kg-dry	1000	9/24/2007 12:35:49 PM
Arsenic	9,800	1,100		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Beryllium	580	5,400	J	µg/Kg-dry	100	9/21/2007 4:14:58 PM
Chromium	20,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Cobalt	21,000	5,400		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Copper	9,100,000	110,000		µg/Kg-dry	1000	9/24/2007 2:19:52 PM
Lead	530,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Lithium	5,000	1,100		µg/Kg-dry	10	9/24/2007 6:32:08 PM
Manganese	530,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Nickel	30,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Silver	2,400	74		µg/Kg-dry	10	9/19/2007 6:45:02 PM
Strontium	ND	270,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Zinc	100,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	220	18		µg/Kg-dry	1	9/18/2007 3:56:32 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-010 **Matrix:** SOIL
Client Sample ID TMS1-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	10	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-011**Matrix:** SOIL**Client Sample ID** TMS2-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1221	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1232	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1242	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1248	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1254	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1260	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1262	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Total PCBs	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Surr: Decachlorobiphenyl	119	70-130		%REC	1	9/18/2007 2:40:35 AM
Surr: Tetrachloro-m-xylene	100	70-130		%REC	1	9/18/2007 2:40:35 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	27,000,000	86,000		µg/Kg-dry	1000	9/24/2007 12:37:42 PM
Arsenic	1,200	860		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Beryllium	ND	4,300		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Chromium	19,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Cobalt	25,000	4,300		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Copper	2,000,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Lead	7,300	8,600	J	µg/Kg-dry	100	9/21/2007 4:22:13 PM
Lithium	6,300	860		µg/Kg-dry	10	9/24/2007 6:37:26 PM
Manganese	670,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Nickel	34,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Silver	1,400	100		µg/Kg-dry	10	9/19/2007 6:46:52 PM
Strontium	ND	210,000		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Zinc	87,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	44	16		µg/Kg-dry	1	9/18/2007 3:58:12 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/12/2007

Project: Torch Lake AOC SA - 20405.016.002.0274.00

Lab ID: 0709387-011

Matrix: SOIL

Client Sample ID TMS2-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	14	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-012**Matrix:** SOIL**Client Sample ID** HubS1-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Total PCBs	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Surr: Decachlorobiphenyl	118	70-130		%REC	1	9/18/2007 3:21:30 AM
Surr: Tetrachloro-m-xylene	108	70-130		%REC	1	9/18/2007 3:21:30 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	15,000,000	90,000		µg/Kg-dry	1000	9/24/2007 12:39:34 PM
Arsenic	4,800	900		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Beryllium	ND	4,500		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Chromium	24,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Cobalt	21,000	4,500		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Copper	6,000,000	90,000		µg/Kg-dry	1000	9/25/2007 4:13:44 PM
Lead	11,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Lithium	12,000	800		µg/Kg-dry	10	9/24/2007 6:39:13 PM
Manganese	320,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Nickel	39,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Silver	990	80		µg/Kg-dry	10	9/19/2007 6:48:42 PM
Strontium	ND	220,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Zinc	95,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	3.6	16	J	µg/Kg-dry	1	9/18/2007 3:59:53 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	* / X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-012 **Matrix:** SOIL
Client Sample ID HubS1-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	5.0	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-013**Matrix:** SOIL**Client Sample ID** MSS1-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1221	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1232	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1242	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1248	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1254	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1260	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1262	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Total PCBs	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Surr: Decachlorobiphenyl	121	70-130		%REC	1	9/18/2007 4:01:59 AM
Surr: Tetrachloro-m-xylene	108	70-130		%REC	1	9/18/2007 4:01:59 AM

METALS, ICP/MS**SW6020A**Analyst: **AB2**

Aluminum	9,700,000	98,000		µg/Kg-dry	1000	9/24/2007 12:41:27 PM
Arsenic	ND	980		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Beryllium	ND	4,900		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Chromium	7,100	9,800	J	µg/Kg-dry	100	9/21/2007 4:27:04 PM
Cobalt	7,700	4,900		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Copper	230,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Lead	6,700	9,800	J	µg/Kg-dry	100	9/21/2007 4:27:04 PM
Lithium	3,100	980		µg/Kg-dry	10	9/24/2007 6:40:59 PM
Manganese	240,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Nickel	14,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Silver	370	99		µg/Kg-dry	10	9/19/2007 6:50:29 PM
Strontium	ND	250,000		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Zinc	60,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM

MERCURY**SW7471A**Analyst: **AB2**

Mercury	22	19		µg/Kg-dry	1	9/18/2007 4:01:33 PM
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PERCENT MOISTURE**D2216**Analyst: **JE**

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit



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Analytical Report

(consolidated)

WO#: **0709387**

Date Reported: **9/25/2007**

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-013 **Matrix:** SOIL
Client Sample ID MSS1-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	21	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: **0709387**Date Reported: **9/25/2007****CLIENT:** Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-014**Matrix:** SOIL**Client Sample ID** MSS1-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082			Analyst: MB	
Aroclor 1016	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1221	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1232	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1242	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1248	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1254	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1260	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1262	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Total PCBs	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Surr: Decachlorobiphenyl	123	70-130		%REC	1	9/18/2007 4:42:28 AM
Surr: Tetrachloro-m-xylene	106	70-130		%REC	1	9/18/2007 4:42:28 AM

METALS, ICP/MS		SW6020A			Analyst: AB2	
Aluminum	23,000,000	84,000		µg/Kg-dry	1000	9/24/2007 12:47:32 PM
Arsenic	8,600	840		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Beryllium	ND	4,200		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Chromium	18,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Cobalt	18,000	4,200		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Copper	2,500,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Lead	200,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Lithium	7,600	840		µg/Kg-dry	10	9/24/2007 6:26:49 PM
Manganese	550,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Nickel	31,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Silver	3,100	97		µg/Kg-dry	10	9/19/2007 6:52:17 PM
Strontium	ND	210,000		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Zinc	170,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM

MERCURY		SW7471A			Analyst: AB2	
Mercury	280	21		µg/Kg-dry	1	9/18/2007 4:03:15 PM

PERCENT MOISTURE		D2216			Analyst: JE	
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Qualifiers:	*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/12/2007

Project: Torch Lake AOC SA - 20405.016.002.0274.00

Lab ID: 0709387-014

Matrix: SOIL

Client Sample ID MSS1-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	10	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT**TestCode: PMOIST**

Sample ID: 0709373-010ADUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 16264						
Client ID: ZZZZZZ	Batch ID: R16264	TestNo: D2216		Analysis Date: 9/17/2007	SeqNo: 257565						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	5.2	1.0						4.494	13.8	20	

Sample ID: 0709387-010ADUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 16264						
Client ID: TMS1-5	Batch ID: R16264	TestNo: D2216		Analysis Date: 9/17/2007	SeqNo: 257577						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	9.1	1.0						9.963	9.15	20	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: 0709361-001B-MS	SampType: MS	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: ZZZZZZ	Batch ID: 8388	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258622						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	54,000	100	50,710	491.3	105	75	125				
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Sample ID: 0709361-001B-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: ZZZZZZ	Batch ID: 8388	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258623						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	59,000	110	55,320	491.3	106	75	125	53,790	9.25	25	
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Sample ID: LCS-8388	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: LCSS	Batch ID: 8388	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258639						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	1,000	100	1,000	0	104	80	120				
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Sample ID: LCS-8390	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: LCSS	Batch ID: 8390	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258640						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	1,100	100	1,000	0	109	80	120				
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Sample ID: MB-8388	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: PBS	Batch ID: 8388	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258641						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	ND	10									
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Sample ID: MB-8390	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: PBS	Batch ID: 8390	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258642						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: MB-8390	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16308						
Client ID: PBS	Batch ID: 8390	TestNo: SW6020A		Analysis Date: 9/19/2007	SeqNo: 258642						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver ND 10

Sample ID: 0709361-001B-DUP	SampType: DUP	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date:	RunNo: 16346						
Client ID: ZZZZZZ	Batch ID: 8388	TestNo: SW6020A		Analysis Date: 9/20/2007	SeqNo: 259130						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4,700 12,000 3,465,000 0 25 J

Sample ID: LCS-8404	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16346						
Client ID: LCSS	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/20/2007	SeqNo: 259139						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 910 20 1,000 0 91.1 80 120

Sample ID: MB-8404	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16346						
Client ID: PBS	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/20/2007	SeqNo: 259140						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 100

Sample ID: 0709373-001A-MS	SampType: MS	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: ZZZZZZ	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259885						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	4,300,000	9,000	45,070	5,375,000	-2,470	75	125				S
Arsenic	370,000	900	45,070	354,700	27.5	75	125				S
Beryllium	44,000	4,500	45,070	521.9	97.0	75	125				
Chromium	65,000	9,000	45,070	16,440	109	75	125				
Cobalt	53,000	4,500	45,070	13,140	89.5	75	125				
Copper	270,000,000	9,000	45,070	277,700,000	-22,100	75	125				S

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: 0709373-001A-MS	SampType: MS	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: ZZZZZZ	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259885						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	250,000	9,000	45,070	291,000	-97.6	75	125				S
Manganese	250,000	9,000	45,070	272,500	-57.1	75	125				S
Nickel	67,000	9,000	45,070	32,890	75.9	75	125				
Zinc	170,000	9,000	45,070	182,700	-33.3	75	125				S

Sample ID: 0709373-001A-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: ZZZZZZ	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259886						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5,300,000	10,000	50,300	5,375,000	-125	75	125	4,261,000	21.9	25	S
Arsenic	510,000	1,000	50,300	354,700	301	75	125	367,100	31.8	25	SR
Beryllium	55,000	5,000	50,300	521.9	108	75	125	44,250	21.3	25	
Chromium	78,000	10,000	50,300	16,440	122	75	125	65,360	17.6	25	
Cobalt	62,000	5,000	50,300	13,140	96.8	75	125	53,470	14.5	25	
Copper	370,000,000	10,000	50,300	277,700,000	188,000	75	125	267,700,000	32.6	25	SR
Lead	380,000	10,000	50,300	291,000	170	75	125	247,000	41.6	25	SR
Manganese	280,000	10,000	50,300	272,500	18.8	75	125	246,800	13.3	25	S
Nickel	80,000	10,000	50,300	32,890	93.8	75	125	67,130	17.6	25	
Zinc	230,000	10,000	50,300	182,700	98.4	75	125	167,600	32.3	25	R

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A	Analysis Date: 9/21/2007	SeqNo: 259914							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1,000	1,000	1,000	0	102	80	120				
Arsenic	1,000	100	1,000	0	102	80	120				
Beryllium	1,000	500	1,000	0	100	80	120				
Chromium	1,000	1,000	1,000	0	104	80	120				
Cobalt	1,000	500	1,000	0	104	80	120				
Copper	1,000	1,000	1,000	0	105	80	120				
Lead	980	1,000	1,000	0	97.9	80	120				J

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation lin
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259914						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1,000	1,000	1,000	0	104	80	120				
Nickel	1,000	1,000	1,000	0	102	80	120				
Zinc	950	1,000	1,000	0	94.8	80	120				J

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16388						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259915						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									
Arsenic	ND	10									
Beryllium	ND	50									
Chromium	ND	100									
Cobalt	ND	50									
Copper	ND	100									
Lead	ND	100									
Manganese	ND	100									
Nickel	ND	100									
Strontium	ND	2,500									
Zinc	ND	100									

Sample ID: LCS-8404	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16388						
Client ID: LCSS	Batch ID: 8404	TestNo: SW6020A	Analysis Date: 9/21/2007	SeqNo: 259927							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	950	1,000	1,000	0	94.9	80	120				J
Arsenic	1,100	100	1,000	0	115	80	120				
Beryllium	940	500	1,000	0	94.0	80	120				
Chromium	950	1,000	1,000	0	94.9	80	120				J
Cobalt	960	500	1,000	0	96.3	80	120				
Copper	1,200	1,000	1,000	0	119	80	120				
Lead	980	1,000	1,000	0	98.4	80	120				J

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limit
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: LCS-8404	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16388						
Client ID: LCSS	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259927						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	950	1,000	1,000	0	95.2	80	120				J
Nickel	960	1,000	1,000	0	95.7	80	120				J
Zinc	1,100	1,000	1,000	0	106	80	120				

Sample ID: MB-8404	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16388						
Client ID: PBS	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/21/2007	SeqNo: 259928						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									
Arsenic	ND	10									
Beryllium	ND	50									
Chromium	ND	100									
Cobalt	ND	50									
Copper	ND	100									
Lead	ND	100									
Manganese	ND	100									
Nickel	ND	100									
Strontium	ND	2,500									
Zinc	ND	100									

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260416						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	980	1,000	1,000	0	98.0	80	120				J

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260417						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260417						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper ND 100

Sample ID: 0709373-001A-MS	SampType: MS	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: ZZZZZZ	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260594						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium 54,000 900 45,070 2,975 114 75 125

Sample ID: 0709373-001A-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: ZZZZZZ	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260595						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium 59,000 1,000 50,300 2,975 112 75 125 54,490 8.42 25

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260622						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium 1,200 1,000 1,000 0 115 80 120

Sample ID: LCS-8404	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260623						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium 1,100 1,000 1,000 0 106 80 120

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260624						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation lin
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260624						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium ND 100

Sample ID: MB-8404	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260625						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium ND 100

Sample ID: 0709387-014A-MS	SampType: MS	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date:	RunNo: 16410						
Client ID: MSS1-13	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260629						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium 51,000 840 41,770 7,621 104 75 125

Sample ID: 0709387-014A-MSD	SampType: MSD	TestCode: SW_6020S	Units: µg/Kg-dry	Prep Date:	RunNo: 16410						
Client ID: MSS1-13	Batch ID: 8404	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 260630						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lithium 51,000 840 41,770 7,621 103 75 125 50,920 0.356 25

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 261241						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	ND	1,000	1,000	0	0	80	120				S
Arsenic	ND	100	1,000	0	0	80	120				S
Beryllium	ND	500	1,000	0	0	80	120				S
Chromium	ND	1,000	1,000	0	0	80	120				S
Cobalt	ND	500	1,000	0	0	80	120				S
Copper	ND	1,000	1,000	0	0	80	120				S

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_6020S

Sample ID: LCS-8389	SampType: LCS	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: LCSS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 261241						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1,000	1,000	0	0	80	120				S
Manganese	1,100	1,000	1,000	0	109	80	120				
Nickel	ND	1,000	1,000	0	0	80	120				S
Silver	ND	100	1,000	0	0	80	120				S
Zinc	1,000	1,000	1,000	0	105	80	120				

Sample ID: MB-8389	SampType: MBLK	TestCode: SW_6020S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16410						
Client ID: PBS	Batch ID: 8389	TestNo: SW6020A		Analysis Date: 9/24/2007	SeqNo: 261242						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									
Arsenic	ND	10									
Beryllium	ND	50									
Chromium	ND	100									
Cobalt	ND	50									
Copper	ND	100									
Lead	ND	100									
Lithium	ND	100									
Manganese	ND	100									
Nickel	ND	100									
Silver	ND	10									
Strontium	ND	2,500									
Zinc	ND	100									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_7471S

Sample ID: MB-8402	SampType: MBLK	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: PBS	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257939						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 24

Sample ID: LCS-8402	SampType: LCS	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: LCSS	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257940						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 190 21 208.3 0 91.3 80 120

Sample ID: 0709387-001A-MS	SampType: MS	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: Traprock-8	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257942						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 260 21 209.9 52.07 99.6 80 120

Sample ID: 0709387-001A-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg-dry	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: Traprock-8	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257945						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 310 25 246.4 52.07 104 80 120 261.1 16.5 25

Sample ID: 0709421-001A-MS	SampType: MS	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257958						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 370 13 128.2 187.1 141 80 120 S

Sample ID: 0709421-001A-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257959						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation lin
M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_7471S

Sample ID: 0709421-001A-MSD	SampType: MSD	TestCode: SW_7471S	Units: µg/Kg	Prep Date: 9/18/2007	RunNo: 16278						
Client ID: ZZZZZZ	Batch ID: 8402	TestNo: SW7471A		Analysis Date: 9/18/2007	SeqNo: 257959						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	360	15	147.1	187.1	120	80	120	367.8	1.27	25	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: lcs-8383	SampType: LCS	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: LCSS	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 257552						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	170	33	166.7	0	103	70	130				
Aroclor 1260	180	33	166.7	0	106	70	130				
AROCLOR-1016-1	170	33	166.7	0	102	70	130				
AROCLOR-1016-2	170	33	166.7	0	102	70	130				
AROCLOR-1016-3	160	33	166.7	0	98.2	70	130				
AROCLOR-1016-4	180	33	166.7	0	110	70	130				
AROCLOR-1016-5	170	33	166.7	0	105	70	130				
AROCLOR-1260-1	170	33	166.7	0	101	70	130				
AROCLOR-1260-2	170	33	166.7	0	103	70	130				
AROCLOR-1260-3	190	33	166.7	0	111	70	130				
AROCLOR-1260-4	180	33	166.7	0	111	70	130				
AROCLOR-1260-5	170	33	166.7	0	103	70	130				
Surr: Decachlorobiphenyl	9.5		8.300		114	70	130				
Surr: Tetrachloro-m-xylene	8.9		8.300		108	70	130				

Sample ID: mb-8383	SampType: MBLK	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 257553						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	33									
Aroclor 1221	ND	33									
Aroclor 1232	ND	33									
Aroclor 1242	ND	33									
Aroclor 1248	ND	33									
Aroclor 1254	ND	33									
Aroclor 1260	ND	33									
Aroclor 1262	ND	33									
Total PCBs	ND	33									
AROCLOR-1016-1	ND	33									
AROCLOR-1016-2	ND	33									
AROCLOR-1016-3	ND	33									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: mb-8383	SampType: MBLK	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 257553						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
AROCLOR-1016-4	ND	33									
AROCLOR-1016-5	ND	33									
AROCLOR-1221-1	ND	33									
AROCLOR-1221-2	ND	33									
AROCLOR-1221-3	ND	33									
AROCLOR-1221-4	ND	33									
AROCLOR-1221-5	ND	33									
AROCLOR-1232-1	ND	33									
AROCLOR-1232-2	ND	33									
AROCLOR-1232-3	ND	33									
AROCLOR-1232-4	ND	33									
AROCLOR-1232-5	ND	33									
AROCLOR-1242-1	ND	33									
AROCLOR-1242-2	ND	33									
AROCLOR-1242-3	ND	33									
AROCLOR-1242-4	ND	33									
AROCLOR-1242-5	ND	33									
AROCLOR-1248-1	ND	33									
AROCLOR-1248-2	ND	33									
AROCLOR-1248-3	ND	33									
AROCLOR-1248-4	ND	33									
AROCLOR-1248-5	ND	33									
AROCLOR-1254-1	ND	33									
AROCLOR-1254-2	ND	33									
AROCLOR-1254-3	ND	33									
AROCLOR-1254-4	ND	33									
AROCLOR-1254-5	ND	33									
AROCLOR-1260-1	ND	33									
AROCLOR-1260-2	ND	33									
AROCLOR-1260-3	ND	33									
AROCLOR-1260-4	ND	33									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: mb-8383	SampType: MBLK	TestCode: SW_8082S	Units: µg/Kg	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 257553						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

AROCLOR-1260-5	ND	33									
AROCLOR-1262-1	ND	33									
AROCLOR-1262-2	ND	33									
AROCLOR-1262-3	ND	33									
AROCLOR-1262-4	ND	33									
AROCLOR-1262-5	ND	33									
Surr: Decachlorobiphenyl	9.7		8.300		117	70	130				
Surr: Tetrachloro-m-xylene	9.2		8.300		111	70	130				

Sample ID: 0709387-006a-ms	SampType: ms	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: H & Y Marina B-19	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258437						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aroclor 1016	170	36	183.0	0	94.8	70	130				
Aroclor 1260	220	36	183.0	0	121	70	130				
Surr: Decachlorobiphenyl	12		9.114		127	70	130				
Surr: Tetrachloro-m-xylene	10		9.114		110	70	130				

Sample ID: 0709387-006a-msd	SampType: msd	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: H & Y Marina B-19	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258438						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aroclor 1016	160	36	183.0	0	87.5	17.2	175	173.4	7.92	25	
Aroclor 1260	220	36	183.0	0	121	51.6	142	221.6	0.328	25	
Surr: Decachlorobiphenyl	11		9.114		118	66.8	151		0	25	
Surr: Tetrachloro-m-xylene	9.4		9.114		103	49.4	143		0	25	

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: 0709387-010a-ms	SampType: ms	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: TMS1-5	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/18/2007	SeqNo: 258443						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	170	37	185.1	0	92.0	70	130				
Aroclor 1260	200	37	185.1	0	110	70	130				
Surr: Decachlorobiphenyl	13		9.218		136	70	130				S
Surr: Tetrachloro-m-xylene	9.7		9.218		105	70	130				

Sample ID: 0709387-010a-msd	SampType: msd	TestCode: sw_8082s	Units: µg/Kg-dry	Prep Date: 9/17/2007	RunNo: 16263						
Client ID: TMS1-5	Batch ID: 8383	TestNo: SW8082		Analysis Date: 9/18/2007	SeqNo: 258444						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	170	37	185.1	0	94.1	17.2	175	170.4	2.16	25	
Aroclor 1260	210	37	185.1	0	113	51.6	142	203.8	2.99	25	
Surr: Decachlorobiphenyl	0		9.218		0	66.8	151		0	25	S
Surr: Tetrachloro-m-xylene	9.8		9.218		107	49.4	143		0	25	

Sample ID: lcs-8381	SampType: lcs	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: LCSS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258466						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	180	33	166.7	0	111	70	130				
Aroclor 1260	180	33	166.7	0	105	70	130				
AROCLOR-1016-1	160	33	166.7	0	97.3	70	130				
AROCLOR-1016-2	180	33	166.7	0	108	70	130				
AROCLOR-1016-3	150	33	166.7	0	91.8	70	130				
AROCLOR-1016-4	170	33	166.7	0	102	70	130				
AROCLOR-1016-5	260	33	166.7	0	155	70	130				S
AROCLOR-1260-1	160	33	166.7	0	96.5	70	130				
AROCLOR-1260-2	170	33	166.7	0	103	70	130				
AROCLOR-1260-3	180	33	166.7	0	110	70	130				
AROCLOR-1260-4	180	33	166.7	0	110	70	130				
AROCLOR-1260-5	180	33	166.7	0	106	70	130				
Surr: Decachlorobiphenyl	9.5		8.300		115	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: lcs-8381	SampType: lcs	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: LCSS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258466						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Tetrachloro-m-xylene	8.2		8.300		98.4	70	130				

Sample ID: mb-8381	SampType: mblik	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258471						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	33									
Aroclor 1221	ND	33									
Aroclor 1232	ND	33									
Aroclor 1242	ND	33									
Aroclor 1248	ND	33									
Aroclor 1254	ND	33									
Aroclor 1260	ND	33									
Aroclor 1262	ND	33									
Total PCBs	ND	33									
AROCLOR-1016-1	ND	33									
AROCLOR-1016-2	ND	33									
AROCLOR-1016-3	ND	33									
AROCLOR-1016-4	ND	33									
AROCLOR-1016-5	ND	33									
AROCLOR-1221-1	ND	33									
AROCLOR-1221-2	ND	33									
AROCLOR-1221-3	ND	33									
AROCLOR-1221-4	ND	33									
AROCLOR-1221-5	ND	33									
AROCLOR-1232-1	ND	33									
AROCLOR-1232-2	ND	33									
AROCLOR-1232-3	ND	33									
AROCLOR-1232-4	ND	33									
AROCLOR-1232-5	ND	33									
AROCLOR-1242-1	ND	33									

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

CLIENT: Weston Solutions of Illinois, Inc.
Work Order: 0709387
Project: Torch Lake AOC SA - 20405.016.002.0274.00

QC SUMMARY REPORT

TestCode: SW_8082S

Sample ID: mb-8381	SampType: mblk	TestCode: sw_8082s	Units: µg/Kg	Prep Date: 9/16/2007	RunNo: 16263						
Client ID: PBS	Batch ID: 8381	TestNo: SW8082		Analysis Date: 9/17/2007	SeqNo: 258471						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
AROCLOR-1242-2	ND	33									
AROCLOR-1242-3	ND	33									
AROCLOR-1242-4	ND	33									
AROCLOR-1242-5	ND	33									
AROCLOR-1248-1	ND	33									
AROCLOR-1248-2	ND	33									
AROCLOR-1248-3	ND	33									
AROCLOR-1248-4	ND	33									
AROCLOR-1248-5	ND	33									
AROCLOR-1254-1	ND	33									
AROCLOR-1254-2	ND	33									
AROCLOR-1254-3	ND	33									
AROCLOR-1254-4	ND	33									
AROCLOR-1254-5	ND	33									
AROCLOR-1260-1	ND	33									
AROCLOR-1260-2	ND	33									
AROCLOR-1260-3	ND	33									
AROCLOR-1260-4	ND	33									
AROCLOR-1260-5	ND	33									
AROCLOR-1262-1	ND	33									
AROCLOR-1262-2	ND	33									
AROCLOR-1262-3	ND	33									
AROCLOR-1262-4	ND	33									
AROCLOR-1262-5	ND	33									
Surr: Decachlorobiphenyl	9.0		8.300		109	70	130				
Surr: Tetrachloro-m-xylene	8.4		8.300		101	70	130				

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation lin
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits		

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709387**

Polychlorinated Biphenyls by U.S. EPA Method 8082

1.

<u>Samples</u>	<u>Lab ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Traprock-8	0709387-001	Soil	9/11/07	9/16/07	9/17/07
Traprock-B-12	0709387-002	Soil	9/11/07	9/16/07	9/17/07
Bootjack B-17	0709387-003	Soil	9/11/07	9/16/07	9/17/07
MGPB-1	0709387-004	Soil	9/11/07	9/16/07	9/17/07
Mickelson B-6	0709387-005	Soil	9/12/07	9/16/07	9/17/07
H&Y Marina B-19	0709387-006	Soil	9/12/07	9/17/07	9/17/07
Gay S1-21	0709387-007	Soil	9/10/07	9/16/07	9/17/07
Lake Linden S2-8	0709387-008	Soil	9/12/07	9/16/07	9/17/07
TMS1-2	0709387-009	Soil	9/12/07	9/16/07	9/17/07
TMS1-5	0709387-010	Soil	9/12/07	9/16/07	9/18/07
TMS2-2	0709387-011	Soil	9/12/07	9/16/07	9/18/07
HubS1-12	0709387-012	Soil	9/12/07	9/16/07	9/18/07
MSS1-12	0709387-013	Soil	9/12/07	9/16/07	9/18/07
MSS1-13	0709387-014	Soil	9/12/07	9/16/07	9/18/07

2. Sample Receipt and Holding Times

The samples were received in good condition and were analyzed within the required holding time.

3. Blanks

Two method blanks were associated with these samples. Both method blanks were free of contamination.

4. Laboratory Control Samples

Two laboratory control sample audits were associated with these samples. The Aroclor-1016-5 recovery (155%) for the laboratory control sample associated with Lab Batch 8381 was outside the laboratory

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709387**

Polychlorinated Biphenyls by U.S. EPA Method 8082

4. Laboratory Control Samples (Continued)

generated quality control limits. Qualify the Aroclor-1016 results in all samples except H & Y Marina B-19 as estimated (J/UJ).

5. Matrix Spike/Matrix Spike Duplicate

Sample H & Y Marina B-19 was used for the matrix spike/matrix spike duplicate audit. All matrix spike recoveries and matrix spike duplicate recoveries were within the laboratory generated quality control limits. All matrix spike/matrix spike duplicate relative percent difference values were within the laboratory generated quality control limits.

Sample TMS1-5 was also used for the matrix spike/matrix spike duplicate audit. All matrix spike recoveries and matrix spike duplicate recoveries were within the laboratory generated quality control limits. All matrix spike/matrix spike duplicate relative percent difference values were within the laboratory generated quality control limits.

6. Surrogate Spike Recoveries

All Decachlorobiphenyl and Tetrachloro-m-xylene surrogate spike recoveries for all samples were within the laboratory generated quality control limits.

X Krabka 9/26/07

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709387**

Total Metals by U.S. EPA Methods 6020A and 7471A

1.

<u>Samples</u>	<u>Lab ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Traprock-8	0709387-001	Soil	9/11/07	NP	9/18; 9/19; 9/21; 9/24
Traprock-B-12	0709387-002	Soil	9/11/07	NP	9/18; 9/19; 9/21; 9/24
Bootjack B-17	0709387-003	Soil	9/11/07	NP	9/18; 9/19; 9/21; 9/24
MGPB-1	0709387-004	Soil	9/11/07	NP	9/18; 9/19; 9/21; 9/24
Mickelson B-6	0709387-005	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24
H&Y Marina B-19	0709387-006	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24
Gay S1-21	0709387-007	Soil	9/10/07	NP	9/18; 9/19; 9/21; 9/24
Lake Linden S2-8	0709387-008	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24
TMS1-2	0709387-009	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24
TMS1-5	0709387-010	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24
TMS2-2	0709387-011	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24
HubS1-12	0709387-012	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24; 9/25
MSS1-12	0709387-013	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24
MSS1-13	0709387-014	Soil	9/12/07	NP	9/18; 9/19; 9/21; 9/24

NP = Not presented with the data package

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709387**

Total Metals by U.S. EPA Methods 6020A and 7471A

2. Sample Receipt and Holding Times

The samples were received in good condition and were analyzed within the required holding time.

3. Blanks

The mercury, lead, silver, copper and lithium method blanks associated with these samples were free of contamination. The three total metals method blanks associated with these samples were free of contamination.

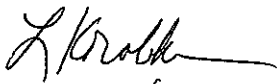
4. Laboratory Control Samples

The laboratory control sample recoveries for aluminum (0%), arsenic (0%), beryllium (0%), chromium (0%), cobalt (0%), copper (0%), lead (0%), nickel (0%) and silver (0%) in Lab Batch 8389 were outside the laboratory generated quality control limits. Qualify the aluminum, arsenic, beryllium, chromium, cobalt, copper, lead, nickel, and silver results in samples Traprock-8, Traprock B-12, Bootjack B-17, MGPB-1, Mickelson-B-6, H & Y Marina B-19, Gay S1-21, Lake Linden S2-8 and TMS1-2 as estimated (J/UJ).

5. Matrix Spike/Matrix Spike Duplicate

Sample Traprock-8 was used for the mercury matrix spike/matrix spike duplicate audit. The mercury matrix spike and matrix spike duplicate recoveries were within the laboratory generated quality control limits. The mercury matrix spike/matrix spike duplicate relative percent difference value was within the laboratory generated quality control limits.

Sample MSS1-13 was used for the lithium matrix spike/matrix spike duplicate audit. The lithium matrix spike and matrix spike duplicate recoveries were within the laboratory generated quality control limits. The lithium matrix spike/matrix spike duplicate relative percent difference value was within the laboratory generated quality control limits.


9/26/07

**RTI LABORATORIES, INC.**

31628 Glendale St.
Livonia, Michigan 48150
TEL: 734.422.8000
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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-001
Client Sample ID Traprock-8

Collection Date: 9/11/2007 10:13:00 AM**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082****Analyst: MB**

Aroclor 1016	ND J	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1221	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1232	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1242	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1248	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1254	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1260	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Aroclor 1262	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Total PCBs	ND	37		µg/Kg-dry	1	9/17/2007 5:11:02 PM
Surr: Decachlorobiphenyl	107	70-130		%REC	1	9/17/2007 5:11:02 PM
Surr: Tetrachloro-m-xylene	94.9	70-130		%REC	1	9/17/2007 5:11:02 PM

METALS, ICP/MS**SW6020A****Analyst: AB2**

Aluminum	9,800,000 J	100,000		µg/Kg-dry	1000	9/24/2007 12:17:21 PM
Arsenic	4,600 J	1,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Beryllium	590 J	5,100 J		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Chromium	4,500 J	10,000 J		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Cobalt	9,400 J	5,100		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Copper	360,000 J	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Lead	48,000 J	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Lithium	7,300	1,000		µg/Kg-dry	10	9/24/2007 6:02:52 PM
Manganese	390,000	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Nickel	30,000 J	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Silver	1,700 J	87		µg/Kg-dry	10	9/19/2007 7:36:34 PM
Strontium	ND	250,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM
Zinc	95,000	10,000		µg/Kg-dry	100	9/21/2007 2:42:40 PM

MERCURY**SW7471A****Analyst: AB2**

Mercury	52	17		µg/Kg-dry	1	9/18/2007 3:24:18 PM
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PERCENT MOISTURE**D2216****Analyst: JE***Z. Knobl 9/26/07*

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

**RTI LABORATORIES, INC.**

31628 Glendale St.
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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/11/2007 10:13:00 AM**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-001**Matrix:** SOIL**Client Sample ID** Traprock-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	12	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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L/Grohl 9/26/07

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/11/2007 10:49:00 AM

Project: Torch Lake AOC SA - 20405.016.002.0274.00

Lab ID: 0709387-002

Matrix: SOIL

Client Sample ID Traprock B-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND J	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Total PCBs	ND	35		µg/Kg-dry	1	9/17/2007 5:51:26 PM
Surr: Decachlorobiphenyl	111	70-130		%REC	1	9/17/2007 5:51:26 PM
Surr: Tetrachloro-m-xylene	101	70-130		%REC	1	9/17/2007 5:51:26 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	13,000,000 J	110,000		µg/Kg-dry	1000	9/24/2007 12:24:31 PM
Arsenic	4,200 J	1,100		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Beryllium	1,400 J	5,300	J	µg/Kg-dry	100	9/21/2007 2:45:05 PM
Chromium	ND J	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Cobalt	440 J	5,300	J	µg/Kg-dry	100	9/21/2007 2:45:05 PM
Copper	47,000 J	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Lead	17,000 J	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Lithium	11,000	1,100		µg/Kg-dry	10	9/24/2007 6:04:38 PM
Manganese	17,000	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Nickel	1,200 J	11,000	J	µg/Kg-dry	100	9/21/2007 2:45:05 PM
Silver	180 J	64		µg/Kg-dry	10	9/19/2007 7:43:03 PM
Strontium	440,000	270,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM
Zinc	14,000	11,000		µg/Kg-dry	100	9/21/2007 2:45:05 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	4.7	14	J	µg/Kg-dry	1	9/18/2007 3:34:19 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

M Manual Integration used to determine area response

RL Reporting Detection Limit

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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/11/2007 10:49:00 AM**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-002**Matrix:** SOIL**Client Sample ID** Traprock B-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	5.9	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 5 of 46

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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/11/2007 12:13:00 AM**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-003**Matrix:** SOIL**Client Sample ID** Bootjack B-17

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND J	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1221	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1232	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1242	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1248	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1254	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1260	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Aroclor 1262	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Total PCBs	ND	87		µg/Kg-dry	1	9/17/2007 6:32:24 PM
Surr: Decachlorobiphenyl	104	70-130		%REC	1	9/17/2007 6:32:24 PM
Surr: Tetrachloro-m-xylene	93.8	70-130		%REC	1	9/17/2007 6:32:24 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	2,600,000 J	99,000		µg/Kg-dry	1000	9/24/2007 12:59:02 PM
Arsenic	1,700 J	990		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Beryllium	ND J	5,000		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Chromium	ND J	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Cobalt	1,700 J	5,000	J	µg/Kg-dry	100	9/21/2007 2:47:30 PM
Copper	110,000 J	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Lead	23,000 J	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Lithium	2,600	990		µg/Kg-dry	10	9/24/2007 6:06:24 PM
Manganese	48,000	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Nickel	5,300 J	9,900	J	µg/Kg-dry	100	9/21/2007 2:47:30 PM
Silver	64 J	130	J	µg/Kg-dry	10	9/19/2007 7:44:53 PM
Strontium	ND	250,000		µg/Kg-dry	100	9/21/2007 2:47:30 PM
Zinc	26,000	9,900		µg/Kg-dry	100	9/21/2007 2:47:30 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	16	21	J	µg/Kg-dry	1	9/18/2007 3:35:59 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Signature
9/26/07

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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/11/2007 12:13:00 AM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-003 **Matrix:** SOIL
Client Sample ID Bootjack B-17

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	24	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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2 Kroll
9/26/07

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/11/2007 4:49:00 PM**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-004**Matrix:** SOIL**Client Sample ID** MGPB-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082		Analyst: MB		
Aroclor 1016	ND <i>J</i>	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1221	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1232	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1242	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1248	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1254	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1260	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Aroclor 1262	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Total PCBs	ND	79		µg/Kg-dry	1	9/17/2007 7:12:57 PM
Surr: Decachlorobiphenyl	117	70-130		%REC	1	9/17/2007 7:12:57 PM
Surr: Tetrachloro-m-xylene	107	70-130		%REC	1	9/17/2007 7:12:57 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	2,300,000 <i>J</i>	90,000		µg/Kg-dry	1000	9/24/2007 12:26:25 PM
Arsenic	14,000 <i>J</i>	900		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Beryllium	ND <i>J</i>	4,500		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Chromium	2,100 <i>J</i>	9,000	<i>J</i>	µg/Kg-dry	100	9/21/2007 2:49:55 PM
Cobalt	13,000 <i>J</i>	4,500		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Copper	1,500,000 <i>J</i>	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Lead	64,000 <i>J</i>	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Lithium	4,500	900		µg/Kg-dry	10	9/24/2007 6:08:09 PM
Manganese	370,000	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Nickel	18,000 <i>J</i>	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Silver	2,800 <i>J</i>	81		µg/Kg-dry	10	9/19/2007 7:46:45 PM
Strontium	ND	230,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM
Zinc	93,000	9,000		µg/Kg-dry	100	9/21/2007 2:49:55 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	500	24		µg/Kg-dry	1	9/18/2007 3:37:39 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 8 of 46

9/26/07

2/26/07

**RTI LABORATORIES, INC.**

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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/11/2007 4:49:00 PM**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-004**Matrix:** SOIL**Client Sample ID** MGPB-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	16	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 9 of 46

9/26/07

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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/12/2007 10:23:00 AM

Project: Torch Lake AOC SA - 20405.016.002.0274.00

Lab ID: 0709387-005

Matrix: SOIL

Client Sample ID Mickelson B-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1221	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1232	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1242	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1248	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1254	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1260	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Aroclor 1262	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Total PCBs	ND	42		µg/Kg-dry	1	9/17/2007 7:53:34 PM
Surr: Decachlorobiphenyl	121	70-130		%REC	1	9/17/2007 7:53:34 PM
Surr: Tetrachloro-m-xylene	113	70-130		%REC	1	9/17/2007 7:53:34 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	7,800,000 J	79,000		µg/Kg-dry	1000	9/24/2007 12:28:19 PM
Arsenic	14,000 J	790		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Beryllium	730 J	4,000 J		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Chromium	980,000 J	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Cobalt	16,000 J	4,000		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Copper	490,000 J	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Lead	25,000 J	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Lithium	4,000	790		µg/Kg-dry	10	9/24/2007 6:09:55 PM
Manganese	650,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Nickel	180,000 J	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Silver	510 J	100		µg/Kg-dry	10	9/19/2007 7:48:37 PM
Strontium	ND	200,000		µg/Kg-dry	100	9/21/2007 2:52:21 PM
Zinc	43,000	7,900		µg/Kg-dry	100	9/21/2007 2:52:21 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	15	15 J		µg/Kg-dry	1	9/18/2007 3:39:20 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 10 of 46

Z. Krob
9/26/07

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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007 10:23:00 AM**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-005**Matrix:** SOIL**Client Sample ID** Mickelson B-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE				D2216		Analyst: JE
Percent Moisture	21	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Z. Kowalski
9/26/07

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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007 2:42:00 PM
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-006 **Matrix:** SOIL
Client Sample ID H & Y Marina B-19

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1221	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1232	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1242	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1248	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1254	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1260	ND	36		µg/Kg-dry	1	9/17/2007 8:34:31 PM
Aroclor 1262	11	36	J	µg/Kg-dry	1	9/17/2007 8:34:31 PM
Total PCBs	11	36	J	µg/Kg-dry	1	9/17/2007 8:34:31 PM
Surr: Decachlorobiphenyl	105	70-130		%REC	1	9/17/2007 8:34:31 PM
Surr: Tetrachloro-m-xylene	94.9	70-130		%REC	1	9/17/2007 8:34:31 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	1,800,000 J	69,000		µg/Kg-dry	1000	9/24/2007 1:00:56 PM
Arsenic	30,000 J	690		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Beryllium	ND J	3,400		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Chromium	460,000 J	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Cobalt	37,000 J	3,400		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Copper	470,000 J	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Lead	440,000 J	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Lithium	740	690		µg/Kg-dry	10	9/24/2007 6:16:08 PM
Manganese	5,500,000	69,000		µg/Kg-dry	1000	9/24/2007 4:03:20 PM
Nickel	250,000 J	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Silver	380 J	89		µg/Kg-dry	10	9/19/2007 7:50:28 PM
Strontium	ND	170,000		µg/Kg-dry	100	9/21/2007 3:06:40 PM
Zinc	83,000	6,900		µg/Kg-dry	100	9/21/2007 3:06:40 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	9.9	27	J	µg/Kg-dry	1	9/18/2007 3:40:59 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Lfr Robb 9/26/07

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

**RTI LABORATORIES, INC.**

31628 Glendale St.
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TEL: 734.422.8000
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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007 2:42:00 PM**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-006**Matrix:** SOIL**Client Sample ID** H & Y Marina B-19

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	8.9	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/10/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-007 **Matrix:** SOIL
Client Sample ID Gay S1-21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND J	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1221	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1232	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1242	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1248	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1254	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1260	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Aroclor 1262	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Total PCBs	ND	34		µg/Kg-dry	1	9/17/2007 9:15:09 PM
Surr: Decachlorobiphenyl	120	70-130		%REC	1	9/17/2007 9:15:09 PM
Surr: Tetrachloro-m-xylene	108	70-130		%REC	1	9/17/2007 9:15:09 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	15,000,000 J	86,000		µg/Kg-dry	1000	9/24/2007 12:30:11 PM
Arsenic	670 J	860	J	µg/Kg-dry	100	9/21/2007 3:52:05 PM
Beryllium	ND J	4,300		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Chromium	19,000 J	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Cobalt	18,000 J	4,300		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Copper	1,400,000 J	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Lead	1,500 J	8,600	J	µg/Kg-dry	100	9/21/2007 3:52:05 PM
Lithium	5,100	860		µg/Kg-dry	10	9/24/2007 6:17:54 PM
Manganese	300,000	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Nickel	23,000 J	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Silver	800 J	88		µg/Kg-dry	10	9/19/2007 7:52:18 PM
Strontium	ND	210,000		µg/Kg-dry	100	9/21/2007 3:52:05 PM
Zinc	62,000	8,600		µg/Kg-dry	100	9/21/2007 3:52:05 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	5.5	18	J	µg/Kg-dry	1	9/18/2007 3:42:37 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

L. Wahl 9/25/07

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/10/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-007 **Matrix:** SOIL
Client Sample ID Gay S1-21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	1.7	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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L. Corbelli
9/26/07

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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-008 **Matrix:** SOIL
Client Sample ID Lake Linden S2-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND J	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1221	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1232	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1242	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1248	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1254	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1260	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Aroclor 1262	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Total PCBs	ND	43		µg/Kg-dry	1	9/17/2007 9:55:59 PM
Surr: Decachlorobiphenyl	101	70-130		%REC	1	9/17/2007 9:55:59 PM
Surr: Tetrachloro-m-xylene	93.7	70-130		%REC	1	9/17/2007 9:55:59 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	11,000,000 J	110,000		µg/Kg-dry	1000	9/24/2007 12:32:04 PM
Arsenic	1,100 J	1,100	J	µg/Kg-dry	100	9/21/2007 3:54:31 PM
Beryllium	940 J	5,400	J	µg/Kg-dry	100	9/21/2007 3:54:31 PM
Chromium	20,000 J	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Cobalt	14,000 J	5,400		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Copper	2,100,000 J	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Lead	6,900 J	11,000	J	µg/Kg-dry	100	9/21/2007 3:54:31 PM
Lithium	6,000	1,100		µg/Kg-dry	10	9/24/2007 6:19:42 PM
Manganese	350,000	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Nickel	34,000 J	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Silver	1,300 J	120		µg/Kg-dry	10	9/19/2007 7:54:07 PM
Strontium	ND	270,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM
Zinc	130,000	11,000		µg/Kg-dry	100	9/21/2007 3:54:31 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	29	12		µg/Kg-dry	1	9/18/2007 3:44:15 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-008**Matrix:** SOIL**Client Sample ID** Lake Linden S2-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	24	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 17 of 46

J. Crohl
9/26/07

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-009 **Matrix:** SOIL
Client Sample ID TMS1-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND ^J	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Total PCBs	ND	35		µg/Kg-dry	1	9/17/2007 10:36:34 PM
Surr: Decachlorobiphenyl	113	70-130		%REC	1	9/17/2007 10:36:34 PM
Surr: Tetrachloro-m-xylene	99.6	70-130		%REC	1	9/17/2007 10:36:34 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	19,000,000 ^J	67,000		µg/Kg-dry	1000	9/24/2007 12:33:57 PM
Arsenic	350 ^J	670	J	µg/Kg-dry	100	9/21/2007 3:56:58 PM
Beryllium	ND ^J	3,300		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Chromium	14,000 ^J	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Cobalt	15,000 ^J	3,300		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Copper	2,700,000 ^J	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Lead	8,000 ^J	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Lithium	7,100	670		µg/Kg-dry	10	9/24/2007 6:21:30 PM
Manganese	430,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Nickel	24,000 ^J	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Silver	1,200 ^J	64		µg/Kg-dry	10	9/19/2007 7:55:57 PM
Strontium	ND	170,000		µg/Kg-dry	100	9/21/2007 3:56:58 PM
Zinc	59,000	6,700		µg/Kg-dry	100	9/21/2007 3:56:58 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	38	13		µg/Kg-dry	1	9/18/2007 3:45:54 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 18 of 46

J. Anoble
9/26/07

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-009 **Matrix:** SOIL
Client Sample ID TMS1-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	4.7	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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J. Krol
9/26/07

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-010
Client Sample ID TMS1-5

Collection Date: 9/12/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND ^J	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1221	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1232	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1242	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1248	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1254	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1260	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Aroclor 1262	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Total PCBs	ND	37		µg/Kg-dry	1	9/18/2007 2:00:07 AM
Surr: Decachlorobiphenyl	123	70-130		%REC	1	9/18/2007 2:00:07 AM
Surr: Tetrachloro-m-xylene	91.1	70-130		%REC	1	9/18/2007 2:00:07 AM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	20,000,000	110,000		µg/Kg-dry	1000	9/24/2007 12:35:49 PM
Arsenic	9,800	1,100		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Beryllium	580	5,400	J	µg/Kg-dry	100	9/21/2007 4:14:58 PM
Chromium	20,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Cobalt	21,000	5,400		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Copper	9,100,000	110,000		µg/Kg-dry	1000	9/24/2007 2:19:52 PM
Lead	530,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Lithium	5,000	1,100		µg/Kg-dry	10	9/24/2007 6:32:08 PM
Manganese	530,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Nickel	30,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Silver	2,400	74		µg/Kg-dry	10	9/19/2007 6:45:02 PM
Strontium	ND	270,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM
Zinc	100,000	11,000		µg/Kg-dry	100	9/21/2007 4:14:58 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	220	18		µg/Kg-dry	1	9/18/2007 3:56:32 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Z. Kroebe
9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-010**Matrix:** SOIL**Client Sample ID** TMS1-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	10	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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**RTI LABORATORIES, INC.**

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Analytical Report

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WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-011
Client Sample ID TMS2-2

Collection Date: 9/12/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082****Analyst: MB**

Aroclor 1016	ND ^S	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1221	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1232	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1242	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1248	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1254	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1260	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Aroclor 1262	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Total PCBs	ND	38		µg/Kg-dry	1	9/18/2007 2:40:35 AM
Surr: Decachlorobiphenyl	119	70-130		%REC	1	9/18/2007 2:40:35 AM
Surr: Tetrachloro-m-xylene	100	70-130		%REC	1	9/18/2007 2:40:35 AM

METALS, ICP/MS**SW6020A****Analyst: AB2**

Aluminum	27,000,000	86,000		µg/Kg-dry	1000	9/24/2007 12:37:42 PM
Arsenic	1,200	860		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Beryllium	ND	4,300		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Chromium	19,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Cobalt	25,000	4,300		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Copper	2,000,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Lead	7,300	8,600	J	µg/Kg-dry	100	9/21/2007 4:22:13 PM
Lithium	6,300	860		µg/Kg-dry	10	9/24/2007 6:37:26 PM
Manganese	670,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Nickel	34,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Silver	1,400	100		µg/Kg-dry	10	9/19/2007 6:46:52 PM
Strontium	ND	210,000		µg/Kg-dry	100	9/21/2007 4:22:13 PM
Zinc	87,000	8,600		µg/Kg-dry	100	9/21/2007 4:22:13 PM

MERCURY**SW7471A****Analyst: AB2**

Mercury	44	16		µg/Kg-dry	1	9/18/2007 3:58:12 PM
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PERCENT MOISTURE**D2216****Analyst: JE**

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/12/2007**Project:** Torch Lake AOC SA - 20405.016.002.0274.00**Lab ID:** 0709387-011**Matrix:** SOIL**Client Sample ID** TMS2-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	14	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/12/2007

Project: Torch Lake AOC SA - 20405.016.002.0274.00

Lab ID: 0709387-012

Matrix: SOIL

Client Sample ID HubS1-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS

SW8082

Analyst: MB

Aroclor 1016	ND ^J	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Total PCBs	ND	35		µg/Kg-dry	1	9/18/2007 3:21:30 AM
Surr: Decachlorobiphenyl	118	70-130		%REC	1	9/18/2007 3:21:30 AM
Surr: Tetrachloro-m-xylene	108	70-130		%REC	1	9/18/2007 3:21:30 AM

METALS, ICP/MS

SW6020A

Analyst: AB2

Aluminum	15,000,000	90,000		µg/Kg-dry	1000	9/24/2007 12:39:34 PM
Arsenic	4,800	900		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Beryllium	ND	4,500		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Chromium	24,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Cobalt	21,000	4,500		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Copper	6,000,000	90,000		µg/Kg-dry	1000	9/25/2007 4:13:44 PM
Lead	11,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Lithium	12,000	800		µg/Kg-dry	10	9/24/2007 6:39:13 PM
Manganese	320,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Nickel	39,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Silver	990	80		µg/Kg-dry	10	9/19/2007 6:48:42 PM
Strontium	ND	220,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM
Zinc	95,000	9,000		µg/Kg-dry	100	9/21/2007 4:24:38 PM

MERCURY

SW7471A

Analyst: AB2

Mercury	3.6	16	J	µg/Kg-dry	1	9/18/2007 3:59:53 PM
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PERCENT MOISTURE

D2216

Analyst: JE

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Strobel
9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-012 **Matrix:** SOIL
Client Sample ID HubS1-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE				D2216	Analyst: JE	
Percent Moisture	5.0	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-013
Client Sample ID MSS1-12

Collection Date: 9/12/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1221	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1232	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1242	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1248	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1254	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1260	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Aroclor 1262	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Total PCBs	ND	42		µg/Kg-dry	1	9/18/2007 4:01:59 AM
Surr: Decachlorobiphenyl	121	70-130		%REC	1	9/18/2007 4:01:59 AM
Surr: Tetrachloro-m-xylene	108	70-130		%REC	1	9/18/2007 4:01:59 AM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	9,700,000	98,000		µg/Kg-dry	1000	9/24/2007 12:41:27 PM
Arsenic	ND	980		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Beryllium	ND	4,900		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Chromium	7,100	9,800	J	µg/Kg-dry	100	9/21/2007 4:27:04 PM
Cobalt	7,700	4,900		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Copper	230,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Lead	6,700	9,800	J	µg/Kg-dry	100	9/21/2007 4:27:04 PM
Lithium	3,100	980		µg/Kg-dry	10	9/24/2007 6:40:59 PM
Manganese	240,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Nickel	14,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Silver	370	99		µg/Kg-dry	10	9/19/2007 6:50:29 PM
Strontium	ND	250,000		µg/Kg-dry	100	9/21/2007 4:27:04 PM
Zinc	60,000	9,800		µg/Kg-dry	100	9/21/2007 4:27:04 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	22	19		µg/Kg-dry	1	9/18/2007 4:01:33 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-013 **Matrix:** SOIL
Client Sample ID MSS1-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	21	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc. **Collection Date:** 9/12/2007
Project: Torch Lake AOC SA - 20405.016.002.0274.00
Lab ID: 0709387-014 **Matrix:** SOIL
Client Sample ID MSS1-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND ^S	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1221	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1232	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1242	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1248	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1254	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1260	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Aroclor 1262	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Total PCBs	ND	37		µg/Kg-dry	1	9/18/2007 4:42:28 AM
Surr: Decachlorobiphenyl	123	70-130		%REC	1	9/18/2007 4:42:28 AM
Surr: Tetrachloro-m-xylene	106	70-130		%REC	1	9/18/2007 4:42:28 AM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	23,000,000	84,000		µg/Kg-dry	1000	9/24/2007 12:47:32 PM
Arsenic	8,600	840		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Beryllium	ND	4,200		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Chromium	18,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Cobalt	18,000	4,200		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Copper	2,500,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Lead	200,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Lithium	7,600	840		µg/Kg-dry	10	9/24/2007 6:26:49 PM
Manganese	550,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Nickel	31,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Silver	3,100	97		µg/Kg-dry	10	9/19/2007 6:52:17 PM
Strontium	ND	210,000		µg/Kg-dry	100	9/21/2007 4:07:42 PM
Zinc	170,000	8,400		µg/Kg-dry	100	9/21/2007 4:07:42 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	280	21		µg/Kg-dry	1	9/18/2007 4:03:15 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709387

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/12/2007

Project: Torch Lake AOC SA - 20405.016.002.0274.00

Lab ID: 0709387-014

Matrix: SOIL

Client Sample ID MSS1-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	10	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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9/26/07

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709373**

Polychlorinated Biphenyls by U.S. EPA Method 8082

1.

<u>Samples</u>	<u>Lab ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Gay B –XRF6	0709373-001	Soil	9/10/07	NP	9/18/07
Gay B –XRF11	0709373-002	Soil	9/10/07	NP	9/18/07
Gay B –XRF14	0709373-003	Soil	9/10/07	NP	9/18/07
Gay B –XRF21	0709373-004	Soil	9/10/07	NP	9/18/07
Gay B –XRF26	0709373-005	Soil	9/10/07	NP	9/18/07
MGB-TAR	0709373-006	Soil	9/10/07	NP	9/18/07
Calumet XRF 16	0709373-007	Soil	9/7/07	NP	9/18/07
Mason XRF 6	0709373-008	Soil	9/6/07	NP	9/18/07
Mineral XRF 11	0709373-009	Soil	9/7/07	NP	9/18/07
Mason XRF 10	0709373-010	Soil	9/6/07	NP	9/18/07
Mineral XRF 6	0709373-011	Soil	9/7/07	NP	9/18/07

NP – Not presented with the data package

2. Sample Receipt and Holding Times

The samples were received in good condition and were analyzed within the required holding time.

3. Blanks

Two method blanks were associated with these samples. Both method blanks were free of contamination.

4. Laboratory Control Samples

Two laboratory control sample audits were associated with these samples. The Aroclor-1016-5 recovery (155%) for the laboratory control sample associated with Lab Batch 8381 was outside the laboratory generated quality control limits. Qualify the Aroclor-1016 results in all samples except MGB-TAR as estimated (J/UJ).

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709373**

Polychlorinated Biphenyls by U.S. EPA Method 8082


5. Matrix Spike/Matrix Spike Duplicate

A matrix spike/matrix spike duplicate audit was not performed on any samples from this set.

6. Surrogate Spike Recoveries

The Decachlorobiphenyl surrogate spike recoveries for samples Gay B –XRF21 (131%), Gay B –XRF 26 (140%) and Calumet XRF 16 (499%) were outside the laboratory generated quality control limits. Qualify all PCB results in these samples as estimated (J/UJ).

All Tetrachloro-m-xylene surrogate spike recoveries for all samples were within the laboratory generated quality control limits.


9/26/07

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709373**

Total Metals by U.S. EPA Methods 6020A and 7471A

1.

<u>Samples</u>	<u>Lab ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Gay B – XRF 6	0709373-001	Soil	9/10/07	NP	9/18; 9/19; 9/21; 9/24
Gay B –XRF11	0709373-002	Soil	9/10/07	NP	9/18; 9/19; 9/21; 9/24
Gay B -XRF14	0709373-003	Soil	9/10/07	NP	9/18; 9/19; 9/21; 9/24
Gay B –XRF21	0709373-004	Soil	9/10/07	NP	9/18; 9/19; 9/21; 9/24
Gay B –XRF26	0709373-005	Soil	9/10/07	NP	9/18; 9/19; 9/21; 9/24
MGB-TAR	0709373-006	Soil	9/10/07	NP	9/18; 9/19; 9/21; 9/24
Calumet XRF 16	0709373-007	Soil	9/7/07	NP	9/18; 9/19; 9/21; 9/24; 9/25
Mason XRF 6	0709373-008	Soil	9/6/07	NP	9/18; 9/19; 9/21; 9/24
Mineral XRF 11	0709373-009	Soil	9/7/07	NP	9/18; 9/19; 9/21; 9/24
Mason XRF 10	0709373-010	Soil	9/6/07	NP	9/18; 9/19; 9/21; 9/24
Mineral XRF 6	0709373-011	Soil	9/7/07	NP	9/18; 9/19; 9/21; 9/24

NP = Not presented with the data package

2. Sample Receipt and Holding Times

The samples were received in good condition and were analyzed within the required holding time.

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709373**

Total Metals by U.S. EPA Methods 6020A and 7471A

3. Blanks

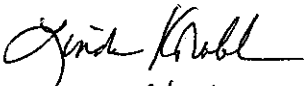
All metal method blanks were free of contamination.

4. Laboratory Control Samples

The laboratory control sample recoveries for aluminum (0%), arsenic (0%), beryllium (0%), chromium (0%), cobalt (0%), copper (0%), lead (0%), nickel (0%) and silver (0%) in Lab Batch 8389 analyzed on 9/24/07 were outside the laboratory generated quality control limits. Qualify the aluminum results in all samples as estimated (J/UJ). Qualify the zinc results in samples Gay B –XRF 14 and Mineral XRF 6 as estimated (J/UJ).

5. Matrix Spike/Matrix Spike Duplicate

Sample Gay B – XRF 6 was used for the mercury matrix spike/matrix spike duplicate audit. The zinc matrix spike recovery (-33%) was outside the laboratory generated quality control limits. The zinc matrix spike/matrix spike duplicate relative percent difference value was outside the laboratory generated quality control limits. Qualify the zinc results in all samples as estimated (J/UJ).


9/26/07

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709373**

Volatile Organic Compounds (VOCs) by U.S. EPA Method 8260B

1.

<u>Samples</u>	<u>Lab ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
MCP-TAR	0709373-006	Soil	9/10/07	NA	9/22/07

2. **Sample Receipt and Holding Times**

The sample was received in good condition and was analyzed within the required holding time.

3. **Blanks**

The method blank associated with this sample contained acetone (320 ug/Kg) and dichloromethane (49 ug/Kg). This had no affect on the associated sample.

4. **Laboratory Control Samples**


The acetone (161%), bromomethane (217%), chloroethane (156%), hexachloroethane (61.2%), t-butyl alcohol (0%), tetrachloroethene (175%), and trichlorofluoromethane (39%) laboratory control sample recoveries were outside the laboratory generated quality control limits. Qualify these compounds in sample MCP-TAR as estimated (J/UJ).

5. **Matrix Spike/Matrix Spike Duplicate**

A matrix spike/matrix spike duplicate audit was not performed on this sample.

6. **Surrogate Spike Recoveries**

The dibromofluoromethane surrogate spike recovery (117%) was outside the laboratory generated quality control limits. Qualify all VOCs in sample MCP-TAR as estimated (J/UJ).


9/26/07

**TORCH LAKE SITE ASSESSMENT
HOUGHTON COUNTY, MICHIGAN
DATA VALIDATION**

**RTI Laboratories, Inc.
Livonia, Michigan
Order Number 0709373**

Polynuclear Aromatic Hydrocarbons (PNAs) by U.S. EPA Method 8270C

1.

<u>Samples</u>	<u>Lab ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
MCP-TAR	0709373-006	Soil	9/10/07	NA	9/20/07

2. Sample Receipt and Holding Times

The sample was received in good condition and was analyzed within the required holding time.

3. Blanks

The method blank associated with this sample was free of contamination.

4. Laboratory Control Samples

All laboratory control sample recoveries were within the laboratory generated quality control limits.

5. Matrix Spike/Matrix Spike Duplicate

A matrix spike/matrix spike duplicate audit was not performed on this sample.

6. Surrogate Spike Recoveries

The 2,4,6-tribromophenol (0%) surrogate spike recovery was outside the laboratory generated quality control limits. This had no affect on sample MCP-TAR.


9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-001

Matrix: SOIL

Client Sample ID Gay B - XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS

SW8082

Analyst: MB

Aroclor 1016	ND J	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1221	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1232	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1242	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1248	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1254	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1260	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Aroclor 1262	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Total PCBs	ND	74		µg/Kg-dry	1	9/18/2007 6:44:07 AM
Surr: Decachlorobiphenyl	127	70-130		%REC	1	9/18/2007 6:44:07 AM
Surr: Tetrachloro-m-xylene	110	70-130		%REC	1	9/18/2007 6:44:07 AM

METALS, ICP/MS

SW6020A

Analyst: AB2

Aluminum	8,200,000 J	94,000		µg/Kg-dry	1000	9/24/2007 12:00:27 PM
Arsenic	350,000	940		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Beryllium	520	4,700 J		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Chromium	16,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Cobalt	13,000	4,700		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Copper	320,000,000	940,000		µg/Kg-dry	10000	9/24/2007 2:07:57 PM
Lead	290,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Lithium	3,000	940		µg/Kg-dry	10	9/24/2007 5:33:25 PM
Manganese	270,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Nickel	33,000	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Silver	220,000	95		µg/Kg-dry	10	9/19/2007 6:57:23 PM
Strontium	ND	230,000		µg/Kg-dry	100	9/21/2007 2:06:22 PM
Zinc	180,000 J	9,400		µg/Kg-dry	100	9/21/2007 2:06:22 PM

MERCURY

SW7471A

Analyst: AB2

Mercury	1,300	43		µg/Kg-dry	2	9/18/2007 4:18:22 PM
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PERCENT MOISTURE

D2216

Analyst: JE

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-001**Matrix:** SOIL**Client Sample ID** Gay B - XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE				D2216		Analyst: JE
Percent Moisture	11	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-002

Matrix: SOIL

Client Sample ID Gay B - XRF11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082		Analyst: MB		
Aroclor 1016	ND J	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1221	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1232	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1242	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1248	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1254	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1260	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Aroclor 1262	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Total PCBs	ND	76		µg/Kg-dry	1	9/18/2007 7:25:00 AM
Surr: Decachlorobiphenyl	122	70-130		%REC	1	9/18/2007 7:25:00 AM
Surr: Tetrachloro-m-xylene	107	70-130		%REC	1	9/18/2007 7:25:00 AM
METALS, ICP/MS		SW6020A		Analyst: AB2		
Aluminum	7,200,000 J	96,000		µg/Kg-dry	1000	9/24/2007 12:02:20 PM
Arsenic	670,000	960		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Beryllium	800	4,800 J		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Chromium	45,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Cobalt	14,000	4,800		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Copper	430,000,000	960,000		µg/Kg-dry	10000	9/24/2007 3:10:42 PM
Lead	82,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Lithium	2,900	960		µg/Kg-dry	10	9/24/2007 5:38:42 PM
Manganese	200,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Nickel	39,000	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Silver	150,000	100		µg/Kg-dry	10	9/19/2007 7:02:23 PM
Strontium	ND	240,000		µg/Kg-dry	100	9/21/2007 2:13:35 PM
Zinc	97,000 J	9,600		µg/Kg-dry	100	9/21/2007 2:13:35 PM
MERCURY		SW7471A		Analyst: AB2		
Mercury	630	16		µg/Kg-dry	1	9/18/2007 3:02:19 PM
PERCENT MOISTURE		D2216		Analyst: JE		

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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9/26/07

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-002
Client Sample ID Gay B - XRF11

Collection Date: 9/10/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	13	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

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WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-003

Matrix: SOIL

Client Sample ID Gay B - XRF14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082		Analyst: MB		
Aroclor 1016	ND ^S	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1221	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1232	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1242	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1248	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1254	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1260	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Aroclor 1262	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Total PCBs	ND	75		µg/Kg-dry	1	9/18/2007 8:05:34 AM
Surr: Decachlorobiphenyl	118	70-130		%REC	1	9/18/2007 8:05:34 AM
Surr: Tetrachloro-m-xylene	104	70-130		%REC	1	9/18/2007 8:05:34 AM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	11,000,000 ^S	81,000		µg/Kg-dry	1000	9/24/2007 12:04:12 PM
Arsenic	58,000	810		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Beryllium	ND	4,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Chromium	61,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Cobalt	12,000	4,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Copper	990,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Lead	850,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Lithium	5,000	810		µg/Kg-dry	10	9/24/2007 5:40:27 PM
Manganese	610,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Nickel	31,000	8,100		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Silver	940	100		µg/Kg-dry	10	9/19/2007 7:20:08 PM
Strontium	ND	200,000		µg/Kg-dry	100	9/21/2007 2:16:00 PM
Zinc	14,000,000 ^J	81,000		µg/Kg-dry	1000	9/24/2007 4:10:00 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	26	21		µg/Kg-dry	1	9/18/2007 3:04:25 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 6 of 70

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-003**Matrix:** SOIL**Client Sample ID** Gay B - XRF14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	12	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-004
Client Sample ID Gay B - XRF21

Collection Date: 9/10/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1221	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1232	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1242	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1248	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1254	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1260	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Aroclor 1262	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Total PCBs	ND	80		µg/Kg-dry	1	9/18/2007 8:46:00 AM
Surr: Decachlorobiphenyl	131	70-130	S	%REC	1	9/18/2007 8:46:00 AM
Surr: Tetrachloro-m-xylene	106	70-130		%REC	1	9/18/2007 8:46:00 AM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	7,600,000	97,000		µg/Kg-dry	1000	9/24/2007 12:06:04 PM
Arsenic	12,000	970		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Beryllium	ND	4,800		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Chromium	35,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Cobalt	7,500	4,800		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Copper	650,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Lead	61,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Lithium	6,600	970		µg/Kg-dry	10	9/24/2007 5:42:14 PM
Manganese	250,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Nickel	13,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Silver	1,100	98		µg/Kg-dry	10	9/19/2007 7:21:59 PM
Strontium	ND	240,000		µg/Kg-dry	100	9/21/2007 2:18:26 PM
Zinc	100,000	9,700		µg/Kg-dry	100	9/21/2007 2:18:26 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	200	26		µg/Kg-dry	1	9/18/2007 3:06:04 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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9/26/07

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-004**Matrix:** SOIL**Client Sample ID** Gay B - XRF21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	18		1.0	wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-005

Matrix: SOIL

Client Sample ID Gay B - XRF26

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS

SW8082

Analyst: MB

Aroclor 1016	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1221	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1232	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1242	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1248	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1254	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1260	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Aroclor 1262	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Total PCBs	ND	97		µg/Kg-dry	1	9/18/2007 2:11:05 PM
Surr: Decachlorobiphenyl	140	70-130	S	%REC	1	9/18/2007 2:11:05 PM
Surr: Tetrachloro-m-xylene	102	70-130		%REC	1	9/18/2007 2:11:05 PM

METALS, ICP/MS

SW6020A

Analyst: AB2

Aluminum	6,700,000	110,000		µg/Kg-dry	1000	9/24/2007 12:07:57 PM
Arsenic	17,000	1,100		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Beryllium	ND	5,600		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Chromium	59,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Cobalt	17,000	5,600		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Copper	1,100,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Lead	310,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Lithium	3,900	1,100		µg/Kg-dry	10	9/24/2007 5:44:00 PM
Manganese	930,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Nickel	45,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Silver	1,200	130		µg/Kg-dry	10	9/19/2007 7:23:51 PM
Strontium	ND	280,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM
Zinc	4,300,000	11,000		µg/Kg-dry	100	9/21/2007 2:20:51 PM

MERCURY

SW7471A

Analyst: AB2

Mercury	460	31		µg/Kg-dry	1	9/18/2007 3:11:07 PM
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PERCENT MOISTURE

D2216

Analyst: JE

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

M Manual Integration used to determine area response

RL Reporting Detection Limit

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J. Knobel
9/26/07

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/10/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-005**Matrix:** SOIL**Client Sample ID** Gay B - XRF26

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	32	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/10/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-006

Matrix: SOLID

Client Sample ID MGP-TAR

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS		SW8082		Analyst: MB		
Aroclor 1016	ND ^S	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1221	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1232	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1242	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1248	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1254	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1260	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Aroclor 1262	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Total PCBs	ND	330		µg/Kg	1	9/18/2007 12:08:49 PM
Surr: Decachlorobiphenyl	85.1	70-130		%REC	1	9/18/2007 12:08:49 PM
Surr: Tetrachloro-m-xylene	98.7	70-130		%REC	1	9/18/2007 12:08:49 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	720,000 ^S	90,000		µg/Kg	1000	9/24/2007 12:55:14 PM
Arsenic	1,000	900		µg/Kg	100	9/21/2007 2:23:17 PM
Beryllium	ND	4,500		µg/Kg	100	9/21/2007 2:23:17 PM
Chromium	ND	9,000		µg/Kg	100	9/21/2007 2:23:17 PM
Cobalt	500	4,500	J	µg/Kg	100	9/21/2007 2:23:17 PM
Copper	350,000	9,000		µg/Kg	100	9/21/2007 2:23:17 PM
Lead	4,200	9,000	J	µg/Kg	100	9/21/2007 2:23:17 PM
Lithium	ND	900		µg/Kg	10	9/24/2007 5:45:47 PM
Manganese	16,000	9,000		µg/Kg	100	9/21/2007 2:23:17 PM
Nickel	1,500	9,000	J	µg/Kg	100	9/21/2007 2:23:17 PM
Silver	670	85		µg/Kg	10	9/19/2007 7:25:40 PM
Strontium	ND	230,000		µg/Kg	100	9/21/2007 2:23:17 PM
Zinc	7,900 ^S	9,000	J	µg/Kg	100	9/21/2007 2:23:17 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	30	25		µg/Kg	1	9/18/2007 3:12:47 PM
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**POLYNUCLEAR AROMATIC HYDROCARBONS
SEMI-VOLATILE ORGANIC COMPOUNDS****SW8270C**

Analyst: JW

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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J. Krabel
9/26/07

**RTI LABORATORIES, INC.**

31628 Glendale St.
Livonia, Michigan 48150
TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-006
Client Sample ID MGP-TAR

Collection Date: 9/10/2007**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYNUCLEAR AROMATIC HYDROCARBONS				SW8270C		Analyst: JW
SEMI-VOLATILE ORGANIC COMPOUNDS						
2-Methylnaphthalene	3,600,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Acenaphthene	400,000	960,000	J	µg/Kg	200	9/20/2007 3:13:00 PM
Acenaphthylene	4,900,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Anthracene	3,200,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(a)anthracene	2,500,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(a)pyrene	2,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(b)fluoranthene	2,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(g,h,i)perylene	1,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Benzo(k)fluoranthene	1,100,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Chrysene	1,800,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Dibenz(a,h)anthracene	270,000	960,000	J	µg/Kg	200	9/20/2007 3:13:00 PM
Fluoranthene	7,400,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Fluorene	3,000,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Indeno(1,2,3-cd)pyrene	1,200,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Naphthalene	21,000,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Phenanthrene	11,000,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Pyrene	7,900,000	960,000		µg/Kg	200	9/20/2007 3:13:00 PM
Surr: 2,4,6-Tribromophenol	0	25-93.9	S	%REC	200	9/20/2007 3:13:00 PM
Surr: 2-Fluorobiphenyl	44.0	26-105		%REC	200	9/20/2007 3:13:00 PM
Surr: 2-Fluorophenol	36.0	25-120		%REC	200	9/20/2007 3:13:00 PM
Surr: Nitrobenzene-d5	32.0	30.1-104		%REC	200	9/20/2007 3:13:00 PM
Surr: Phenol-d5	44.0	25-118		%REC	200	9/20/2007 3:13:00 PM
Surr: Terphenyl-d14	68.0	27.1-115		%REC	200	9/20/2007 3:13:00 PM

VOLATILE ORGANIC COMPOUNDS**SW8260B**

Analyst: MT3

1,1,1,2-Tetrachloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,1-Trichloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,2,2-Tetrachloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1,2-Trichloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1-Dichloroethane	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1-Dichloroethene	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM
1,1-Dichloropropene	ND	200,000	µg/Kg	200000	9/22/2007 3:15:00 PM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Handwritten signature
9/26/07

**RTI LABORATORIES, INC.**

31628 Glendale St.
Livonia, Michigan 48150
TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-006
Client Sample ID MGP-TAR

Collection Date: 9/10/2007**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		SW8260B		Analyst: MT3		
1,2,3-Trichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,3-Trichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,3-Trimethylbenzene	92,000	200,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,4-Trichlorobenzene	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2,4-Trimethylbenzene	260,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dibromo-3-chloropropane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dichloroethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,2-Dichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,3,5-Trimethylbenzene	100,000	200,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
1,3-Dichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,3-Dichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
1,4-Dichlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2,2-Dichloropropane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Chloroethyl vinyl ether	ND	2,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Chlorotoluene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Hexanone	ND	10,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Methylnaphthalene	3,200,000	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
2-Nitropropane	ND	800,000		µg/Kg	200000	9/22/2007 3:15:00 PM
4-Chlorotoluene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Acetone	630,000	10,000,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
Acrylonitrile	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Benzene	1,200,000	120,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromochloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromodichloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromoform	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Bromomethane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Carbon disulfide	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Carbon tetrachloride	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chlorobenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chloroethane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chloroform	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Chloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 14 of 70

**RTI LABORATORIES, INC.**

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TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-006
Client Sample ID MGP-TAR

Collection Date: 9/10/2007**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		SW8260B		Analyst: MT3		
cis-1,2-Dichloroethene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
cis-1,3-Dichloropropene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dibromochloromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dibromomethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dichlorodifluoromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Dichloromethane	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Diethyl ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Ethyl methacrylate	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Ethylbenzene	80,000	200,000	J	µg/Kg	200000	9/22/2007 3:15:00 PM
Ethylene dibromide	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Hexachlorobutadiene	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Hexachloroethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Isopropyl ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Isopropylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
m,p-Xylene	520,000	400,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl ethyl ketone	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl Iodide	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl isobutyl ketone	ND	2,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Methyl tert-butyl ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Naphthalene	29,000,000	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
n-Butylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
n-Propylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
o-Xylene	210,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
p-Isopropyltoluene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
sec-Butylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Styrene	210,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
t-Butyl alcohol	ND	8,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
tert-Amyl Methyl Ether	ND	800,000		µg/Kg	200000	9/22/2007 3:15:00 PM
tert-Butyl Ethyl Ether	ND	1,000,000		µg/Kg	200000	9/22/2007 3:15:00 PM
tert-Butylbenzene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Tetrachloroethene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Toluene	640,000	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
trans-1,2-Dichloroethene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
trans-1,3-Dichloropropene	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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**RTI LABORATORIES, INC.**

31628 Glendale St.
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TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-006
Client Sample ID MGP-TAR

Collection Date: 9/10/2007**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		SW8260B			Analyst: MT3	
trans-1,4-Dichloro-2-butene	ND J	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Trichloroethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Trichlorofluoromethane	ND	200,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Vinyl chloride	ND	160,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Xylenes, Total	730,000	600,000		µg/Kg	200000	9/22/2007 3:15:00 PM
Surr: 4-Bromofluorobenzene	114	90-115		%REC	200000	9/22/2007 3:15:00 PM
Surr: Dibromofluoromethane	117	88.4-108	S	%REC	200000	9/22/2007 3:15:00 PM
Surr: Toluene-d8	109	90-112		%REC	200000	9/22/2007 3:15:00 PM
CYANIDE		SW9012A			Analyst: JT	
Cyanide, Total	3.5	0.12		mg/Kg	1	9/21/2007

Qualifiers: */X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

Page 16 of 70

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9/26/07

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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-007
Client Sample ID Calument XRF 16

Collection Date: 9/7/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082****Analyst: MB**

Aroclor 1016	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1221	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1232	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1242	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1248	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1254	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1260	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Aroclor 1262	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Total PCBs	ND	57		µg/Kg-dry	1	9/18/2007 2:51:43 PM
Surr: Decachlorobiphenyl	499	70-130	S	%REC	1	9/18/2007 2:51:43 PM
Surr: Tetrachloro-m-xylene	102	70-130		%REC	1	9/18/2007 2:51:43 PM

METALS, ICP/MS**SW6020A****Analyst: AB2**

Aluminum	13,000,000	140,000		µg/Kg-dry	1000	9/24/2007 12:09:49 PM
Arsenic	36,000	1,400		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Beryllium	1,600	6,800	J	µg/Kg-dry	100	9/21/2007 2:30:34 PM
Chromium	28,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Cobalt	18,000	6,800		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Copper	10,000,000	140,000		µg/Kg-dry	1000	9/25/2007 4:11:17 PM
Lead	1,100,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Lithium	9,700	1,400		µg/Kg-dry	10	9/24/2007 5:54:00 PM
Manganese	740,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Nickel	49,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Silver	2,400	150		µg/Kg-dry	10	9/19/2007 7:27:28 PM
Strontium	ND	340,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM
Zinc	420,000	14,000		µg/Kg-dry	100	9/21/2007 2:30:34 PM

MERCURY**SW7471A****Analyst: AB2**

Mercury	230	43		µg/Kg-dry	1	9/18/2007 3:14:27 PM
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PERCENT MOISTURE**D2216****Analyst: JE**

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

Page 17 of 70

J. Krue
9/25/07



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FAX: 734.422.5342
Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/7/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-007

Matrix: SOIL

Client Sample ID Calument XRF 16

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	42		1.0	wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

Handwritten signature
9/26/07

**RTI LABORATORIES, INC.**

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-008
Client Sample ID Mason XRF6

Collection Date: 9/6/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND ⁵	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1221	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1232	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1242	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1248	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1254	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1260	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Aroclor 1262	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Total PCBs	ND	39		µg/Kg-dry	1	9/18/2007 12:49:42 PM
Surr: Decachlorobiphenyl	112	70-130		%REC	1	9/18/2007 12:49:42 PM
Surr: Tetrachloro-m-xylene	99.7	70-130		%REC	1	9/18/2007 12:49:42 PM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	16,000,000 ⁵	96,000		µg/Kg-dry	1000	9/24/2007 12:11:41 PM
Arsenic	6,700	960		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Beryllium	750	4,800	J	µg/Kg-dry	100	9/21/2007 2:33:00 PM
Chromium	8,200	9,600	J	µg/Kg-dry	100	9/21/2007 2:33:00 PM
Cobalt	17,000	4,800		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Copper	1,900,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Lead	1,100,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Lithium	7,100	960		µg/Kg-dry	10	9/24/2007 5:55:48 PM
Manganese	790,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Nickel	31,000	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Silver	5,300	100		µg/Kg-dry	10	9/19/2007 7:29:17 PM
Strontium	ND	240,000		µg/Kg-dry	100	9/21/2007 2:33:00 PM
Zinc	110,000 ⁵	9,600		µg/Kg-dry	100	9/21/2007 2:33:00 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	510	28		µg/Kg-dry	1	9/18/2007 3:16:08 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/6/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-008

Matrix: SOIL

Client Sample ID Mason XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	14	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-009
Client Sample ID Mineral XRF11

Collection Date: 9/7/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082****Analyst: MB**

Aroclor 1016	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1221	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1232	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1242	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1248	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1254	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1260	ND	68		µg/Kg-dry	1	9/18/2007 9:26:29 AM
Aroclor 1262	24	68	J	µg/Kg-dry	1	9/18/2007 9:26:29 AM
Total PCBs	24	68	J	µg/Kg-dry	1	9/18/2007 9:26:29 AM
Surr: Decachlorobiphenyl	94.9	70-130		%REC	1	9/18/2007 9:26:29 AM
Surr: Tetrachloro-m-xylene	84.3	70-130		%REC	1	9/18/2007 9:26:29 AM

METALS, ICP/MS**SW6020A****Analyst: AB2**

Aluminum	6,200,000	73,000		µg/Kg-dry	1000	9/24/2007 12:13:34 PM
Arsenic	52,000	730		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Beryllium	500	3,600	J	µg/Kg-dry	100	9/21/2007 2:35:26 PM
Chromium	6,900	7,300	J	µg/Kg-dry	100	9/21/2007 2:35:26 PM
Cobalt	6,900	3,600		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Copper	17,000,000	73,000		µg/Kg-dry	1000	9/24/2007 2:12:11 PM
Lead	280,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Lithium	4,700	730		µg/Kg-dry	10	9/24/2007 5:57:35 PM
Manganese	180,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Nickel	24,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Silver	5,000	90		µg/Kg-dry	10	9/19/2007 7:31:05 PM
Strontium	ND	180,000		µg/Kg-dry	100	9/21/2007 2:35:26 PM
Zinc	490,000	7,300		µg/Kg-dry	100	9/21/2007 2:35:26 PM

MERCURY**SW7471A****Analyst: AB2**

Mercury	100	17		µg/Kg-dry	1	9/18/2007 3:17:47 PM
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PERCENT MOISTURE**D2216****Analyst: JE**

Qualifiers:

- *X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- M Manual Integration used to determine area response
- RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/7/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-009**Matrix:** SOIL**Client Sample ID** Mineral XRF11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	2.3	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.
Project: Torch Lake SA - 20405.016.002.0274.00
Lab ID: 0709373-010
Client Sample ID Mason XRF10

Collection Date: 9/6/2007**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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POLYCHLORINATED BIPHENYLS**SW8082**

Analyst: MB

Aroclor 1016	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1221	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1232	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1242	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1248	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1254	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1260	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Aroclor 1262	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Total PCBs	ND	35		µg/Kg-dry	1	9/18/2007 10:07:02 AM
Surr: Decachlorobiphenyl	130	70-130		%REC	1	9/18/2007 10:07:02 AM
Surr: Tetrachloro-m-xylene	104	70-130		%REC	1	9/18/2007 10:07:02 AM

METALS, ICP/MS**SW6020A**

Analyst: AB2

Aluminum	21,000,000	72,000		µg/Kg-dry	1000	9/24/2007 12:15:27 PM
Arsenic	1,700	720		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Beryllium	ND	3,600		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Chromium	10,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Cobalt	17,000	3,600		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Copper	19,000,000	72,000		µg/Kg-dry	1000	9/24/2007 2:14:06 PM
Lead	200,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Lithium	3,400	720		µg/Kg-dry	10	9/24/2007 5:59:21 PM
Manganese	520,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Nickel	32,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Silver	5,400	70		µg/Kg-dry	10	9/19/2007 7:32:54 PM
Strontium	ND	180,000		µg/Kg-dry	100	9/21/2007 2:37:51 PM
Zinc	110,000	7,200		µg/Kg-dry	100	9/21/2007 2:37:51 PM

MERCURY**SW7471A**

Analyst: AB2

Mercury	120	23		µg/Kg-dry	1	9/18/2007 3:19:24 PM
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PERCENT MOISTURE**D2216**

Analyst: JE

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.**Collection Date:** 9/6/2007**Project:** Torch Lake SA - 20405.016.002.0274.00**Lab ID:** 0709373-010**Matrix:** SOIL**Client Sample ID** Mason XRF10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE					D2216	Analyst: JE
Percent Moisture	4.5	1.0		wt%	1	9/17/2007 8:30:00 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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JK
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Analytical Report

(consolidated)

WO#: 0709373

Date Reported: 9/25/2007

CLIENT: Weston Solutions of Illinois, Inc.

Collection Date: 9/7/2007

Project: Torch Lake SA - 20405.016.002.0274.00

Lab ID: 0709373-011

Matrix: SOIL

Client Sample ID Mineral XRF6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS			SW8082		Analyst: MB	
Aroclor 1016	ND ⁵	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1221	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1232	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1242	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1248	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1254	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1260	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Aroclor 1262	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Total PCBs	ND	70		µg/Kg-dry	1	9/18/2007 1:30:34 PM
Surr: Decachlorobiphenyl	122	70-130		%REC	1	9/18/2007 1:30:34 PM
Surr: Tetrachloro-m-xylene	104	70-130		%REC	1	9/18/2007 1:30:34 PM
METALS, ICP/MS			SW6020A		Analyst: AB2	
Aluminum	3,200,000 ⁵	64,000		µg/Kg-dry	1000	9/24/2007 12:57:08 PM
Arsenic	230,000	640		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Beryllium	ND	3,200		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Chromium	56,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Cobalt	48,000	3,200		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Copper	44,000,000	640,000		µg/Kg-dry	10000	9/24/2007 3:12:37 PM
Lead	1,900,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Lithium	ND	640		µg/Kg-dry	10	9/24/2007 6:01:06 PM
Manganese	73,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Nickel	540,000	6,400		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Silver	9,000	87		µg/Kg-dry	10	9/19/2007 7:34:43 PM
Strontium	ND	160,000		µg/Kg-dry	100	9/21/2007 2:40:16 PM
Zinc	5,400,000 ⁵	64,000		µg/Kg-dry	1000	9/24/2007 4:01:23 PM
MERCURY			SW7471A		Analyst: AB2	
Mercury	22	14		µg/Kg-dry	1	9/18/2007 3:32:39 PM
PERCENT MOISTURE			D2216		Analyst: JE	

Qualifiers: *X Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
M Manual Integration used to determine area response
RL Reporting Detection Limit

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J. Knoll
9/26/07

ATTACHMENT D
FORMER C&H LEACH PLANT, MDEQ SAMPLING LOCATIONS AND RESULTS
THAT EXCEED RDCC

Attachment D-1
Results of Metals Analysis that Exceed RDCC
in Samples Collected by MDEQ at AOI 19 - C and H Leach Plant
August 9, 2007

Parameter	Regulatory Criteria		Sample Name	Ahmeek Regrind South	Ahmeek Regrind South #1	Ahmeek Regrind South #2	Ahmeek Regrind South #2	Ahmeek Regrind South #3
			Sampling Date	08/09/07	08/09/07	08/09/07	08/09/07	08/09/07
			Sample Type	Laboratory	XRF	XRF	XRF	XRF
			Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
	Part 201 SDBL	Part 201 RDCC	Sample Number/ Location Units	C&H Leach Plant, Ahmeek Regrind South	C&H Leach Plant, Ahmeek Regrind South	C&H Leach Plant, Ahmeek Regrind South	C&H Leach Plant, Ahmeek Regrind South	C&H Leach Plant, Ahmeek Regrind South
Metals								
Antimony	--	180	mg/Kg	37	205	141	61	127
Arsenic	5.8	7.6	mg/Kg	36	592	172	280	83
Barium	75	37,000	mg/Kg	1,300	0	0	0	0
Beryllium	NA	410	mg/Kg	8	NT	NT	NT	NT
Cadmium	1	550	mg/Kg	19	23	16	9.3	38
Chromium	18	790,000	mg/Kg	76	610	639	908	329
Cobalt	6.8	2,600	mg/Kg	19	1,621	621	4.1	436
Copper	32	20,000	mg/Kg	74,000	132,830	67,264	66,886	61,359
Iron	12,000	160,000	mg/Kg	63,000	280,923	109,343	123,230	121,800
Lead	21.0	400	mg/Kg	6,800	16,317	5,671	5,674	5,175
Manganese	440.0	25,000	mg/Kg	1,100	62	38	1,286	144
Molybdenum	NA	2,600	mg/Kg	45	28	10	30	24
Mercury	0.1	160.0	mg/Kg	7	340	132	178	75
Nickel	20	4,000	mg/Kg	89	1,527	648	714	659
Rubidium	---	---	mg/Kg	NT	144	40	47	46
Selenium	0.4	2,600	mg/Kg	6	92	47	48	30
Silver	1	2,500	mg/Kg	330	1,059	422	390	260
Strontium	NA	330,000	mg/Kg	NT	116	431	443	522
Thallium	NA	35	mg/Kg	<LOD	NT	NT	NT	NT
Tin	---	---	mg/Kg	NT	8,053	3,873	3,577	4,454
Titanium	---	---	mg/Kg	NT	6,950	6,006	4,572	5,586
Vanadium	NA	750	mg/Kg	42	NT	NT	NT	NT
Zinc	47	170,000	mg/Kg	1,300	5,142	2,464	3,333	2,328
Zirconium	---	---	mg/Kg	NT	281	94	98	23

Attachment D-1
Results of Metals Analysis that Exceed RDCC
in Samples Collected by MDEQ at AOI 19 - C and H Leach Plant
August 9, 2007

Parameter	Regulatory Criteria		Sample Name	Ahmeek Regrind #1	Ahmeek Regrind #2	Ahmeek Regrind #3
			Sampling Date	08/09/07	08/09/07	08/09/07
			Sample Type	XRF	XRF	XRF
			Sample Matrix	Sediment	Sediment	Sediment
	Part 201 SDBL	Part 201 RDCC	Sample Number/ Location Units	C&H Leach Plant, Ahmeek Regrind South	C&H Leach Plant, Ahmeek Regrind South	C&H Leach Plant, Ahmeek Regrind South
Metals						
Antimony	--	180	mg/Kg	25	466	85
Arsenic	5.8	7.6	mg/Kg	651	635	759
Barium	75	37,000	mg/Kg	0	0	0
Beryllium	NA	410	mg/Kg	NT	NT	NT
Cadmium	1	550	mg/Kg	5.5	56	137
Chromium	18	790,000	mg/Kg	631	1,154	660
Cobalt	6.8	2,600	mg/Kg	1,253	1,348	1,080
Copper	32	20,000	mg/Kg	76,900	65,157	57,160
Iron	12,000	160,000	mg/Kg	27,123	23,852	28,836
Lead	21.0	400	mg/Kg	24,323	25,766	28,724
Manganese	440.0	25,000	mg/Kg	817	1,176	547
Molybdenum	NA	2,600	mg/Kg	10	7.2	11
Mercury	0.1	160.0	mg/Kg	195	170	85
Nickel	20	4,000	mg/Kg	403	314	150
Rubidium	---	---	mg/Kg	37	14	20
Selenium	0.4	2,600	mg/Kg	59	81	72
Silver	1	2,500	mg/Kg	193	585	287
Strontium	NA	330,000	mg/Kg	151	139	221
Thallium	NA	35	mg/Kg	NT	NT	NT
Tin	---	---	mg/Kg	26,413	27,016	26,540
Titanium	---	---	mg/Kg	4,856	6,027	6,610
Vanadium	NA	750	mg/Kg	NT	NT	NT
Zinc	47	170,000	mg/Kg	10,226	11,211	10,337
Zirconium	---	---	mg/Kg	188	174	167

Attachment D-1
Results of Metals Analysis that Exceed RDCC
in Samples Collected by MDEQ at AOI 19 - C and H Leach Plant
August 9, 2007

NOTES:

Results in shaded boxes exceed the MDEQ Part 201 Residential Direct Contact Criteria.

LOD – Level of Detection for the Innov-X XRF Instrument

MDEQ - Michigan Department of Environmental Quality

mg/Kg – Milligrams per kilogram. Laboratory sample results are on a dry weight basis.

NT - analyte was not tested

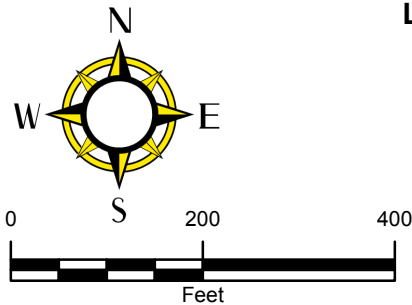
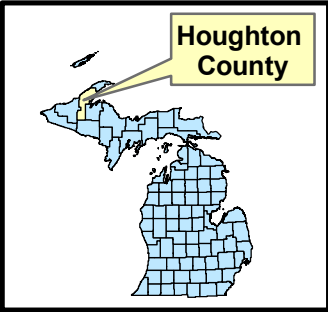
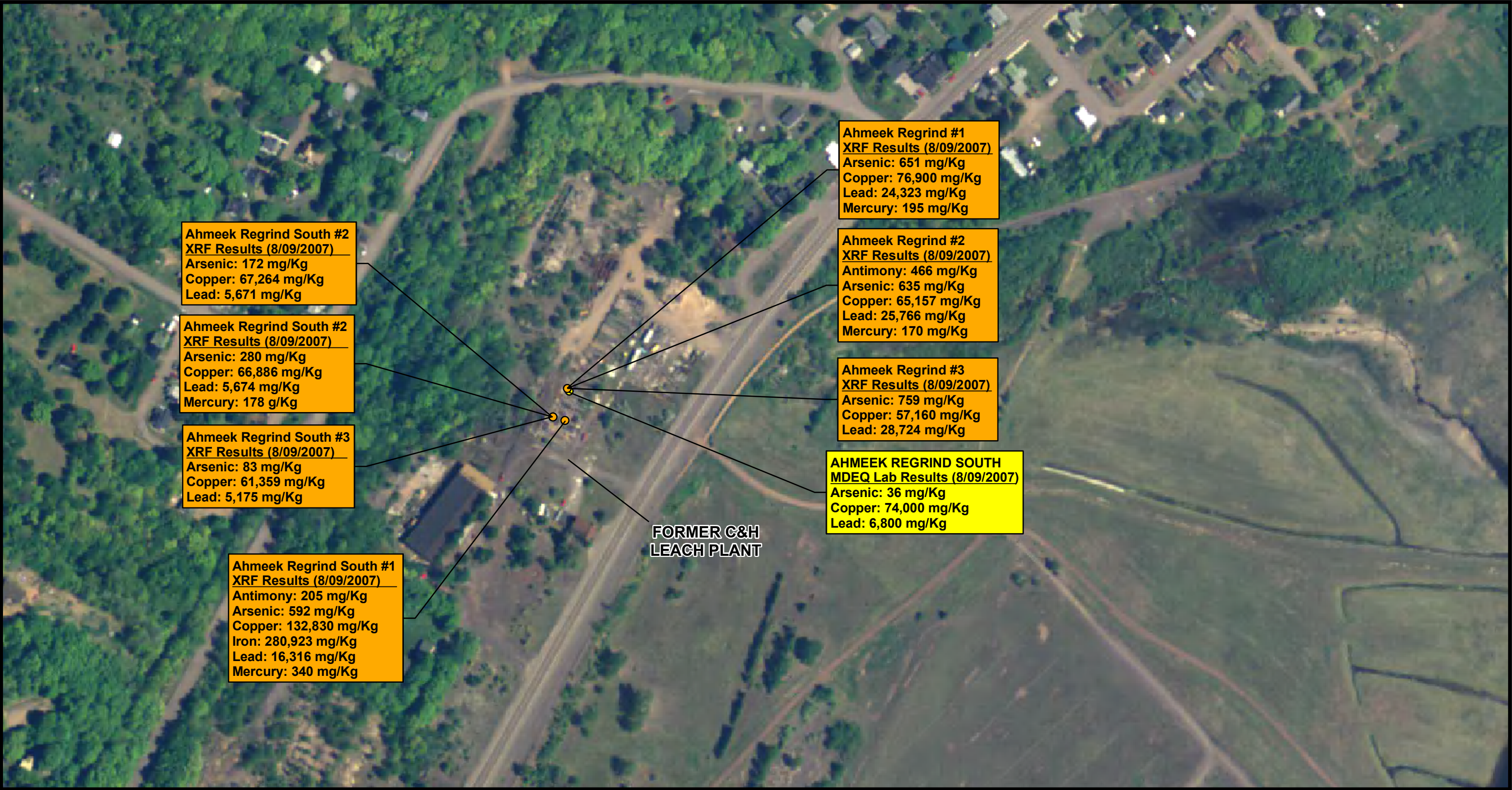
Part 201-RDCC – MDEQ Part 201 Residential Direct Contact Criteria

Part 201-SDBL – MDEQ Part 201 Statewide Default Background Level

XRF – X-Ray Fluorescence

"--" – Not listed in MDEQ Part 201 Tables

< – Less than



- Legend**
- MDEQ XRF Soil Sample
 - MDEQ Laboratory Soil Sample
 - Soil Results Shown Exceed Part 201 Residential Direct Contact Criteria (RDCC)
 - Sampling Locations are Approximate
 - MDEQ: Michigan Department of Environmental Quality
 - mg/Kg: milligrams per kilogram
 - XRF: X-Ray Fluorescence

Source of Imagery: ESRI ArcGIS Map Service (c) 2007
Date of Photography: 06/21/2005

Attachment D-2



Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04

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DCN: 274-2A-ABDT



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AOI No. 19
FORMER C&H LEACH PLANT
MDEQ SAMPLING LOCATIONS AND RESULTS
KEWEENAW PENINSULA, MICHIGAN
October 2007

ATTACHMENT E
LAKE LINDEN U.S. EPA EMERGENCY RESPONSE DATA

Attachment E-1a
Summary of Analytical Results of Clayey Material Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 26, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-Sediment1	LLV-Sediment2
			Sampling Date		07/26/07	07/26/07
			Sample Matrix		Soil	Soil
			Sample Number/ Location		LLV Shoreline, Grid#12, 0-3" (Clayey material)	LLV Shoreline, Grid#12, 0-3" (Clayey/silt material)
			Units			
Metals and Cyanide						
Cyanide (total)	0.39	12	mg/Kg-dry	EPA 335.2/9012B	<0.20	<0.20
Aluminum	6,900	50,000	mg/Kg-dry	EPA 6010B	5,800	7,800
Barium	75	37,000	mg/Kg-dry	EPA 6010B	140,000	350
Beryllium	NA	410	mg/Kg-dry	EPA 6010B	8.5	1.0
Cadmium	1	550	mg/Kg-dry	EPA 6010B	120	4.2
Calcium	--	--	mg/Kg-dry	EPA 6010B	22,000	6,600
Chromium	18	790,000	mg/Kg-dry	EPA 6010B	290	19
Cobalt	6.8	2,600	mg/Kg-dry	EPA 6010B	30	10
Copper	32	20,000	mg/Kg-dry	EPA 6010B	79,000	1,900
Iron	12,000	160,000	mg/Kg-dry	EPA 6010B	33,000	13,000
Magnesium	NA	1,000,000	mg/Kg-dry	EPA 6010B	5,100	7,000
Potassium	--	--	mg/Kg-dry	EPA 6010B	280	540
Sodium	NA	1,000,000	mg/Kg-dry	EPA 6010B	130	110
Vanadium	NA	750	mg/Kg-dry	EPA 6010B	6.1	28
Antimony	NA	180	mg/Kg-dry	SW6020	50	0.97
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	8.2	9.2
Lead	21	400	mg/Kg-dry	SW6020	80,000	2,100
Manganese	440	25,000	mg/Kg-dry	SW6020	220	170
Nickel	20	4,000	mg/Kg-dry	SW6020	160	32
Selenium	0.4	2,600	mg/Kg-dry	SW6020	9.1	0.53
Silver	1	2,500	mg/Kg-dry	SW6020	45	8.0
Thallium	NA	35	mg/Kg-dry	SW6020	<0.50	<0.50
Zinc	47	170,000	mg/Kg-dry	SW6020	13,000	390
Mercury	0.1	160.0	mg/Kg-dry	EPA 7471A	1.9	0.11

Attachment E-1a
Summary of Analytical Results of Clayey Material Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 26, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-Sediment1	LLV-Sediment2
			Sampling Date		07/26/07	07/26/07
			Sample Matrix		Soil	Soil
			Sample Number/ Location		LLV Shoreline, Grid#12, 0-3" (Clayey material)	LLV Shoreline, Grid#12, 0-3" (Clayey/silt material)
			Units			
PCBs						
PCBs (Total)	NA	4,000	ug/Kg-dry	EPA 8082	1,131	136
SVOCs						
Bis(2-ethylhexyl)phthalate	NA	2,800,000	ug/Kg-dry	EPA 8270C	340	<330

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/Kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

SVOC - semivolatile organic compound

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-1A	LLV-1B	LLV-2A	LLV-2B
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		LLV Shoreline, Grid#1, 0-3"	LLV Shoreline, Grid#1, 12-18"	LLV Shoreline, Grid#2, 0-3"	LLV Shoreline, Grid#2, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.5	3.1	< 2.4	< 2.5
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	3	2	65	11
Barium	75	37,000	mg/Kg-dry	SW6020	20	21	17	18
Copper	32	20,000	mg/Kg-dry	SW6020	1,900	7,100	1,100	5,100
Lead	21	400	mg/Kg-dry	SW6020	23	40	27	9

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-3A	LLV-3B	LLV-4A	LLV-4B
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#3, 0-3"	LLV Shoreline, Grid#3, 12-18"	Shoreline, Grid#4, 0-3"	LLV Shoreline, Grid#4, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.6	< 2.6	< 2.5	< 2.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	7	7	2	2
Barium	75	37,000	mg/Kg-dry	SW6020	12	10	21	19
Copper	32	20,000	mg/Kg-dry	SW6020	810	1,200	770	1,500
Lead	21	400	mg/Kg-dry	SW6020	19	14	16	8

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-5A	LLV-5B	LLV-6A	LLV-6B
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#5, 0-3"	LLV Shoreline, Grid#5, 12-18"	Shoreline, Grid#6, 0-3"	LLV Shoreline, Grid#6, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.6	< 2.4	< 2.6	< 2.3
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	1.7	1.4	2.4	2.3
Barium	75	37,000	mg/Kg-dry	SW6020	17	16	14	11
Copper	32	20,000	mg/Kg-dry	SW6020	6,400	1,300	2,600	3,900
Lead	21	400	mg/Kg-dry	SW6020	20	20	35	13

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-7A	LLV-7B	LLV-7ADUP	LLV-7BDUP
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		LLV Shoreline, Grid#7, 0-3"	LLV Shoreline, Grid#7, 12-18"	LLV Shoreline, Grid#7, 0-3"	LLV Shoreline, Grid#7, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.5	< 2.6	< 2.4	< 2.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	3	2	2	3
Barium	75	37,000	mg/Kg-dry	SW6020	16	11	9.3	14
Copper	32	20,000	mg/Kg-dry	SW6020	1,000	560	470	1,100
Lead	21	400	mg/Kg-dry	SW6020	27	22	18	25

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-8A	LLV-8B	LLV-9A	LLV-9B
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#8, 0-3"	LLV Shoreline, Grid#8, 12-18"	LLV Shoreline, Grid#9, 0-3"	LLV Shoreline, Grid#9, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.2	< 2.3	< 2.1	< 2.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	< 1.1	< 1.2	1.6	1.6
Barium	75	37,000	mg/Kg-dry	SW6020	7.2	7.4	11	12
Copper	32	20,000	mg/Kg-dry	SW6020	1,500	1,000	1,700	2,200
Lead	21	400	mg/Kg-dry	SW6020	11	14	59	36

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-10A	LLV-10B	LLV-11A	LLV-11B
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		LLV Shoreline, Grid#10, 0-3"	LLV Shoreline, Grid#10, 12-18"	LLV Shoreline, Grid#11, 0-3"	LLV Shoreline, Grid#11, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.5	< 2.3	< 2.2	< 2.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	2.2	< 1.2	2.7	1.3
Barium	75	37,000	mg/Kg-dry	SW6020	14	8	43	41
Copper	32	20,000	mg/Kg-dry	SW6020	910	970	800	780
Lead	21	400	mg/Kg-dry	SW6020	74	18	79	16

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-13A	LLV-13B	LLV-14A	LLV-14B
			Sampling Date		07/30/07	07/30/07	07/31/07	07/31/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#13, 0-3"	LLV Shoreline, Grid#13, 12-18"	LLV Shoreline, Grid#14, 0-3"	LLV Shoreline, Grid#14, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.5	< 2.6	< 2.4	< 2.3
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	1.7	3.2	<1.2	11
Barium	75	37,000	mg/Kg-dry	SW6020	54	100	19	110
Copper	32	20,000	mg/Kg-dry	SW6020	300	1,100	72	1,500
Lead	21	400	mg/Kg-dry	SW6020	23	49	4.5	470

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-15A	LLV-15B	LLV-16A	LLV-16B
			Sampling Date		07/31/07	07/31/07	07/31/07	07/31/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		LLV Shoreline, Grid#15, 0-3"	LLV Shoreline, Grid#15, 12-18"	LLV Shoreline, Grid#16, 0-3"	LLV Shoreline, Grid#16, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.3	< 2.4	< 2.3	< 2.5
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	< 1.2	2.6	< 1.2	1.6
Barium	75	37,000	mg/Kg-dry	SW6020	15	21	14	23
Copper	32	20,000	mg/Kg-dry	SW6020	130	590	160	380
Lead	21	400	mg/Kg-dry	SW6020	2.5	20	2.7	16

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-17A	LLV-17B	LLV-18A	LLV-18B
			Sampling Date		07/31/07	07/31/07	07/31/07	07/31/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Number/ Location		LLV Shoreline, Grid#17, 0-3"	LLV Shoreline, Grid#17, 12-18"	Shoreline, Grid#18, 0-3"	Shoreline, Grid#18, 12-
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.4	< 2.5	< 2.2	< 2.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	2.2	2.2	2	1.2
Barium	75	37,000	mg/Kg-dry	SW6020	21	40	17	20
Copper	32	20,000	mg/Kg-dry	SW6020	390	440	290	930
Lead	21	400	mg/Kg-dry	SW6020	10	49	9.4	13

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-19A	LLV-19B	LLV-20A	LLV-20B
			Sampling Date		07/31/07	07/31/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Number/ Location		Shoreline, Grid#19, 0-3"	LLV Shoreline, Grid#19, 12-18"	LLV Shoreline, Grid#20, 0-3"	LLV Shoreline, Grid#20, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.3	< 2.7	< 2.5	< 2.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	2.8	2.1	3.9	1.5
Barium	75	37,000	mg/Kg-dry	SW6020	19	25	28	23
Copper	32	20,000	mg/Kg-dry	SW6020	440	930	410	850
Lead	21	400	mg/Kg-dry	SW6020	4.7	39	9.7	4

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name		LLV-21A	LLV-21B	LLV-22A	LLV-22B
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Number/ Location		Shoreline, Grid#21, 0-3"	LLV Shoreline, Grid#21, 12-18"	LLV Shoreline, Grid#22, 0-3"	LLV Shoreline, Grid#22, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.3	< 2.5	< 2.3	< 2.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	10	5	2.3	1.7
Barium	75	37,000	mg/Kg-dry	SW6020	57	49	22	22
Copper	32	20,000	mg/Kg-dry	SW6020	3,200	760	580	580
Lead	21	400	mg/Kg-dry	SW6020	10	9.6	8.5	2.5

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-23A	LLV-23B	LLV-24A	LLV-24B
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Number/ Location		Shoreline, Grid#23, 0-3"	LLV Shoreline, Grid#23, 12-18"	LLV Shoreline, Grid#24, 0-3"	LLV Shoreline, Grid#24, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.6	< 2.2	< 2.5	< 2.3
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	5	1.6	4.6	2.1
Barium	75	37,000	mg/Kg-dry	SW6020	66	27	80	23
Copper	32	20,000	mg/Kg-dry	SW6020	630	880	750	570
Lead	21	400	mg/Kg-dry	SW6020	15	3	5.6	3.7
PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-25A	LLV-25B	LLV-26A	LLV-26B
			Sampling Date		07/30/07	07/30/07	07/31/07	07/31/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#25, 0-3"	LLV Shoreline, Grid#25, 12-18"	LLV Shoreline, Grid#26, 0-3"	LLV Shoreline, Grid#26, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2	< 2	< 1.9	< 2
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	5.9	1.3	3	1.4
Barium	75	37,000	mg/Kg-dry	SW6020	33	11	28	18
Copper	32	20,000	mg/Kg-dry	SW6020	100	1,200	60	1,100
Lead	21	400	mg/Kg-dry	SW6020	9.3	2.2	6.5	29

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name		LLV-27A	LLV-27B	LLV-28A	LLV-28B
			Sampling Date		07/31/07	07/31/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#27, 0-3"	LLV Shoreline, Grid#27, 12-18"	LLV Shoreline, Grid#28, 0-3"	LLV Shoreline, Grid#28, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2	< 2	< 1.9	< 2.2
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	14	1.5	1.6	1.5
Barium	75	37,000	mg/Kg-dry	SW6020	110	25	16	19
Copper	32	20,000	mg/Kg-dry	SW6020	2,000	730	33	170
Lead	21	400	mg/Kg-dry	SW6020	110	43	1.6	3

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-29A	LLV-29B	LLV-30A	LLV-30B
			Sampling Date		07/31/07	07/31/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#29, 0-3"	LLV Shoreline, Grid#29, 12-18"	LLV Shoreline, Grid#30, 0-3"	LLV Shoreline, Grid#30, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2	< 2.1	< 2	< 2.2
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	2.6	1.1	1.5	1.4
Barium	75	37,000	mg/Kg-dry	SW6020	34	23	16	12
Copper	32	20,000	mg/Kg-dry	SW6020	92	820	570	580
Lead	21	400	mg/Kg-dry	SW6020	7.6	2.6	10	2.6

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-31A	LLV-31B	LLV-32A	LLV-32B
			Sampling Date		07/31/07	07/31/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#31, 0-3"	LLV Shoreline, Grid#31, 12-18"	LLV Shoreline, Grid#32, 0-3"	LLV Shoreline, Grid#32, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2	< 2.1	< 2	< 2.3
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	1.1	1.3	< 0.99	2.4
Barium	75	37,000	mg/Kg-dry	SW6020	18	16	17	120
Copper	32	20,000	mg/Kg-dry	SW6020	200	490	140	1,100
Lead	21	400	mg/Kg-dry	SW6020	3.8	2.3	0.94	4.2

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-13ADUP	LLV-13BDUP	LLV-28ADUP	LLV-28BDUP
			Sampling Date		07/30/07	07/30/07	07/30/07	07/30/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		Shoreline, Grid#13, 0-3"	LLV Shoreline, Grid#13, 12-18"	LLV Shoreline, Grid#28, 0-3"	LLV Shoreline, Grid#28, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2	< 2.1	< 2.1	< 2.2
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	2.6	1.1	2	1.5
Barium	75	37,000	mg/Kg-dry	SW6020	34	23	18	19
Copper	32	20,000	mg/Kg-dry	SW6020	92	820	39	250
Lead	21	400	mg/Kg-dry	SW6020	7.6	2.6	1.9	4.7

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1b
Summary of Laboratory Analytical Results For Soil/Sediment Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 30- July 31, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-15ADUP	LLV-15BDUP	LLV-22ADUP	LLV-22BDUP
			Sampling Date		07/31/07	07/31/07	07/31/07	07/31/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		LLV Shoreline, Grid#15, 0-3"	LLV Shoreline, Grid#15, 12-18"	Shoreline, Grid#22, 0-3"	LLV Shoreline, Grid#22, 12-18"
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	< 2.3	< 2.4	< 2.4	< 2.3
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	< 1.2	3.1	1.9	1.6
Barium	75	37,000	mg/Kg-dry	SW6020	13	22	21	18
Copper	32	20,000	mg/Kg-dry	SW6020	130	550	720	570
Lead	21	400	mg/Kg-dry	SW6020	2.4	27	3.9	2.2

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.7	<0.7	<0.7	<0.7

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

< - less than listed method limit of detection

" - inch

mg/kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team


Attachment E-1c
Summary of Analytical Results for Surface Water Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 26, 2007

Parameter	Sample Name	LLV Beach 1	LLV Creek 1	Final Chronic Value (FCV)	Surface Water Human Drinking Water Value (HDV)	Part 201 Generic Groundwater/Surface Water Interface (GSI) Criteria	Part 201 Groundwater Contact Criteria	Part 201 Residential Drinking Water Criteria
	Sampling Date	7/26/2007	7/26/2007					
	Sample Matrix	Water	Water					
	Sample Number/ Location	LLV Beach	LLV Creek, North of Bridge					
	Units							
Metals								
Barium	µg/L	270	530	190	1,900	190 (G, X)	1.4E+7	2,000 (A)
Beryllium	µg/L	ND	ND	0.034	160	0.34 (G)	2.9E+5	4.0 (A)
Cadmium	µg/L	ND	1.2	1.3	3.0	1.3 (G, X)	1.9E+5	5.0 (A)
Chromium (III)	µg/L	ND	14	39	120	39 (G, X)	2.9E+8	100 (A)
Copper	µg/L	240	990	4.6	790	4.6 (G)	7.4E+6	1,000 (E)/HB = 1,400
Lead	µg/L	44	550	4.4	14	4.4 (G, X)	ID	4.0 (L)
Manganese	µg/L	180	720	980	3,600	980 (G, X)	9.1E+6	50 (E)/HB = 860
Nickel	µg/L	ND	ND	27	2,600	27 (G)	7.4E+7	100 (A)
Zinc	µg/L	ND	110	61	4,500	61 (G)	1.1E+8	2,400
Calcium	µg/L	57,000	33,000	NA	NA	NA	NA	NA
Iron	µg/L	2,800	14,000	NA	NA	NA	5.8E+7	300 (E)/HB = 2,000
Magnesium	µg/L	5,000	7,000	NA	NA	NA	1.0E+9 (D)	4.00E+05
Sodium	µg/L	7,700	14,000	NA	NA	NA	1.0E+9 (D)	1.20E+05
Aluminum	µg/L	3,100	3,900	NA	NA	NA	6.4E+7	50 (V)
Antimony	µg/L	ND	3	240	1.7	2 (X)	68,000	6.0 (A)
Arsenic	µg/L	9.50	20	150	50	50 (X)	4,300	10 (A)
Cobalt	µg/L	ND	ND	100	NA	100	2.4E+6	40
Potassium	µg/L	1,600	3,800	NA	NA	NA	NA	NA
Selenium	µg/L	ND	ND	5	NA	5	9.7E+5	50 (A)
Silver	µg/L	0.88	4.6	0.06	130	0.2 (M); 0.06	1.5E+6	34
Thallium	µg/L	ND	ND	7.2	1.2	2.0 (M, X)	13,000	2.0 (A)
Vanadium	µg/L	7.80	20	12	220	12	9.7E+5	4.5
Mercury	µg/L	ND	ND	0.77	0.0018	0.0013	56 (S)	2.0 (A)
pH	s.u.	7.55	7.72	NA	NA	6.5-9.0	NA	6.5-8.5 (E)
Cyanide	µg/L	ND	ND	5.2	600	5.2	57,000	200 (A)

Attachment E-1c
Summary of Analytical Results for Surface Water Samples Collected by START
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
July 26, 2007

Notes:

Metal results are for total metals (unfiltered)

 - Shaded results exceed applicable GSI criteria

 - **Bold font results exceed Residential Drinking Water Criteria**

 - **Pattern results exceed Rule 57 Human Drinking Water Value**

Part 201 Criteria Footnotes:

µg/L - micrograms per liter

HB - Health Based

LLV - Lake Linden

ND - below detection limit

START - Superfund Technical Assessment and Response Team

s.u. - standard units

A - Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 pa 399, mcl 325.1005

D - Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

E - Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended

G - The GSI criteria is dependent on the hardness of the receiving surface water body. A hardness value of 46 mg/L calcium carbonate (CaCO₃) was used for this data based on previously-used values for Torch Lake.

assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 µg/L is linked to the generic residential soil direct contact criterion of 400 mg/kg.

M - Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target

S - Criterion defaults to the hazardous substance-specific water solubility limit

X - The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion

Note: the HDV was applied for this data as Torch Lake is considered a connecting water to a Great Lake (Lake Superior).

Final chronic value (FCV) = the level of a substance or a mixture of substances that does not allow injurious or debilitating effects in an aquatic organism resulting from repeated long-term exposure to a substance relative to the organisms lifespan

Attachment E-1d
Summary of Laboratory Analytical Results For Sediment Samples
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
August 7, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-MP1-01	LLV-MP2-01	LLV-MP3-01	LLV-MP4-01
			Sampling Date		08/07/07	08/07/07	08/07/07	08/07/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		LLV-MP1	LLV-MP2	LLV-MP3	LLV-MP4
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	<5.2	6	<4.7	<5.2
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	<2.6	<2.9	<2.3	<2.6
Barium	75	37,000	mg/Kg-dry	SW6020	87	930	29	25
Copper	32	20,000	mg/Kg-dry	SW6020	360	1,700	200	340
Lead	21.0	400	mg/Kg-dry	SW6020	100	1,300	40	21

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.77	0.58	<0.70	<0.77

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

All samples collected using a Ponar dredge deployed from the RV Mudpuppy.

< - less than listed method limit of detection

mg/Kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Attachment E-1d
Summary of Laboratory Analytical Results For Sediment Samples
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
August 7, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name	Test Method	LLV-MP5-01	LLV-MP6-01	LLV-MP7-01	LLV-MP8-01
			Sampling Date		08/07/07	08/07/07	08/07/07	08/07/07
			Sample Matrix		Soil	Soil	Soil	Soil
			Sample Number/ Location		LLV-MP5	LLV-MP6	LLV-MP7	LLV-MP8
			Units					
Metals								
Antimony	NA	180	mg/Kg-dry	SW6020	<4.8	<6.2	<5.0	<7.4
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	<2.4	<3.1	<2.5	4.1
Barium	75	37,000	mg/Kg-dry	SW6020	170	120	32	150
Copper	32	20,000	mg/Kg-dry	SW6020	310	330	100	540
Lead	21.0	400	mg/Kg-dry	SW6020	130	110	11	68

PCBs								
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.70	<0.91	<0.77	<1.05

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

All samples collected using a Ponar dredge deployed from the RV Mudpuppy.

< - less than listed method limit of detection

mg/Kg-dry - milligrams per kilogram dry weight

NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team

Attachment E-1d
Summary of Laboratory Analytical Results For Sediment Samples
Lake Linden Emergency Response Site
Lake Linden, Houghton County, Michigan
August 7, 2007

Parameter	Part 201 SDBL	Part 201 RDCC	Sample Name		LLV-MP-DUP-01
			Sampling Date		08/07/07
			Sample Matrix		Soil
			Sample Number/ Location		LLV-MP1
			Units		
Test Method					
Metals					
Antimony	NA	180	mg/Kg-dry	SW6020	<4.9
Arsenic	5.8	7.6	mg/Kg-dry	SW6020	<2.4
Barium	75	37,000	mg/Kg-dry	SW6020	66
Copper	32	20,000	mg/Kg-dry	SW6020	270
Lead	21.0	400	mg/Kg-dry	SW6020	97

PCBs					
PCBs (Total)	NA	4	mg/Kg-dry	SW8082	<0.70

NOTES:

Results in shaded boxes exceed the Part 201 Residential Direct Contact Criteria.

All samples collected using a Ponar dredge deployed from the RV Mudpuppy.

< - less than listed method limit of detection

mg/Kg-dry - milligrams per kilogram dry weight

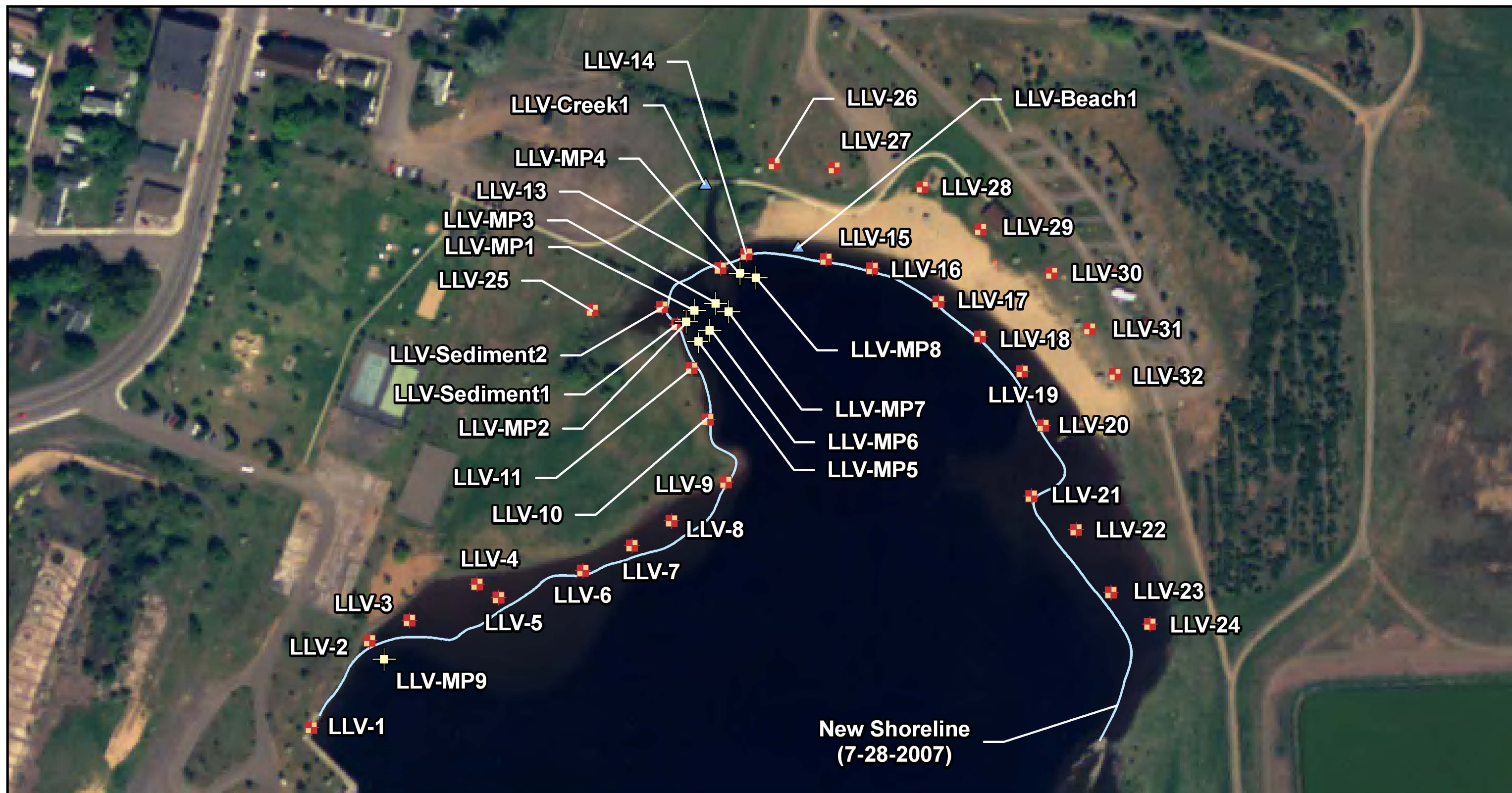
NA - Not available

Part 201-SDBL - Part 201 Statewide Default Background Level

Part 201-RDCC - Part 201 Residential Direct Contact Criteria

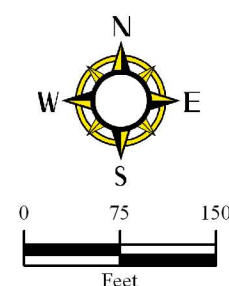
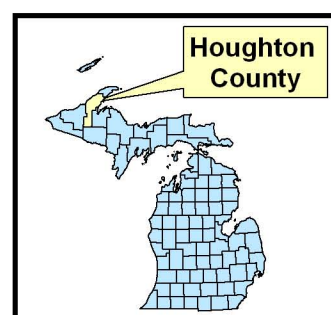
PCB - polychlorinated biphenyl

START - Superfund Technical Assessment and Response Team



Source of Imagery: Michigan Geographic Data Library (C) 2007
Date of Photography: 06/21/2005

Attachment E-2



Legend

- Mud Puppy Sampling Location
- Soil Sampling Location
- Water Sampling Location
- Shoreline (7-28-2007)



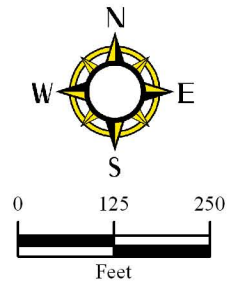
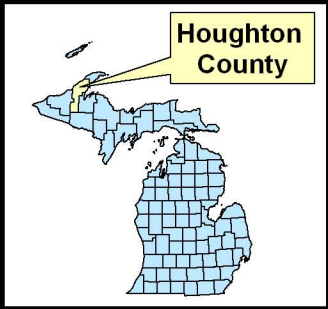
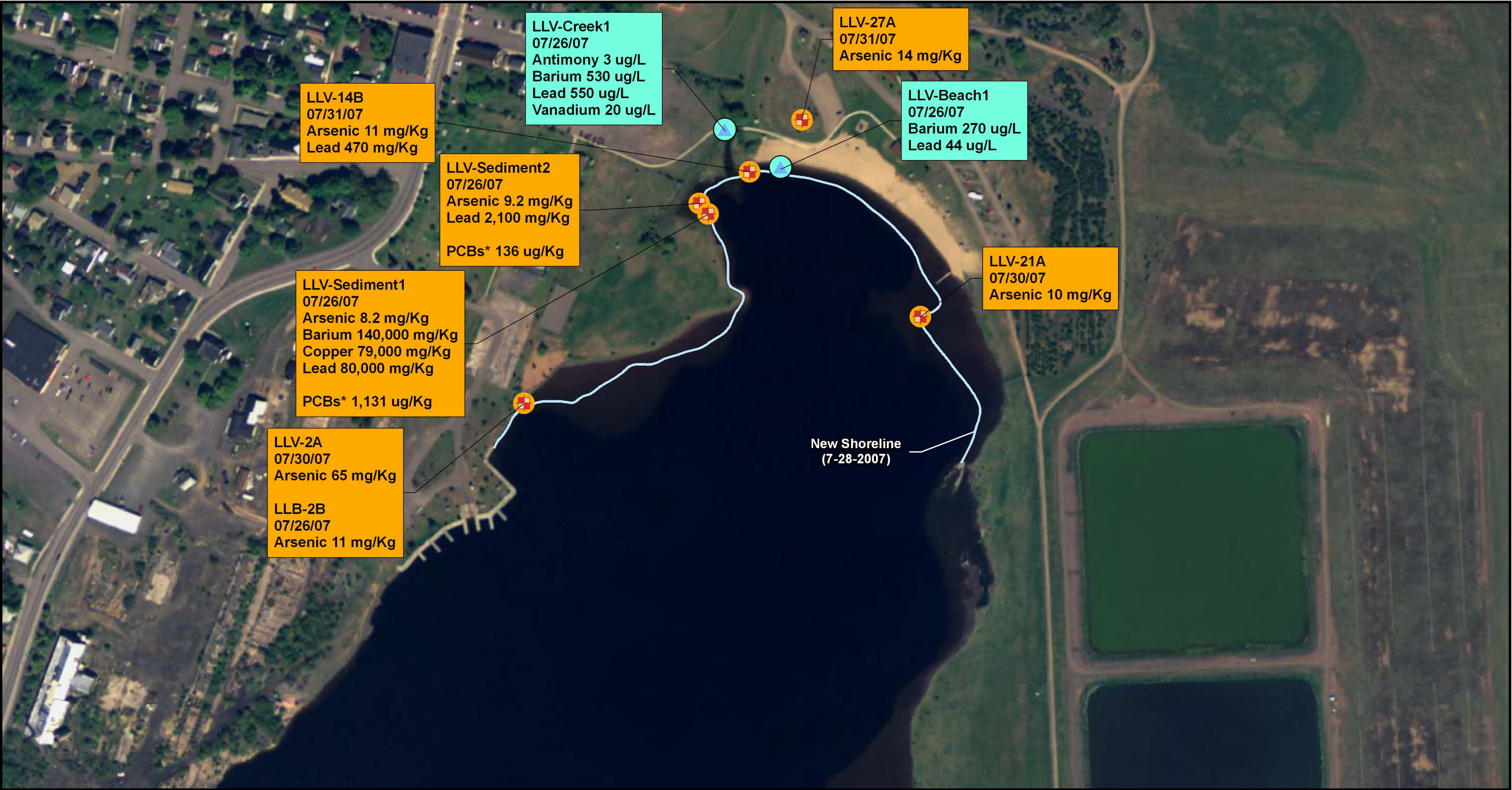
Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04

TDD No.: S05-0001-0707-021
DCN: 274-2A-ABDT



Prepared by:
WESTON SOLUTIONS, INC.
2501 Jolly Road, Suite 100
Okemos, MI

SAMPLING LOCATIONS
LAKE LINDEN - ER
LAKE LINDEN, HOUGHTON CO., MI
September 2007
Scale: 1"= 150



Legend

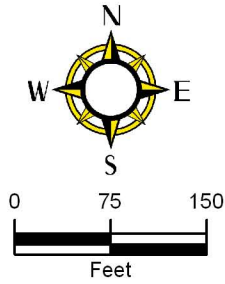
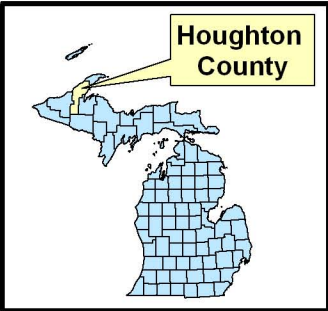
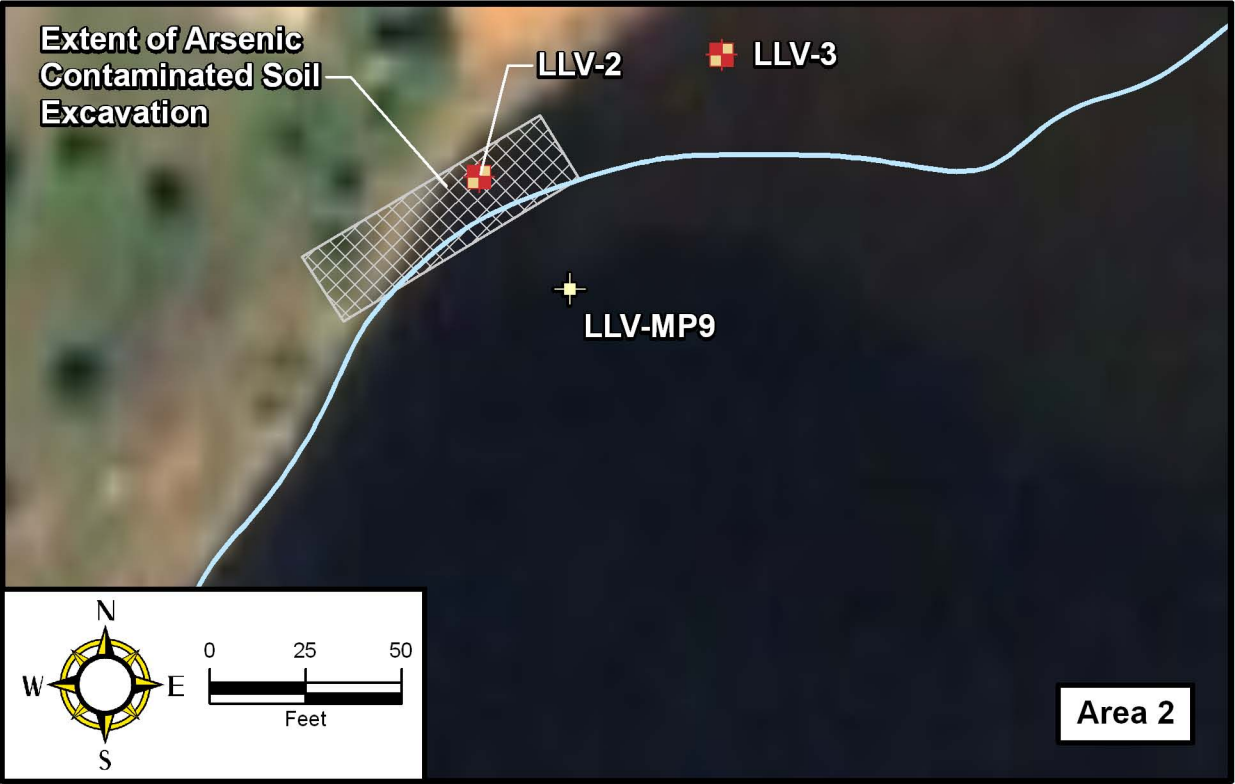
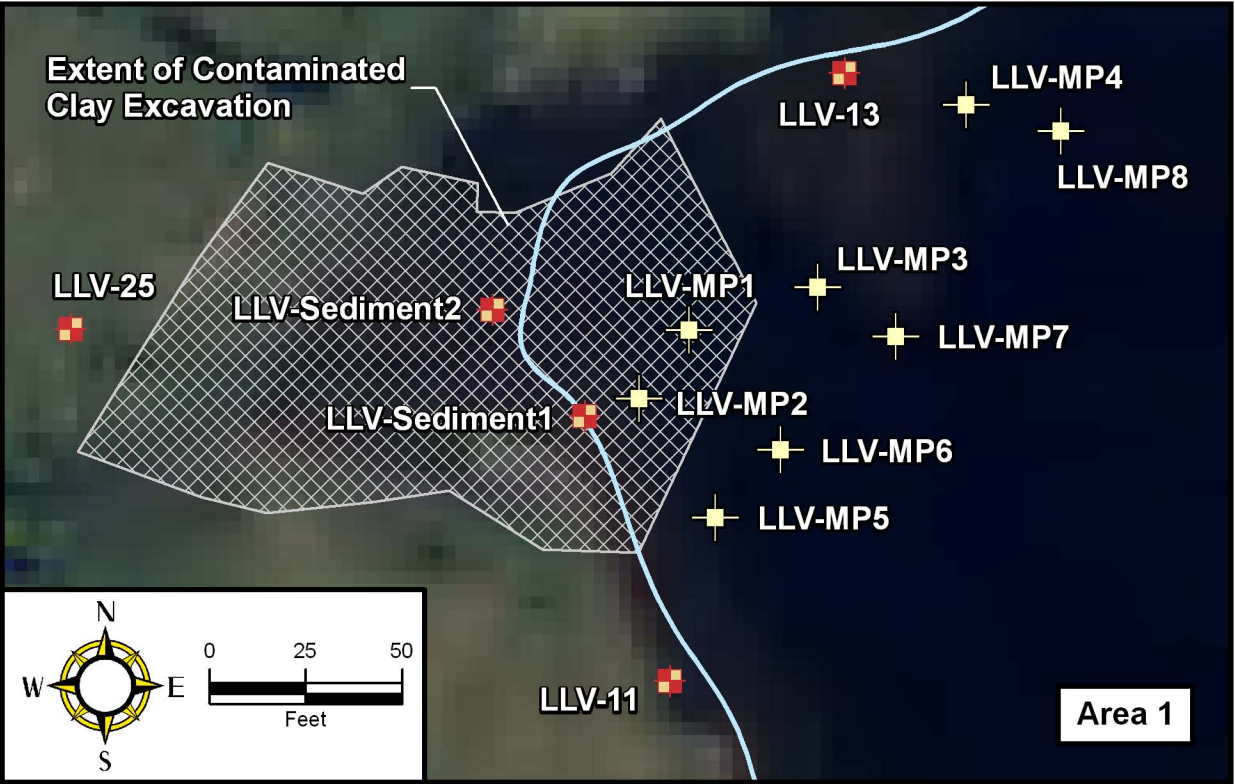
- Soil Sample Exceeds Part 201 RDCC
- Water Sample Exceeds Applicable Part 201 Criteria
- Shoreline (7-28-2007)

Note: PCBs* have been included on this figure; however, concentrations do not exceed Part 201 RDCC.
PCB - Polychlorinated Biphenyl
RDCC - Residential Direct Contact Criteria
mg/Kg - milligrams per kilogram; mg/L - milligrams per liter

Source of Imagery: Michigan Geographic Data Library (C) 2007
Date of Photography: 06/21/2005

Attachment E-3

	Prepared for: U.S. EPA REGION V		CRITERIA EXCEEDANCE MAP LAKE LINDEN - ER LAKE LINDEN, HOUGHTON CO., MI
	Contract No: EP-S5-06-04		
TDD No.: S05-0001-0707-021 DCN: 274-2A-ABDT		Prepared by: WESTON SOLUTIONS, INC. 2501 Jolly Road, Suite 100 Okemos, MI	August 2, 2007 Scale: 1"= 250'



- Legend**
- Mud Puppy Sampling Locations
 - Soil Sampling Location
 - Water Sampling Location
 - Excavation
 - Shoreline (7-28-2007)



Source of Imagery: Michigan Geographic Data Library (C) 2007
Date of Photograph: 06/21/2005

Attachment E-4

 <p>Prepared for: U.S. EPA REGION V Contract No: EP-S5-06-04 TDD No.: S05-0001-0707-021 DCN: 274-2A-ABDT</p>	 <p>Prepared by: WESTON SOLUTIONS, INC. 2501 Jolly Road, Suite 100 Okemos, MI</p>	<p>EXTENT OF CONTAMINATED CLAY AND ARSENIC SOILS EXCAVATIONS LAKE LINDEN - ER LAKE LINDEN, HOUGHTON CO., MI September 2007 Scale: 1"= 150'; 1"=50'</p>
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