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February 28, 2013

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PROJECT: NYSDEC Standby Contract No. D007621
Work Assignment No.: D007621-1
Buffalo Lakeside Commerce Park
Environmental Restoration ProgramSite No. E915193

SUBJECT: Final Pre-Design Investigation Report

Dear Mr. Chiusano:

Camp Dresser McKee & Smith (CDM Smith) is pleased to submit the one hard copy and one electronic copy on CD each of the Final Pre-Design Investigation Report for the above referenced work assignment for your records. . This Final Pre-Design Investigation Report incorporates comments in correspondence dated January 15, 2013 between Mr. Locey and Mr. Chiusano, as well as sampling results from the second round of surface soil sampling performed in January 2013, and the Data Usability Report results. An electronic copy is also being sent to Mr. David Locey at NYSDEC-Region 9 in Buffalo.

If you have any questions, or need additional information during your review of the report, please call me at 518-782-4509.

Very truly yours,

John P. Blaum, P.E.
Principal
Sr. Project Manager
Camp Dresser McKee & Smith

Cc:
Mr. David Locey, P.E., NYSDEC Buffalo

# FINAL PRE-DESIGN INVESTIGATION REPORT

# Buffalo Lakeside Commerce Park Environmental Restoration Program Site No. E915193

## City of Buffalo Erie County, New York

**Prepared for:**
**New York State Department of Environmental Conservation**
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February 2013

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# Section 1
# Introduction

## 1.1 Background

The Buffalo Lakeside Commerce Park (BCLP) occupies over 200 acres at the southern edge of the City of Buffalo. Approximately 113 acres of the BLCP was formerly referred to as the Hanna Furnace Site (Site #915029). The Parcel 4/Lot 9 (Site #915193A), which is the subject of this state superfund remedial design, herein referred to as "the Site", is a 5.5-acre vacant parcel located on the western edge of the BLCP, in the northwest corner of the former Hanna Furnace parcel. It is the western portion of the 20-acre New York State Environmental Restoration Program (NYSERP) Site #E915193 by the same name.

The Site is bordered to the west by New York State Route 5 and Fuhrmann Boulevard, and to the south by the remediated NYSERP site Hanna Furnace Subparcel 3 Site #B00l64 (now known as the Union Ship Canal Commons public greenspace). The Union Ship Canal, a slip off of the Buffalo Outer Harbor, lies 200 feet south of the Site. Parcel 4 is currently zoned for light industrial/commercial use. Susquehanna Drive and an undeveloped property owned by Consolidating Rail Corporation border the Site to the north, and the remediated portion of Parcel 4 and Ship Canal Parkway border the Site to the east. Figure 1-1 presents the Site location map and Figure 1-2 presents the overall site plan.

### 1.1.1 Site Features

In earlier investigations, the Site was often called the "Filter Cake/Flue Ash" area. Occupying much of the Site is a mound of fill composed of the byproducts from pig iron production that consists of black fine-grained flue ash collected from the exhaust of the iron blast furnaces and filter cake, the solids screened from the wet "scrubbers" which separated impurities from the same furnace exhaust before the combustible gases were recycled back to the furnaces. The surface of the Filter Cake/Flue Ash area is "hummocky"; best characterized as several smaller, connected mounds with a maximum height of approximately 15 feet.

Portions of the filter cake/flue ash piles are covered with fill material (clay, crushed stone, construction and demolition (C&D) debris including large pieces of concrete), which was reportedly excavated from the construction site of a supermarket in the City of Buffalo. There are also areas where other demolition debris including concrete and roofing shingles, as well as numerous tires, have been disposed of at the Site. There is surface vegetation over approximately 75 percent of the site consisting of small to large diameter trees and overgrown grass.

### 1.1.2 Previous Investigations

There have been sixteen separate environmental investigations conducted on the former 200 acre Hanna Furnace property. Of these sixteen studies, six investigations included the Site. Based upon the investigations conducted to date, the primary contaminant of concern is lead.

The filter cake/flue ash pile contained lead at concentrations as high as 11,000 parts per million (ppm), well above the Restricted Commercial Use soil cleanup objective (SCO) of 1,000 ppm. One of the five samples of ash that were tested for the Toxicity Characteristic Leachate Procedure (TCLP) during the 2006 NYSERP site investigation contained 11.7 milligrams per liter (mg/L) of lead. This exceeded the hazardous waste threshold of 5 mg/L. One of twelve filter cake/flue ash waste samples collected in earlier investigations (1995, 2001 and 2003) contained lead in the leachate at a concentration characteristic of a hazardous waste.

In 2006, an Environmental Site Investigation was completed by Malcolm Pirnie for Buffalo Urban Development Corporation (BUDC) under the NYSERP and a Record of Decision (ROD) was issued. The Site remedy required the excavation and off-site disposal of discrete solid waste materials, installation of a cover system over the entire site, and the implementation of a site management plan to ensure long term care of the cover system and compliance with site use restrictions.

The ROD for the roughly 20-acre Parcel 4 was issued in March 2009 which specified a Restricted Commercial Use SCO for the soils in the vicinity of the Debris Disposal pile. The Debris Disposal pile and the adjacent soils (comprising approximately 15 acres of Parcel 4) were remediated to the Restricted Commercial Use SCO. To remain consistent with the remediation objectives employed for the earlier cleanup of Parcel 4, this report compares results of the pre-design sampling and analysis investigation to the Part 375 Restricted Commercial Use SCOs.

## 1.2 Objectives of Pre-Design Sampling and Analysis

Camp Dresser McKee & Smith (CDM Smith) was retained by NYSDEC to conduct pre-design sampling and prepare a remedial design for the Site. The major focus of the pre-design investigation and sampling at the Site was to further define the limit and extent of lead contaminated soils. Specifically, the objectives were:

- Establish the present nature of the Site topography and parcel boundaries.
- Characterize the present nature and extent of soil contamination.
- Characterize the stratigraphy present within the filter cake/flue ash piles and subsurface soils.
- Evaluate the treatability potential through a series of bench scale tests to reduce lead concentrations within the soil at the Site.

The results of the pre-design sampling and analysis will be used in the development of a Basis of Design Report and overall remedial design for the Site based on the remedial objectives outlined in the ROD.

### 1.2.1 Site Survey

Prior to commencing field activities, a topographic and boundary survey was conducted by Popli Design Group. The topographic survey presented in Figure 1-2 provides 1-foot interval contours of the existing property and overlaps into the adjacent properties.

In addition, the property line boundaries were clearly staked and pins placed at the corners showing the limits of the site.

### 1.2.2 Geoprobe Investigation

CDM Smith conducted soil borings at 25 locations using direct push drilling methods to collect soils samples and further delineate soil contamination and characterize the subsurface soil. The soil boring locations are shown on Figure 1-3. The borings were analyzed for visual observations of filter cake/flue ash

depth and to collect soil samples for laboratory analysis. The sampling activities and analysis results will be discussed further in Section 2.1.1 and Section 3.1.1, respectively.

### 1.2.3 Test Pits Investigation

Concurrent with the Geoprobe work, 18 test pits were conducted on-site using a rubber tire backhoe. Test pits were advanced within the filter cake/flue ash piles to varying depths to determine the stratigraphy of the subsurface soils and if there were any significant amounts of concrete/debris within the piles. The test pit locations are also shown in Figure 1-3. All test pit logs and a test pit photo log are provided in Appendix B and D, respectively. The results of the test pit investigation will be discussed further Section 3.2.

### 1.2.4 Surface Soil Investigation

Two surface soil samples were collected during the initial investigation performed in September 2012 and analyzed for TCLP metals. Upon further review of the results from the September 2012 investigation, personnel from NYSDEC requested a second round of surface soil samples be collected for TCLP metals and Hexavalent Chrome be performed. Eight additional surface soil samples were collected in the second round in January 2013 and the results are summarized in this report.

All surface soil sampling locations are shown in Figure 1-3 and the results are shown in Tables 3-2 and 3-3. The results of the surface soil investigation will be discussed further in Section 3.1.2.

### 1.2.5 Pre-Design Bench Scale Testing for Lead

The work plan submitted by CDM Smith on August 7, 2012 outlined bench scale treatability tests that will be performed in the event the pre-design investigation showed that the soils at the Site could be characterized as hazardous due to high lead concentrations. CDM Smith collected a 5 gallon bucket of soil from the fenced area that was determined to be characteristically hazardous previously and submitted it to CDM Smith's Bellevue, Washington laboratory for future testing. That testing was suspended because the results of the first round of pre-design investigation showed that lead levels, while exceeding the Restricted Commercial Use SCO in certain locations, could not be characterized as hazardous based on the TCLP analysis. The second round of surface soil samples also showed lead concentrations below the hazard classification. As a result, the bench scale treatability tests have been cancelled.

# Section 2
# Pre-Design Field Sampling Activities

CDM Smith conducted pre-design field activities consisting of survey, subsurface and surface soil sampling, and test pits at the Site between September 17 and 19, 2012. The focus of the field activities was to further delineate and characterize subsurface soil conditions and determine the limits of contamination for development of remedial design documents. This section provides a summary of field activities.

## 2.1 Subsurface Soil Sampling Investigation

The subsurface soil investigation was comprised of two events: the Geoprobe investigation and the test pit investigation. The field activities associated with the subsurface investigation is described below and a copy of the field notes is provided in Appendix A. Analytical results from soil samples collected during these activities are discussed in Section 3.

### 2.1.1 Geoprobe Sampling

On September 17 through 19, 2012, CDM Smith and a standby Geoprobe subcontractor SJB Services were onsite performing a Geoprobe investigation. A total of 25 soil boring locations were advanced across the Site using direct push drilling methods. The borings were analyzed for visual observations of filter cake/flue ash depth and soil samples were collected for laboratory analysis. Figure 1-2 shows the Geoprobe sample locations.

Utilizing Geoprobe macro-core samplers, samples were collected at varying depth between 4 and 19 feet, depending on location, both on- and off-site. The samples were used to both determine the depth of the filter cake/fly ash at each location, as well as to determine the lead concentration at varying depths. Samples were collected from within the filter cake/fly ash area, as well as around the perimeter of the Site. Soil borings logs were completed for each sample location and can be found in Appendix B.

Material observed within nearly all of the soil borings was the dark fly ash/filter cake material, some fill material ranging from brick to a yellow crushed rock, and a harder slag layer at the bottom of most borings. Composite subsurface soil samples were collected at four foot intervals and analyzed for TAL Metals by Spectrum Analytical, Inc. laboratories. A total of 60 subsurface soil samples and three blind duplicate samples were collected and submitted for analysis.

No specific matrix spike/matrix spike duplicate (MS/MSD) samples were collected at the Site. In analyzing the soil samples, Spectrum Analytical, Inc. split the samples into five sets (also known as Sample Data Groups (SDGs)). Out of the five SDGs, Spectrum Analytical, Inc. ran three MS samples, meaning there were two SDGs for which no MS/MSD was analyzed.

Two TCLP samples were collected within the fenced area at the Site: one soil sample was collected during the test pit investigation at TP-14 (TCLP-1) and one subsurface sample was collected as part of the Geoprobe investigation (SB-15 0-4 TCLP).

Appendix A of this report includes and copy of the Chains-of-Custody forms completed by CDM Smith during the field sampling activities. Appendix C provides the laboratory report from Spectrum Analytical, Inc. for this work.

### 2.1.2 Test Pit Investigation

Concurrent with the Geoprobe investigation, a test pit investigation was conducted by SJB under oversight from CDM Smith. A total of 18 test pits were completed across the Site to varying depths using a rubber tire backhoe to determine the depth of filter cake/fly ash, fill material, and presence of buried concrete and construction/demolition debris (C&D). A test pit photograph log is provided in Appendix D and test pit logs are provided in Appendix B. The findings of the test pit investigation are discussed in Section 3.2.

### 2.1.3 Surface Soil Investigation

During the initial pre-design investigation, two surface soil samples were collected along the southern edge of the parcel and analyzed for TAL Metals. The surface soil sample locations are shown on Figure 1-3.

A review of all sampling results from the initial pre-design investigation indicated that TCLP metals concentrations were much lower than the results from previous investigations conducted at the site. In addition, there were a number of locations with elevated Total Chromium concentrations. NYSDEC requested additional surface soil samples be collected and analyzed for TCLP metals and Hexavalent Chrome to further support the previous TCLP sample results. Eight additional surface soil samples were analyzed for TCLP metals and Hexavalent Chromium. The eight additional locations are shown on Figure 1-3 and results are discussed in Section 3.

## 2.2 Bench Scale Testing

During the field program, CDM Smith collected a 5 gallon pale of filter cake/fly ash from the area designated as hazardous inside the fenced area on Site. CDM Smith shipped the sample to our Bellevue Washington testing lab to perform pre-characterization testing (using ICP/MS and electron microprobe) to determine/confirm the forms and amount of lead.

Based on results of the follow-up surface soil sampling, the bench scale testing has been cancelled. Although lead is present within the soils at the Site, often at concentrations exceeding the Restricted Commercial SCO, results of the TCLP analysis indicate that all lead present is at non-hazardous levels.

# Section 3
# Pre-Design Field Sampling Results

The following sections present the results of the surface and subsurface soil investigation, test pits, and bench scale testing conducted as part of the pre-design investigation at the Site.

## 3.1 Subsurface and Surface Soil Sample Results

### 3.1.1 Subsurface Sample Results

The soils observed during the Geoprobe boring program consisted primarily of filter cake/fly ash throughout the center of the Site to an elevation of between 576 and 578 feet above mean sea level (amsl) at most locations. C&D material was observed on the east and north sides from the property line to approximately 75 feet in towards the site. This fill material is underlain by a hard slag layer at an elevation of between 575 and 576 feet amsl. This layer was observed consistently across the site. Fill material was observed in the top two to three feet on the Westside of the Site near Fuhrmann Boulevard. The soil boring logs are included in Appendix B and field notes are provided in Appendix A.

A total of 60 soil samples were collected during the pre-design investigation and analyzed for TAL metals. The results were compared to Part 375 Restricted Commercial Use SCOs. The soil exceedances are summarized in Table 3-1. In addition, soil profiles have been prepared taking cross-sections at five locations through the Site. Figure 3-1 provides the plan view showing where the cross-sections were taken and Figures 3-2 through 3-6 provides the cross-sections.

Metals exceedances were observed above the Restricted Commercial Use SCOs in 20 of the 25 sample locations. The primary contaminant of concern, lead, exceeded the SCO of 1,000 mg/kg or parts per million (ppm) in 15 of the 60 samples collected ranging from 1,060 ppm in SB-18 (0 to 4 feet below ground surface (bgs)) to 9,620 ppm in SB-15 (0 to 4 feet bgs). SB-15 is located within the fenced limits of the highly contaminated area of the Site.

Arsenic, cadmium, and nickel were also detected at concentrations exceeding their SCOs. Concentrations for arsenic exceeded the Restricted Commercial Use SCO of 16 ppm in 26 out of 60 samples. Arsenic ranged from 16 ppm at SB-8 (0 to 4 feet bgs) to 126 ppm in SB-11 (4 to 8 feet bgs). SB-11 is located on the western side of the Site, at the northern end of the slope along Fuhrmann Boulevard.

In 16 of 60 samples, cadmium concentrations exceeded the Restricted Commercial Use SCO of 9.3 ppm, with concentrations ranging from 9.4 ppm in sample SB-13 (8 to 12 feet bgs) to 31,500 ppm in SB-15 (0 to 4 feet bgs). Nickel was detected above the Restricted Commercial Use SCO of 310 ppm in 1 of 60 samples. The nickel exceedance was detected at SB-25 with a concentration of 336 ppm (4 to 8 feet bgs). SB-25 is located at the base of a mound in the northeast corner of the Site.

The metals concentrations observed during the subsurface soil sampling indicate that most, if not all, of the soil that is excavated during remediation will need to be disposed of at a permitted solid waste facility unless onsite pre-treatment could reduce the concentrations to acceptable levels.

### 3.1.2 Surface Soil Sample Results

Two surface soil samples were collected just within the southern property boundary during the initial pre-design investigation and the results are shown in Table 3-3. Similar to the observations of the soil boring program, a dark fly ash material was observed in the surface soil samples overlaying a two to three foot layer of three inch minus stone. This layer is described further in Section 3.2 below.

Also similar to the results of the soil boring samples, the surface soil analytical results from the initial pre-design investigation showed exceedances of the Restricted Commercial Use SCOs for lead. Lead concentrations exceeded the SCO of 1,000 ppm, with concentrations ranging from 1,600 to 1,700 ppm. All other SCOs were met.

Eight surface soil samples were collected in January 2013 and analyzed for TCLP metals and hexavalent chromium only. Those sample results are discussed in the following section.

The results of the TCLP analysis are discussed in Section 3.1.3.

### 3.1.3 TCLP Analysis

Two TCLP samples were collected at the Site during the initial pre-design investigation; both were collected from soil within the fenced area of highly contaminated soil. Both samples were collected in 0 to 4 feet bgs and analyzed for TCLP metals and due to their proximity to each other, the results were very similar. Both samples indicated the presence of barium, cadmium, chromium, lead, selenium, and mercury at non-hazardous levels.

Eight additional TCLP surface soil samples were collected as part of the follow-up sampling conducted in January 2013 and analyzed for TCLP metals and Hexavalent Chromium. All eight samples were collected from the top six inches of soil and indicated the presence of barium, cadmium, and lead at non-hazardous levels. Seven of the eight samples also indicated the presence of mercury at non-hazardous levels, and four samples displayed total chromium concentrations at non-hazardous levels. One sample resulted in a non-hazardous concentration of silver. Hexavalent chromium was not detected in any of the surface soil samples collected. This indicates that the elevated total chromium results observed in the subsurface and surface soil samples collected during the initial sampling was not due to elevated levels of hexavalent chromium and therefore, these soils can be treated as non-hazardous.

TCLP sampling results are presented in Table 3-2. Hexavalent chromium results are presented in Table 3-1.

## 3.2 Test Pit Findings

Concurrent with the Geoprobe investigation, a test pit investigation was conducted by SJB under oversight from CDM Smith. A total of 18 test pits were completed across the Site to varying depths using a rubber tire backhoe to determine the depth of filter cake/fly ash, fill material, and presence of any buried concrete and construction debris (C&D). Filter cake/fly ash was observed in all test pits in the interior of the site at varying depths, thicknesses, and hardness. The test pit photo log is provided in Appendix D and test pit logs are provided in Appendix B. Observations made during the test pit investigation are as follows:

- On the south property line (TP-13), a 2 to 3 foot layer of 3-inch minus stone was observed from the property line to the filter cake/fly ash material approximately 75 feet north to the property line.

This area was also covered by the black fly ash/filter cake ranging from a coating near the property line to about 6-inches as you got closer to the where the stone ended near the waste pile.

- C&D debris was encountered along the east and north property lines from the property line to approximately 75 feet in towards the center of the site. The C&D material consisted of brick, wood, concrete with rebar, pipe material, fiberglass material, and metal. This layer was approximately 3 to 4 feet in thickness before reaching the hard slag area in most locations. A large pile of C&D material is situated at the northeast corner of the Site near TP-12. Soil boring samples from within this layer indicated that this material would be considered hazardous based on the lead concentrations. The large C&D pile would need to be sampled to determine if it could be segregated and disposed of as C&D waste.

- The fill material that was placed over the filter cake/fly ash material on the western side of the site where the elevation is the highest on-site varies in thickness from around 2 to 3 feet before hitting the filter cake/fly ash. There was some concrete encountered in these test pits but it appears that the majority of the large concrete is on the surface. The samples collected from within the 0 to 4 foot depth indicated lead concentrations that would deem this material as hazardous. Therefore, this material would not be segregated and disposed of as non-hazardous.

- A petroleum odor was observed while conducting test pits TP-4 and TP-5 at depths of 3 to 5 feet below grade. This odor was also observed in the soil borings conducted in this area.

- One TCLP sample (TCLP-1) was collected during the test pit investigation at TP-14 and one from soil boring SB-15. Both samples indicated the presence of non-hazardous levels of barium, cadmium, chromium, lead, selenium, and mercury. This is also the area where CDM Smith collected a sample for treatability testing.

## 3.3 Bench Scale Test Results

CDM Smith has cancelled the bench scale treatability tests due to results from the follow-up soil sampling indicating that the metals concentrations present are considered non-hazardous.

## 3.4 Data Usability

CDM Smith submitted the laboratory analysis reports to Nancy Potak to complete a data validation report for the analysis performed by Spectrum. The results of that report noted minor issues with the matrix spike, matrix duplicate and serial dilution. Percent recoveries for matrix spikes were within the QC limits with the following exceptions: DUP 1 (L1966-20AMS), Spike sample recovery is below criteria for Antimony at 39% with criteria of (75-125).

Serial Dilution analyses were performed on sample DUP 1 (L1966-20ASD). Percent differences were within the QC limits with the exception of the following: DUP 1 (L1966-20ASD). The serial dilution analysis was not within control limit for Cobalt (16%), Nickel (10%) and Zinc (13%). The data for these compounds were flagged with the "J" qualifier and are estimated values. The data for antimony were flagged with the "J" qualifier and are estimated values.

A copy of the DUSR report is provided in Appendix E.

# Section 4
# Conclusions and Recommendations

## 4.1 Conclusions

The objectives of the pre-design field investigation were to confirm and define the extent of metals contamination at the Site. The pre-design investigation confirms that the soils at the Site have significant metals contamination. Filter cake/fly ash, fill material and C&D material ranging from brick, wood, concrete, metal and a yellow rock were observed in most soil borings and test pits at the Site. Regardless of sample depth, the fly ash material contained the highest concentrations of lead, cadmium, arsenic and nickel. Additionally, soil boring cores that were centrally-located onsite generally had higher concentrations of lead, cadmium, arsenic and nickel providing a preliminary delineation of the lateral extent of contamination at the Site.

Lead, the primary contaminant of concern, exceeded the Restricted Commercial Use SCO standard at locations throughout the Site. During the initial pre-design investigation, 60 subsurface samples were collected, of which, 15 samples had lead concentrations above the Restricted Commercial Use SCO (1,000 ppm) at depths ranging from the surface to 16 feet bgs. The majority of the samples having lead concentrations that exceeded the Restricted Commercial Use SCO of 1,000 ppm were collected at 0 to 4 feet bgs. Two surface soil samples were collected along the southern edge of the Site and two TCLP samples were collected within the fenced area known to contain the most highly contaminated soil. Lead was detected in both surface soil samples at concentrations above the Restricted Commercial Use SCO. Lead was also detected in both TCLP samples at concentrations below the 5 mg/l standard.

In 16 of 60 subsurface samples, cadmium concentrations exceeded the Restricted Commercial Use SCO of 9.3 ppm, at depths ranging from 0 to 16 feet bgs. Arsenic was detected above the Restricted Commercial Use SCO of 16 ppm in 26 of 60 subsurface samples, at depths ranging from 0 to 20 feet bgs. Nickel was detected above the Restricted Commercial Use SCO of 310 ppm in 1 of 60 subsurface samples, at 4 to 8 feet bgs. Cadmium was also detected in the TCLP samples at concentrations below the published standard.

A second round of sampling was performed on January 21, 2013, in which eight surface soil samples were collected. The samples were analyzed for TCLP metals and hexavalent chromium. Lead and cadmium were detected in all of the TCLP samples at concentrations below their respective standards. Hexavalent chromium was not detected in any of the follow-up samples collected.

Although many of the subsurface sample results showed metals concentrations exceeding the Restricted Commercial Use SCO, there were no exceedances of TCLP standards in any of the soil samples collected at the Site. Since the TCLP standards were not exceeded, the soils are not classified as hazardous and therefore, are not required to be disposed of in a RCRA-regulated facility (e.g., Chemical Waste Management Model City, NY landfill). However, due to the elevated levels of metals present, the Site soils will need to be disposed of in a NYSDEC Part 360-regulated facility (e.g., Seneca Meadows Landfill, or equivalent).

## 4.2 Recommendations

Based on the analytical results presented in Section 3 and discussed above, CDM Smith recommends the following.

- Elevated levels of lead, cadmium, chromium, and nickel are present throughout the Site at varying depths and on the surface. CDM Smith recommends NYSDEC consider securing the site with the installation of a boundary fence to limit access by the public until remedial construction is complete.
- The elevated levels of metals at almost all locations and at varying depths will limit segregation of excavated materials during the remedial construction. With the exception of large amounts of concrete on the surface, and any other C&D material such as roofing shingles as well as tires across the site, all excavated material can be disposed of as non-hazardous.
- CDM Smith estimates between 100,000 and 120,000 tons of contaminated material will be excavated to an elevation of 577 feet amsl based on the cross-sections provided in Section 3. This excludes some C&D material that was evident below grade at the South and East property lines extending 75 feet in towards the site.

# Section 4
# Conclusions and Recommendations

## 4.1 Conclusions

The objectives of the pre-design field investigation were to confirm and define the extent of metals contamination at the Site. The pre-design investigation confirms that the soils at the Site have significant metals contamination. Filter cake/fly ash, fill material and C&D material ranging from brick, wood, concrete, metal and a yellow rock were observed in most soil borings and test pits at the Site. Regardless of sample depth, the fly ash material contained the highest concentrations of lead, cadmium, arsenic and nickel. Additionally, soil boring cores that were centrally-located onsite generally had higher concentrations of lead, cadmium, arsenic and nickel providing a preliminary delineation of the lateral extent of contamination at the Site.

Lead, the primary contaminant of concern, exceeded the Restricted Commercial Use SCO standard at locations throughout the Site. ~~Out of~~During the initial pre-design investigation 60 subsurface samples were collected, of which, 15 samples had lead concentrations above the Restricted Commercial Use SCO (1,000 ppm) at depths ranging from the surface to 16 feet bgs. The majority of the samples having lead concentrations that exceeded the Restricted Commercial Use SCO of 1,000 ppm were collected at 0 to 4 feet bgs. Two surface soil samples were collected along the southern edge of the Site and ~~T~~two TCLP samples were collected within the fenced area known to contain the most highly contaminated soil. Lead was detected in both surface soil samples at concentrations above the Restricted Commercial Use SCO. Lead was also detected in both TCLP samples, at concentrations below the 5 mg/l standard.

In 16 of 60 subsurface samples, cadmium concentrations exceeded the Restricted Commercial Use SCO of 9.3 ppm, at depths ranging from 0 to 16 feet bgs. Arsenic was detected above the Restricted Commercial Use SCO of 16 ppm in 26 of 60 subsurface samples, at depths ranging from 0 to 20 feet bgs. Nickel was detected above the Restricted Commercial Use SCO of 310 ppm in 1 of 60 subsurface samples, at 4 to 8 feet bgs. Cadmium was also detected in the TCLP samples at concentrations below the published standard.

A second round of sampling was performed on January 21, 2013, in which eight surface soil samples were collected. The samples were analyzed for TCLP metals and hexavalent chromium. Lead and cadmium were detected in all of the TCLP samples~~,~~ at concentrations below their respective standards. Hexavalent chromium was not detected in any of the follow-up samples collected.

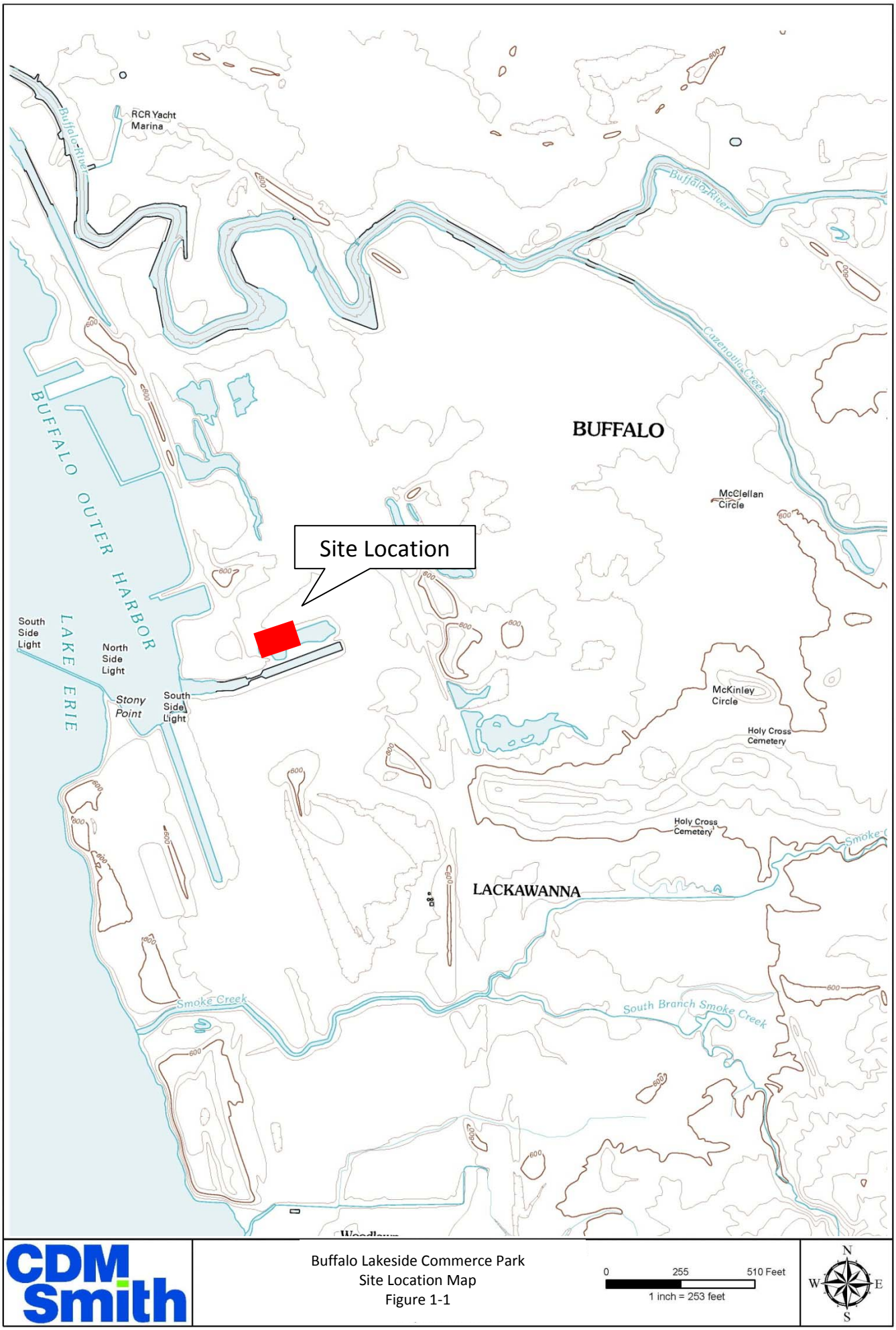
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## 4.2 Recommendations

Based on the analytical results presented in Section 3 and discussed above, CDM Smith recommends the following.

- Elevated levels of lead, cadmium, chromium, and nickel are present throughout the Site at varying depths and on the surface. CDM Smith recommends NYSDEC consider securing the site with the installation of a boundary fence to limit access by the public until remedial construction is complete.

- The elevated levels of metals at almost all locations and at varying depths will ~~most likely~~ limit segregation of excavated materials during the remedial construction. With the exception of large amounts of concrete on the surface and any other C&D material such as roofing shingles as well as tires, across the site; all excavated material can be disposed of as non-hazardous.
- CDM Smith estimates between ~~that~~ 100~~5~~,000 and 120,000 ~~-~~tons of contaminated material will be excavated to an elevation of 577 feet amsl based on the cross-sections provided in Section 3. This excludes some C&D material that was evident below grade at the South and East property lines extending 75 feet in towards the site.
- ~~CDM Smith will update this report once we receive the data validation report. This document will be used in development of the Basis of Design Report/30% Remedial Design.~~



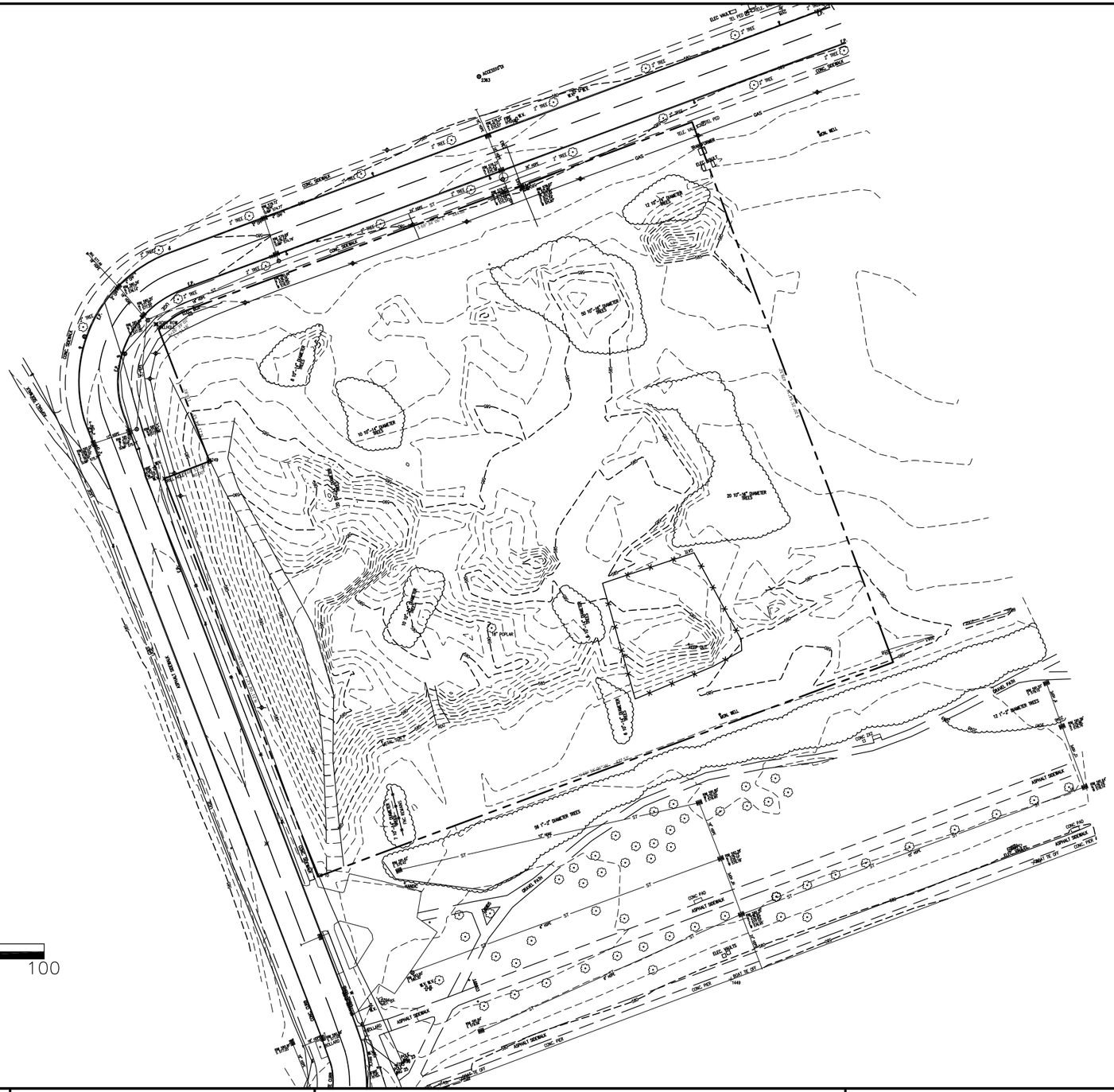

CDM Smith

Buffalo Lakeside Commerce Park
Site Location Map
Figure 1-1

0 255 510 Feet
1 inch = 253 feet

N
W E
S

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NOTES:

1. TOPOGRAPHIC FENCELINE AND BOUNDARY SURVEY PERFORMED AND PREPARED BY THE POPLI DESIGN GROUP ON SEPTEMBER 27, 2012.
2. HORIZONTAL DATUM: NAD83(CORS) NEW YORK STATE PLANE COORDINATES, WEST ZONE. US SURVEY FEET.
3. VERTICAL DATUM: NAVD 88.
4. THE FENCELINE DENOTES AN AREA PREVIOUSLY IDENTIFIED AS CONTAINING SOIL WITH HAZARDOUS LEVELS OF LEAD.

LEGEND

- 5 FT. CONTOUR
- 1 FT. CONTOUR
- FENCELINE
- PROPERTY LINE

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Camp Dresser McKee & Smith

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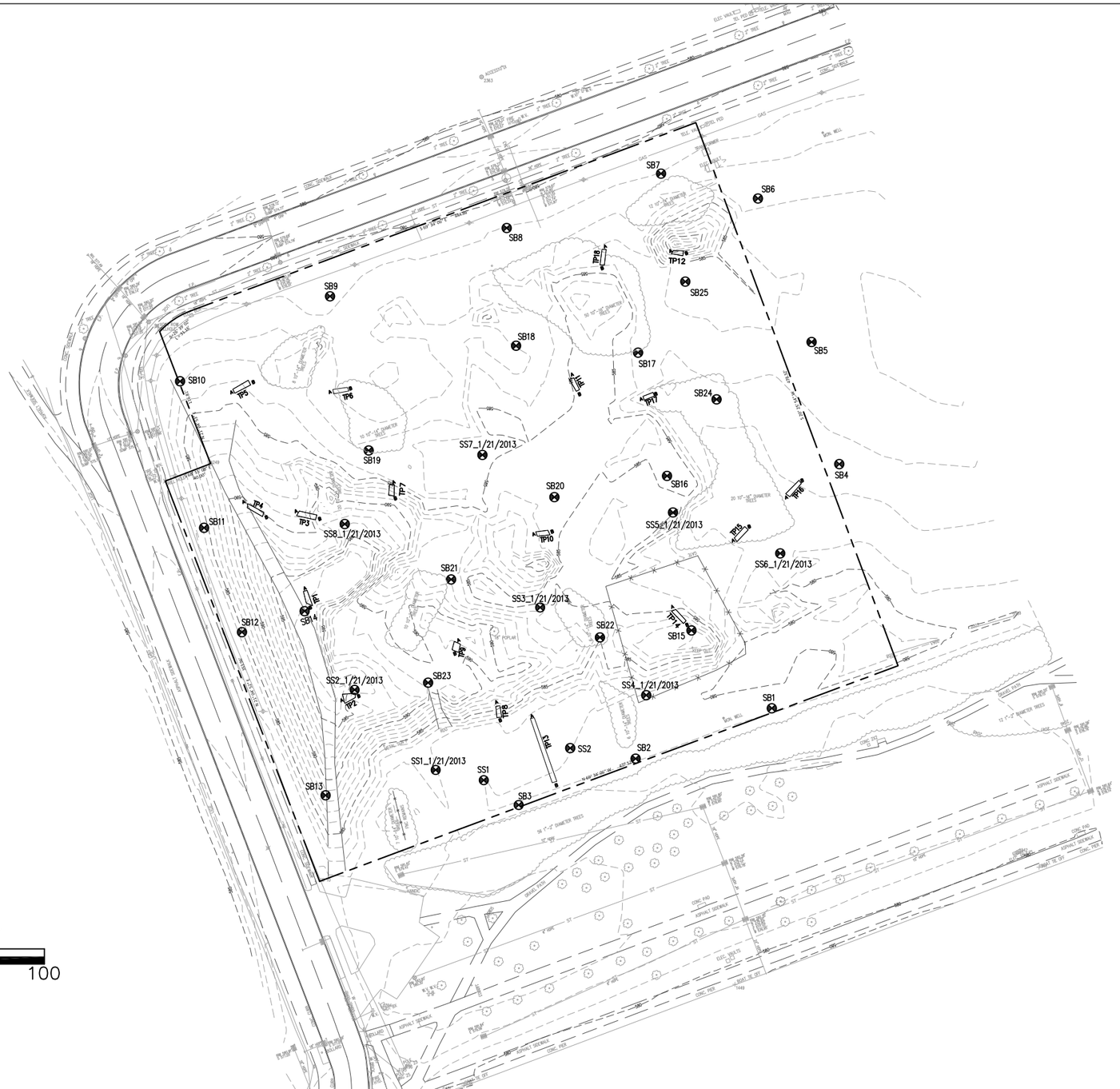
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Figure 1-2
Buffalo Lakeside Commerce Park, Buffalo, NY
Overall Site Plan

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N

1" = 100'

50 0 100

NOTES:

1. TOPOGRAPHIC FENCELINE AND BOUNDARY SURVEY PERFORMED AND PREPARED BY THE POPLI DESIGN GROUP ON SEPTEMBER 27, 2012.
2. HORIZONTAL DATUM: NAD83(CORS) NEW YORK STATE PLANE COORDINATES, WEST ZONE. US SURVEY FEET.
3. VERTICAL DATUM: NAVD 88.
4. THE FENCELINE DENOTES AN AREA PREVIOUSLY IDENTIFIED AS CONTAINING SOIL WITH HAZARDOUS LEVELS OF LEAD.
5. SOIL BORINGS WERE INSTALLED BY SJB SERVICES VIA GEOPROBE DIRECT PUSHTECHNOLOGY BETWEEN SEPTEMBER 17–19, 2012. LOCATIONS WERE IDENTIFIED BY CDM SMITH PERSONNEL.
6. TEST PITS WERE DUG BY SJB SERVICES VIA RUBBERTIRE BACKHOE ON SEPTEMBER 17–18, 2012. LOCATIONS WERE IDENTIFIED BY CDM SMITH PERSONNEL.

LEGEND

- SB9 — SOIL BORING LOCATION
- A TP16 B — TEST PIT LOCATION
- 5 FT. CONTOUR
- 1 FT. CONTOUR
- FENCELINE
- PROPERTY LINE

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Camp Dresser McKee & Smith

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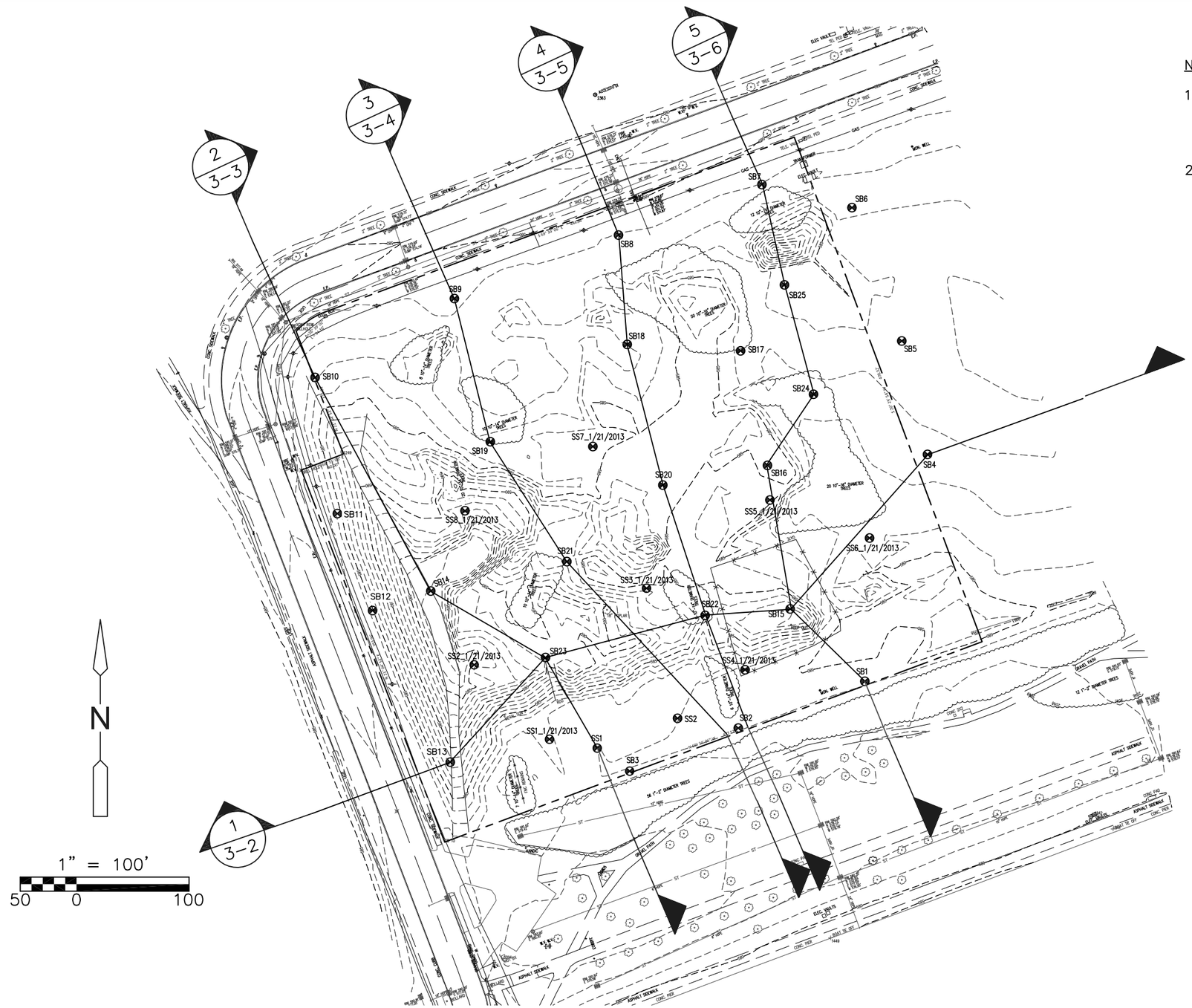
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Figure 1-3
Buffalo Lakeside Commerce Park, Buffalo, NY
Soil Boring and Test Pit Location Plan

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NOTES:

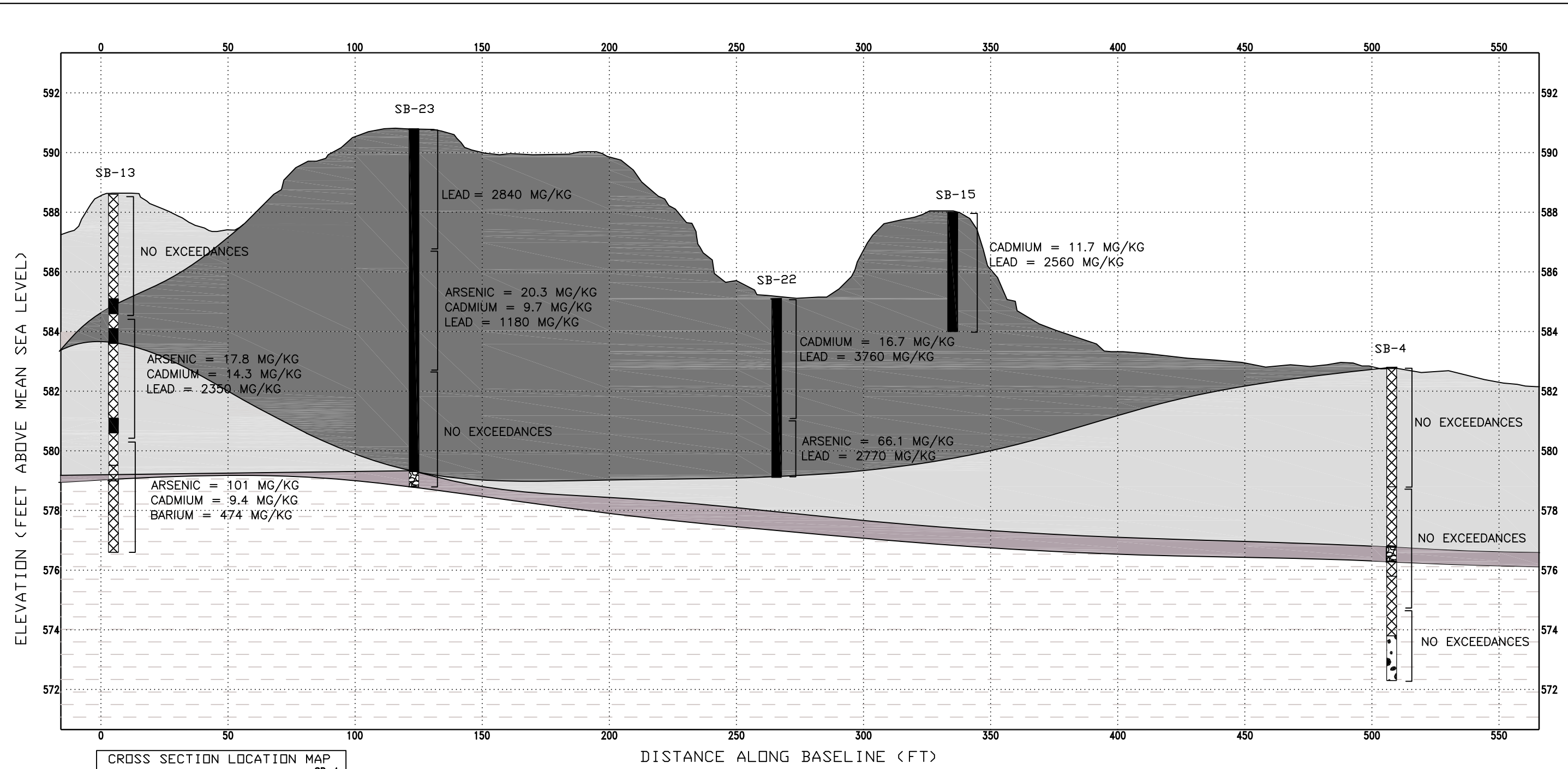
1. CROSS-SECTIONS SHOWN ON FIGURES 3-2 THROUGH 3-6 PRESENT THE OBSERVED STRATIGRAPHY OF THE SOIL BORINGS INSTALLED AS SHOWN ON THIS PLAN. A LEGEND DENOTING SOIL TYPES IS PROVIDED AT THE BOTTOM OF EACH FIGURE.
2. THE ANALYTICAL CONCENTRATIONS SHOW IN FIGURES 3-2 THROUGH 3-6 DISPLAY ONLY CADMIUM, CHROMIUM, NICKEL, AND LEAD CONCENTRATIONS THAT EXCEED THEIR INDIVIDUAL PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCO). THERE ARE OTHER METALS WHOSE ANALYTICAL RESULTS ALSO EXCEED THE PART 375 UNRESTRICTED USE SCOs NOT SHOWN IN FIGURES 3-2 THROUGH 3-6. PLEASE REFER TO TABLE 3-1 FOR A FULL SUMMARY OF ANALYTICAL RESULTS AND EXCEEDANCES.

LEGEND

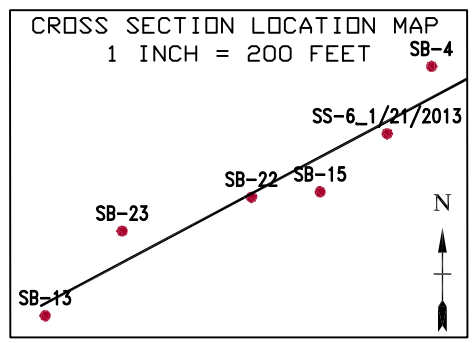
- 5 FT. CONTOUR
- 1 FT. CONTOUR
- FENCELINE
- PROPERTY LINE
- SB6 SOIL BORING LOCATION

| | | | |
|---|---|---|---|
| CDM Smith<br>Camp Dresser McKee & Smith | Prepared By:<br><br>CDM Smith<br>11 British American Blvd.<br>Latham, NY 12110 | Prepared for:<br><br>New York State Department of Environmental Conservation<br>625 Broadway St.<br>Albany, NY 12233 | Figure 3-1<br>Buffalo Lakeside Commerce Park, Buffalo, NY<br>Cross-Section Plan |

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CROSS SECTION LOCATION MAP
1 INCH = 200 FEET




BOREHOLE LITHOGRAPHY LEGEND:

- FILL MATERIAL
- FLY ASH
- USCS POORLY GRADED GRAVEL
- ROCK SLAG

INTERPRETED LITHOGRAPHY LEGEND:

- FILL MATERIAL
- FLY ASH
- ROCK SLAG
- MATERIAL BELOW ROCK SLAG

NOTES:

1. ALL RESULTS IN MG/KG.
2. PLEASE NOTE THAT LITHOLOGOIC INTERPRETATIONS ARE BASED ON OBSERVATIONS IN THE FIELD.

HORIZONTAL SCALE (FEET): 0 — 39

VERTICAL SCALE (FEET): 0 — 3
VERTICAL EXAGGERATION= 11.5X

Prepared By:

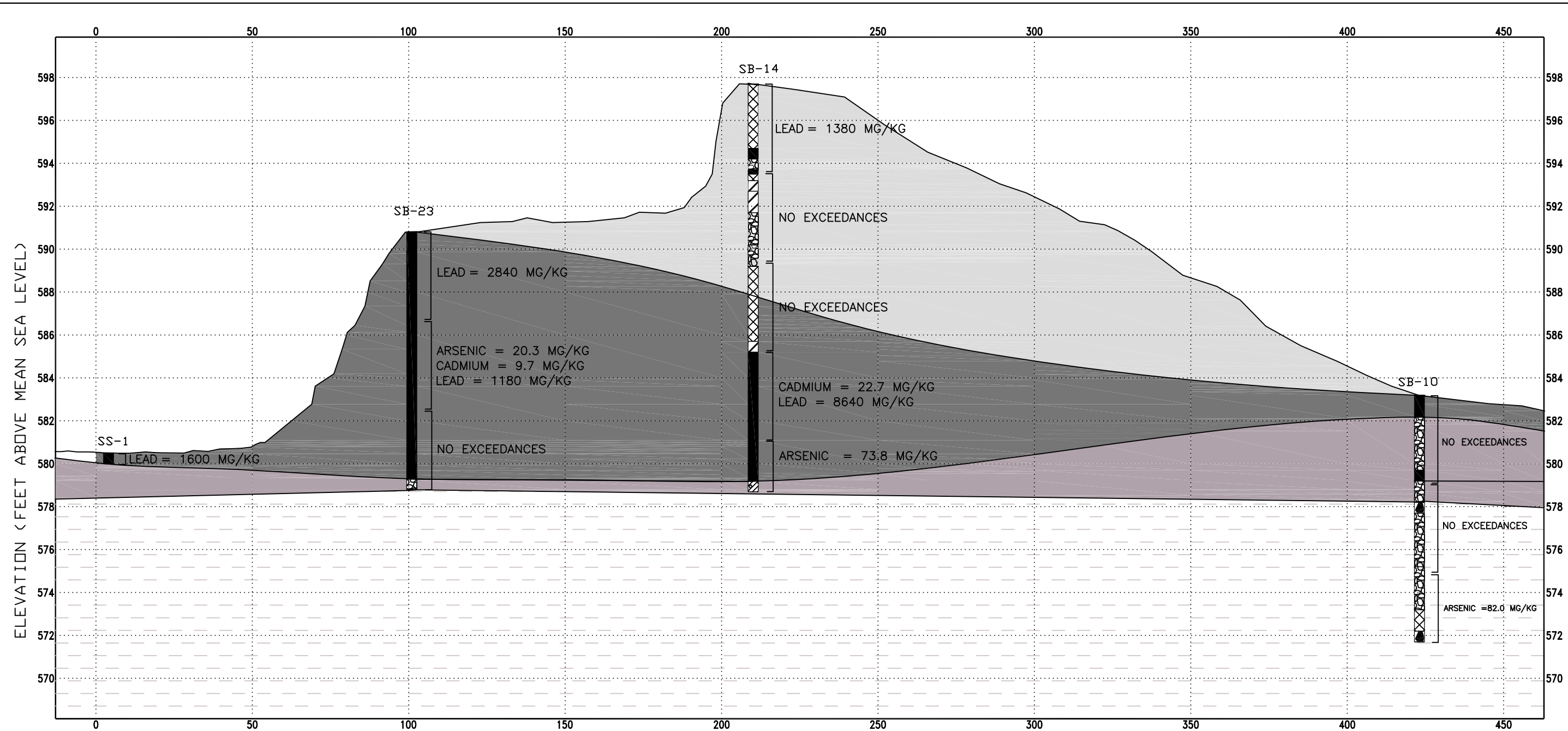
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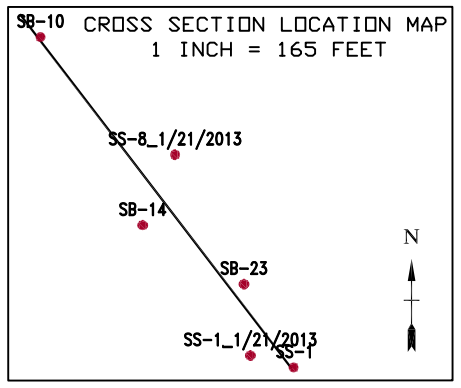
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Figure 3-2
Buffalo Lakeside Commerce Park, Buffalo, NY
Soil Boring and Test Pit Location Plan

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BOREHOLE LITHOGRAPHY LEGEND:

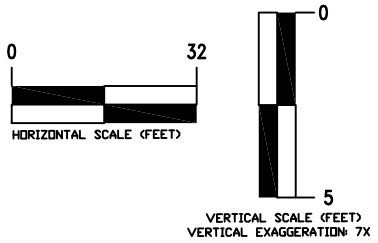
- FILL MATERIAL
- USCS POORLY GRADED GRAVEL
- COAL
- USCS LOW PLASTICITY GRAVELLY CLAY
- FLY ASH
- ROCK SLAG
- USCS HIGH PLASTICITY CLAY

INTERPRETED LITHOGRAPHY LEGEND:

- FILL MATERIAL
- ROCK SLAG
- FLY ASH
- MATERIAL BELOW ROCK SLAG

NOTES:

1. ALL RESULTS IN MG/KG.
2. PLEASE NOTE THAT LITHOLOGOIC INTERPRETATIONS ARE BASED ON OBSERVATIONS IN THE FIELD.




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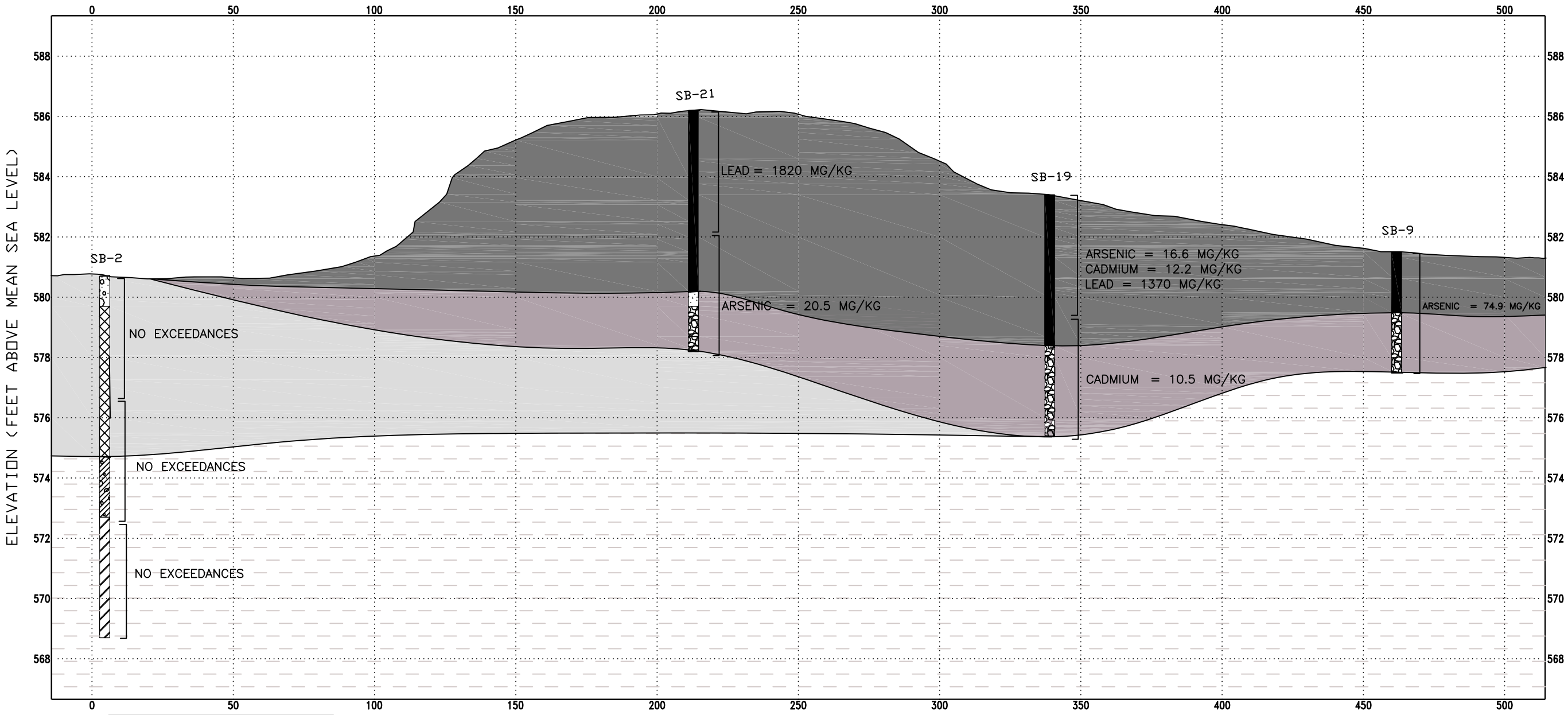
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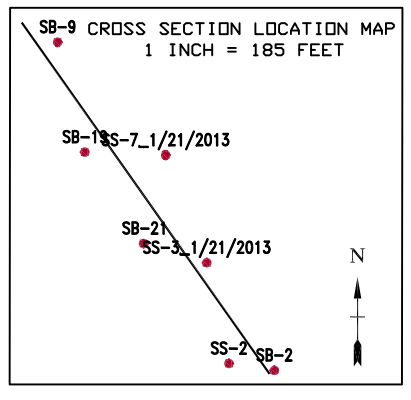
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Figure 3-3
Buffalo Lakeside Commerce Park, Buffalo, NY
Soil Boring and Test Pit Location Plan

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BOREHOLE LITHOGRAPHY LEGEND:

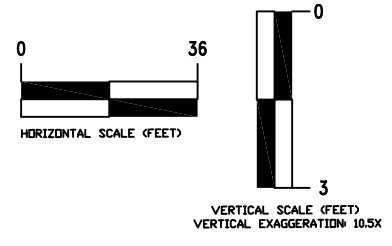
- FILL MATERIAL
- USCS POORLY GRADED GRAVEL
- FLY ASH
- USCS LOW PLASTICITY GRAVELLY CLAY
- USCS WELL GRADED SAND
- ROCK SLAG
- USCS HIGH PLASTICITY CLAY
- USCS POORLY GRADED SANDY GRAVEL

INTERPRETED LITHOGRAPHY LEGEND:

- FILL MATERIAL
- FLY ASH
- ROCK SLAG
- MATERIAL BELOW ROCK SLAG

NOTES:

1. ALL RESULTS IN MG/KG.
2. PLEASE NOTE THAT LITHOLOGOIC INTERPRETATIONS ARE BASED ON OBSERVATIONS IN THE FIELD.




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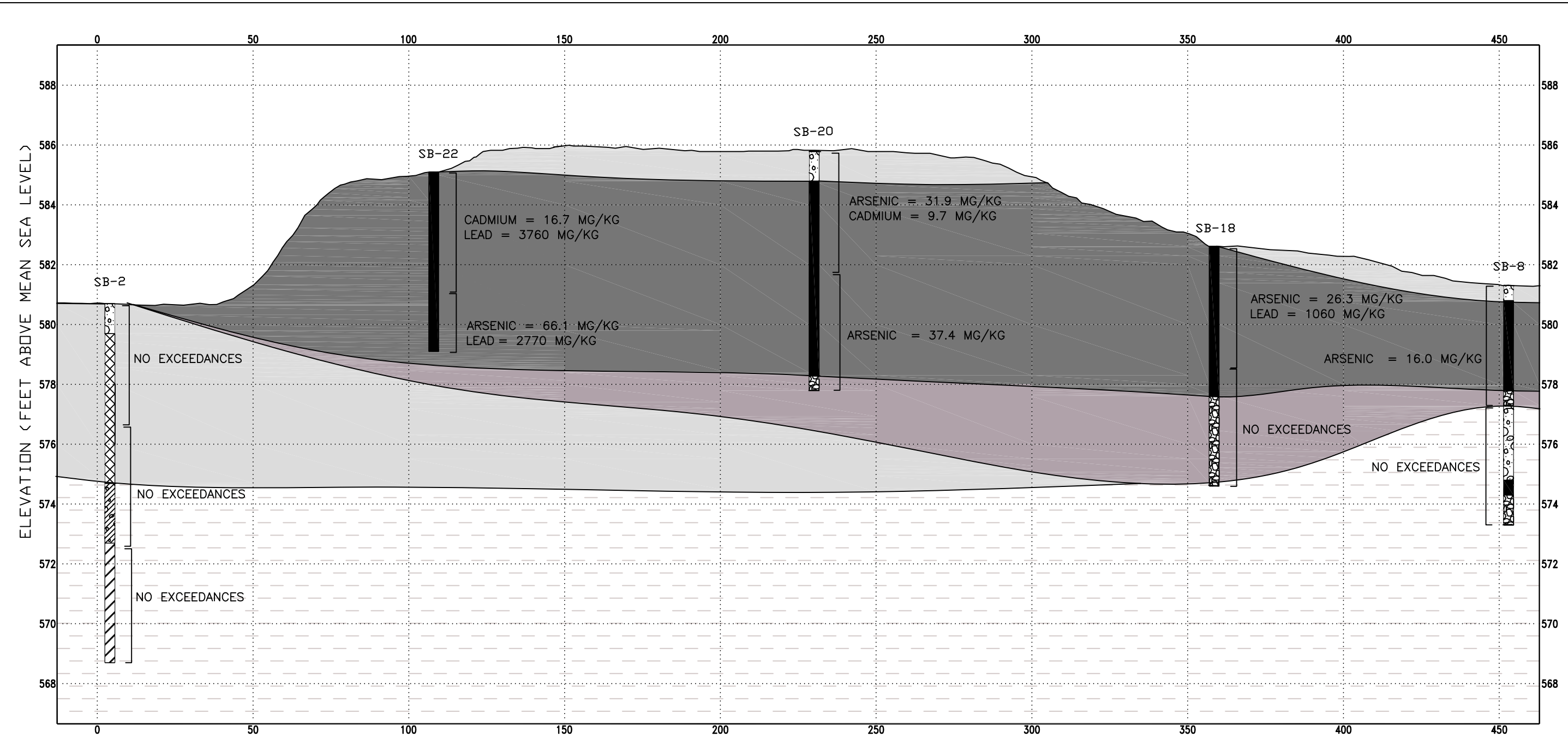
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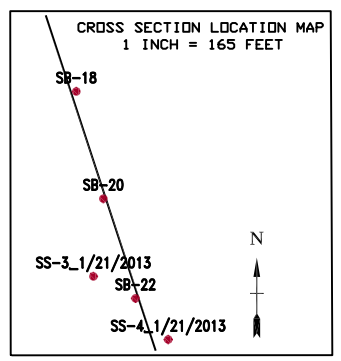
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Figure 3-4
Buffalo Lakeside Commerce Park, Buffalo, NY
Soil Boring and Test Pit Location Plan

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BOREHOLE LITHOGRAPHY LEGEND:

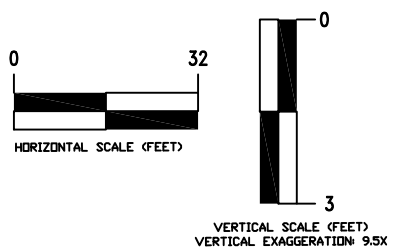
- FILL MATERIAL
- USCS POORLY GRADED GRAVEL
- FLY ASH
- USCS LOW PLASTICITY GRAVELLY CLAY
- USCS POORLY GRADED SANDY GRAVEL
- ROCK SLAG
- USCS HIGH PLASTICITY CLAY

INTERPRETED LITHOGRAPHY LEGEND:

- FILL MATERIAL
- FLY ASH
- ROCK SLAG
- MATERIAL BELOW ROCK SLAG

NOTES:

1. ALL RESULTS IN MG/KG.
2. PLEASE NOTE THAT LITHOLOGOIC INTERPRETATIONS ARE BASED ON OBSERVATIONS IN THE FIELD.




CDM Smith
Camp Dresser McKee & Smith

Prepared By:

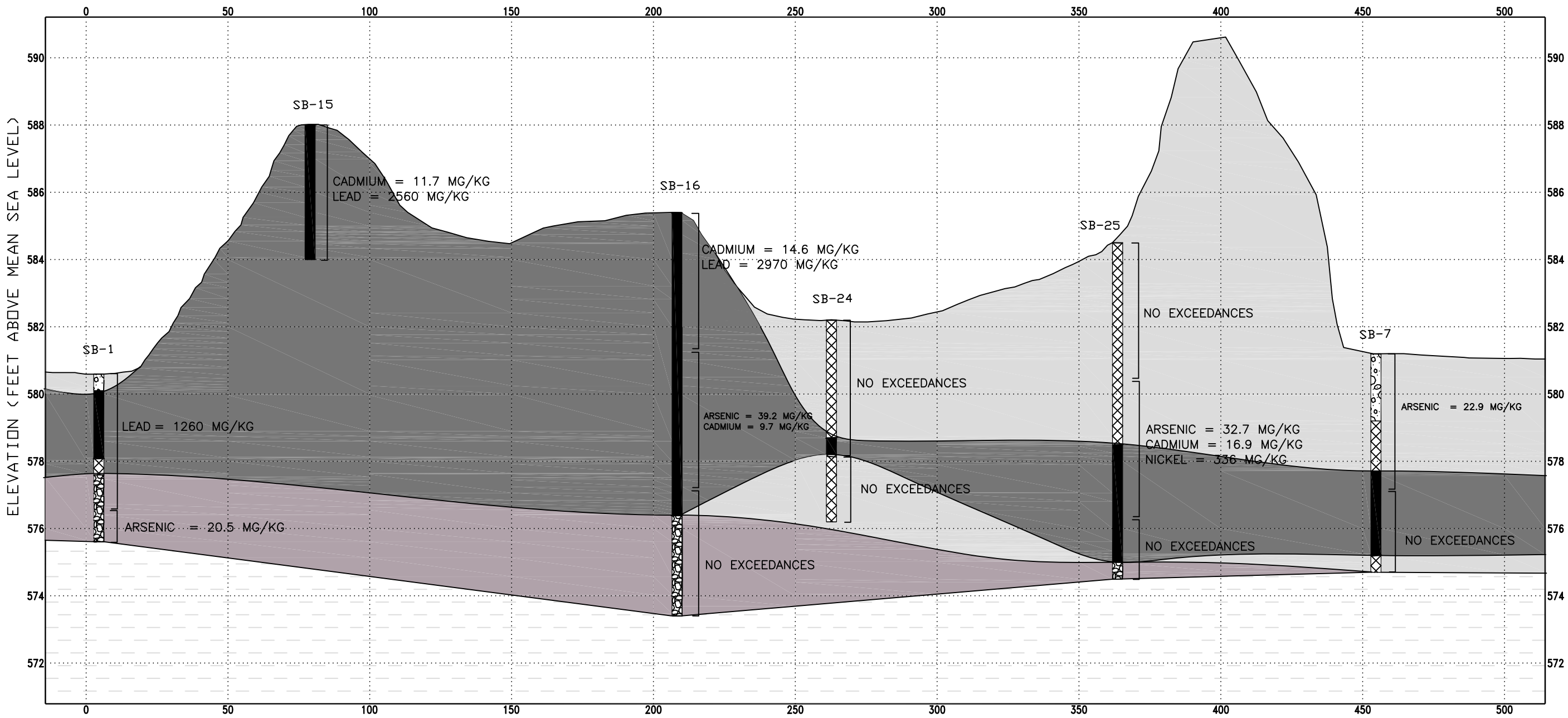
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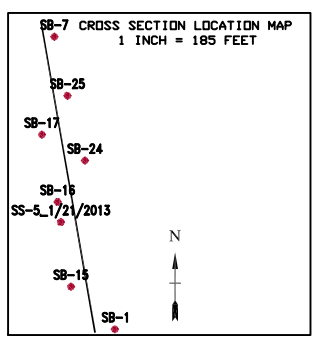
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Figure 3-5
Buffalo Lakeside Commerce Park, Buffalo, NY
Soil Boring and Test Pit Location Plan

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BOREHOLE LITHOGRAPHY LEGEND:

- FILL MATERIAL
- FLY ASH
- USCS LOW PLASTICITY GRAVELLY CLAY
- USCS POORLY GRADED SANDY GRAVEL
- ROCK SLAG

INTERPRETED LITHOGRAPHY LEGEND:

- FILL MATERIAL
- ROCK SLAG
- FLY ASH
- MATERIAL BELOW ROCK SLAG

NOTES:

1. ALL RESULTS IN MG/KG.
2. PLEASE NOTE THAT LITHOLOGOIC INTERPRETATIONS ARE BASED ON OBSERVATIONS IN THE FIELD.

HORIZONTAL SCALE (FEET): 0 – 36

VERTICAL SCALE (FEET) VERTICAL EXAGGERATION: 12X: 0 – 3

| Prepared By: | Prepared for: | |
|---|---|---|
| CDM Smith<br>11 British American Blvd.<br>Latham, NY 12110 | New York State Department of Environmental Conservation<br>625 Broadway St.<br>Albany, NY 12233 | Figure 3-6<br>Buffalo Lakeside Commerce Park, Buffalo, NY<br>Soil Boring and Test Pit Location Plan |

Camp Dresser McKee & Smith

| | Sample ID | SB-01 0-4 | | SB-01 4-8 | | SB-02 0-4 | | SB-02 4-8 | | SB-02 8-12 | | SB-03 0-4 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-01 | | SB-01 | | SB-02 | | SB-02 | | SB-02 | | SB-03 | |
| | Sampling Date | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | |
| | Sample Depth | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | | 4-8 ft. | | 8-12 ft. | | 0-4 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 10200 | * | 19700 | * | 12700 | * | 14200 | * | 15800 | * | 13700 | * |
| Antimony | NA | 2.6 | N | 0.51 | BN | | U | | U | | U | | U |
| Arsenic | 16 | 11.4 | | 20.5 | | 3 | | 5.7 | | 5.2 | | 3.6 | |
| Barium | 400 | 68.5 | * | 160 | * | 12.9 | * | 33.8 | * | 27.7 | * | 19.6 | * |
| Beryllium | 590 | 1.5 | * | 3.7 | * | 0.63 | * | 0.75 | * | 0.79 | * | 0.71 | * |
| Cadmium | 9.3 | 4.50 | * | 2.9 | * | | U | | U | | U | | U |
| Calcium | NA | 29500 | * | 110000 | * | 81900 | * | 60700 | * | 70700 | * | 86400 | * |
| Chromium | NA | 59 | | 43.4 | | 22.8 | | 23.8 | | 26.6 | | 24.1 | |
| Cobalt | NA | 9.5 | *E | 5.1 | *E | 14.7 | *E | 13.8 | *E | 21.8 | *E | 17.2 | *E |
| Copper | 270 | 277 | | 68.4 | | 24.2 | | 42.2 | | 28.5 | | 26.6 | |
| Iron | NA | 106000 | | 117000 | | 27900 | | 31200 | | 34700 | | 30500 | |
| Lead | 1000 | 1260 | * | 120 | * | 17.8 | * | 21.1 | * | 27 | * | 20.4 | * |
| Magnesium | NA | 7180 | * | 23800 | * | 5930 | * | 8890 | * | 7200 | * | 6510 | * |
| Manganese | 10000 | 1770 | * | 3320 | * | 637 | * | 606 | * | 687 | * | 746 | * |
| Nickel | 310 | 64.3 | *E | 17.3 | *E | 46.3 | *E | 46.3 | *E | 58.3 | *E | 49.7 | *E |
| Potassium | NA | 835 | * | 1820 | * | 1360 | * | 1720 | * | 1990 | * | 1940 | * |
| Selenium | 1500 | | U | 1.3 | *B | 1.7 | * | 2.3 | * | 2.4 | * | 2 | * |
| Silver | 1500 | 0.14 | B | | U | | U | | U | | U | | U |
| Sodium | NA | 153 | * | 394 | * | 122 | * | 155 | * | 151 | * | 132 | * |
| Thallium | NA | | U | 0.74 | *B | | U | | U | | U | | U |
| Vanadium | NA | 20.2 | * | 14.4 | * | 15.1 | * | 17 | * | 19.4 | * | 16.2 | * |
| Zinc | 10000 | 1250 | * | 1000 | *E | 38.6 | *E | 74.2 | *E | 58.6 | *E | 40.1 | * |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-03 4-8 | | SB-04 0-4 | | SB-04 4-8 | | SB-04 8-12 | | SB-05 0-4 | | SB-05 4-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-03 | | SB-04 | | SB-04 | | SB-04 | | SB-05 | | SB-05 | |
| | Sampling Date | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | |
| | Sample Depth | 4-8 ft. | | 0-4 ft. | | 4-8 ft. | | 8-12 ft. | | 0-4 ft. | | 4-8 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 14200 | * | 13900 | * | 13500 | * | 22700 | * | 7070 | * | 11400 | * |
| Antimony | NA | | U | 1.0 | BN | 1.7 | N | | U | 1.0 | BN | | U |
| Arsenic | 16 | 4.6 | | 10.9 | | 7.8 | | 7.5 | | 8.9 | | 6.1 | |
| Barium | 400 | 11.7 | * | 211 | * | 160 | * | 229 | * | 223 | * | 220 | * |
| Beryllium | 590 | 0.58 | * | 2.4 | * | 2.1 | * | 3.6 | * | 0.38 | * | 0.32 | * |
| Cadmium | 9.3 | | U | 2.1 | * | 4.5 | * | 1.4 | * | 0.81 | * | 0.34 | * |
| Calcium | NA | 70700 | * | 82700 | * | 57700 | * | 117000 | * | 70500 | * | 67800 | * |
| Chromium | NA | 25.7 | | 47.3 | | 42.7 | | 31.9 | | 29.5 | | 28.9 | |
| Cobalt | NA | 17.7 | *E | 5.4 | *E | 12.1 | *E | 3 | *E | 6 | *E | 3.8 | *E |
| Copper | 270 | 27.1 | | 314 | | 103 | | 173 | | 99.5 | | 27 | |
| Iron | NA | 32700 | | 81000 | | 61600 | | 67000 | | 43900 | | 11100 | |
| Lead | 1000 | 22.9 | * | 262 | * | 517 | * | 359 | * | 387 | * | 355 | * |
| Magnesium | NA | 7360 | * | 16700 | * | 13100 | * | 19200 | * | 11500 | * | 6180 | * |
| Manganese | 10000 | 479 | * | 3170 | * | 1770 | * | 3700 | * | 910 | * | 515 | * |
| Nickel | 310 | 54.2 | *E | 25.4 | *E | 50.9 | *E | 18.9 | *E | 19.5 | *E | 11.1 | *E |
| Potassium | NA | 2320 | * | 1760 | * | 2200 | * | 5820 | * | 1080 | * | 1580 | * |
| Selenium | 1500 | 1.6 | * | 4.8 | * | 4.5 | * | 6.5 | * | 2.7 | * | 1.7 | B |
| Silver | 1500 | | U | | U | | U | | U | 0.13 | B | | U |
| Sodium | NA | 132 | * | 461 | * | 687 | * | 736 | * | 318 | * | 980 | * |
| Thallium | NA | | U | 1.3 | * | 1.3 | * | 4.5 | * | | U | 0.32 | B |
| Vanadium | NA | 17.3 | * | 17.1 | * | 43.7 | * | 15.2 | * | 24.4 | * | 26.2 | * |
| Zinc | 10000 | 57.4 | *E | 598 | *E | 1050 | *E | 1090 | *E | 437 | *E | 203 | *E |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| Sample ID | | SB-06 0-4 | | SB-06 4-8 | | SB-07 0-4 | | SB-07 4-8 | | SB-08 0-4 | | SB-08 4-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | SB-06 | | SB-06 | | SB-07 | | SB-07 | | SB-08 | | SB-08 | |
| Sampling Date | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | | 9/17/2012 | |
| Sample Depth | | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | | 4-8 ft. | |
| **Parameter ID** | **NYSDEC Restricted Commercial Use** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 10700 | * | 7250 | * | 24800 | * | 2310 | * | 23400 | * | 18600 | * |
| Antimony | NA | | U | 0.87 | BN | | U | 0.58 | BN | | U | 1.1 | N |
| Arsenic | 16 | 8.8 | | 11.7 | | 22.9 | | 2 | | 16 | | 9.1 | |
| Barium | 400 | 103 | * | 285 | * | 336 | * | 285 | * | 216 | * | 148 | * |
| Beryllium | 590 | 1.6 | * | 0.4 | * | 3.7 | * | 0.37 | * | 3.2 | * | 3.1 | * |
| Cadmium | 9.3 | 3.5 | * | 3.5 | * | 2.7 | * | | U | 5.9 | * | 8.8 | * |
| Calcium | NA | 52600 | * | 109000 | * | 179000 | * | 26300 | * | 143000 | * | 98300 | * |
| Chromium | NA | 108 | | 41.1 | | 39.2 | | 3.8 | | 59.2 | | 12.6 | |
| Cobalt | NA | 6.3 | *E | 4.6 | *E | 6.7 | *E | 0.34 | B*E | 5.2 | *E | 6.5 | *E |
| Copper | 270 | 221 | | 126 | | 227 | | 8.4 | | 52.3 | | 9.9 | |
| Iron | NA | 132000 | | 25600 | | 46100 | | 11800 | | 84800 | | 250000 | |
| Lead | 1000 | 324 | * | 411 | * | 203 | * | 60.4 | * | 373 | * | 2.5 | * |
| Magnesium | NA | 10000 | * | 13700 | * | 22500 | * | 4970 | * | 19000 | * | 11200 | * |
| Manganese | 10000 | 2650 | * | 642 | * | 2430 | * | 364 | * | 4120 | * | 4840 | * |
| Nickel | 310 | 52 | *E | 13.3 | *E | 32.4 | *E | 1.5 | B*E | 17.4 | *E | 6.7 | *E |
| Potassium | NA | 1520 | * | 1810 | * | 9210 | * | 1550 | * | 5300 | * | 1240 | * |
| Selenium | 1500 | | U | 3.6 | * | 6.4 | * | 1.7 | B*E | 4.5 | * | | U |
| Silver | 1500 | 0.37 | B | 2 | B | | U | | U | | U | | U |
| Sodium | NA | 223 | * | 287 | * | 795 | * | 176 | * | 503 | * | 470 | * |
| Thallium | NA | | U | | U | 4.4 | * | | U | 1.7 | * | | U |
| Vanadium | NA | 19 | * | 22.1 | * | 16.8 | * | 4.4 | * | 26.5 | * | 26.9 | * |
| Zinc | 10000 | 800 | *E | 483 | *E | 462 | *E | 72.7 | *E | 1060 | *E | 11.1 | *E |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-09 0-4 | | SB-10 0-4 | | SB-10 4-8 | | SB-10 8-12 | | SB-11 0-4 | | SB-11 4-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-09 | | SB-10 | | SB-10 | | SB-10 | | SB-11 | | SB-11 | |
| | Sampling Date | 9/17/2012 | | 9/17/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 0-4 ft. | | 0-4 ft. | | 4-8 ft. | | 8-12 ft. | | 0-4 ft. | | 4-8 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 21700 | * | 26200 | | 12100 | | 26700 | | 11200 | | 25700 | |
| Antimony | NA | 0.83 | BN | 0.57 | BN* | | U | 1.2 | BN* | 7.8 | N* | 1.4 | BN* |
| Arsenic | 16 | 74.9 | | 8.6 | E | 10.7 | E | 82 | E | 22.9 | E | 76.1 | E |
| Barium | 400 | 215 | * | 218 | | 53.2 | | 157 | | 136 | | 282 | |
| Beryllium | 590 | 1.9 | * | 4.5 | | 0.77 | | 1.8 | | 1.8 | | 1.7 | |
| Cadmium | 9.3 | 5.1 | * | 2.4 | E | 0.77 | E | 8.1 | E | 18.6 | E | 6.6 | E |
| Calcium | NA | 193000 | * | 135000 | | 77600 | | 214000 | | 48500 | | 194000 | |
| Chromium | NA | 46.6 | | 19.1 | | 31.7 | | 50.5 | | 50.5 | | 67.3 | |
| Cobalt | NA | 9.1 | *E | 4.5 | E | 11 | E | 13 | E | 9.1 | E | 10.6 | E |
| Copper | 270 | 53.8 | | 55 | * | 39.2 | * | 106 | * | 181 | * | 59.1 | * |
| Iron | NA | 22600 | | 39800 | | 39800 | | 42700 | | 257000 | | 25100 | |
| Lead | 1000 | 144 | * | 553 | E | 49.1 | E | 167 | E | 3560 | E | 217 | E |
| Magnesium | NA | 9050 | * | 25400 | E | 7140 | E | 7070 | E | 8500 | E | 21000 | E |
| Manganese | 10000 | 524 | * | 1800 | | 587 | | 879 | | 7940 | | 521 | |
| Nickel | 310 | 26 | *E | 16.8 | NE | 35.7 | NE | 26.7 | NE | 29.9 | NE | 29.1 | NE |
| Potassium | NA | 4370 | * | 1550 | | 1480 | | 17300 | | 833 | | 6220 | |
| Selenium | 1500 | 8.1 | * | 5.4 | N | 2.4 | N | 17.9 | N | | U | 8.1 | N |
| Silver | 1500 | 4.8 | | 0.37 | B | 0.093 | B | 7.2 | | 1.8 | B | 5.5 | |
| Sodium | NA | 358 | * | 618 | | 157 | | 903 | | 208 | | 516 | |
| Thallium | NA | 6.3 | * | 3.2 | N | | U | 4.8 | N | | U | 8.2 | N |
| Vanadium | NA | 31.5 | * | 11.9 | E | 22.4 | E | 47.1 | E | 13.5 | E | 37.4 | E |
| Zinc | 10000 | 834 | *E | 754 | | 173 | | 817 | | 6150 | | 1080 | |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-11 8-12 | | SB-12 0-4 | | SB-12 4-8 | | SB-12 8-12 | | SB-13 0-4 | | SB-13 4-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-11 | | SB-12 | | SB-12 | | SB-12 | | SB-13 | | SB-13 | |
| | Sampling Date | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 8-12 ft. | | 0-4 ft. | | 4-8 ft. | | 8-12 ft. | | 0-4 ft. | | 4-8 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 28800 | | 7730 | | 5660 | | 25500 | | 11100 | | 13800 | |
| Antimony | NA | 3.2 | N* | 4.7 | N* | 2.1 | N* | 1.5 | BN* | 1.6 | N* | 3.7 | N* |
| Arsenic | 16 | 126 | E | 10.5 | E | 17.9 | E | 64.1 | E | 11.3 | E | 17.8 | E |
| Barium | 400 | 285 | | 86.5 | | 70.5 | | 367 | | 76.8 | | 162 | |
| Beryllium | 590 | 2.1 | | 1.4 | | 1.2 | | 2 | | 1.2 | | 2.6 | |
| Cadmium | 9.3 | 8.4 | E | 17 | E | 9.8 | E | 6.8 | E | 4.2 | E | 14.3 | E |
| Calcium | NA | 203000 | | 30100 | | 30000 | | 219000 | | 58000 | | 74700 | |
| Chromium | NA | 61.7 | | 63.7 | | 19.1 | | 60.4 | | 63.6 | | 98.5 | |
| Cobalt | NA | 13.7 | E | 7.1 | E | 7.3 | E | 13 | E | 9.7 | E | 8.8 | E |
| Copper | 270 | 98.9 | * | 176 | * | 29.6 | * | 74.7 | * | 94.7 | * | 161 | * |
| Iron | NA | 46000 | | 229000 | | 250000 | | 30100 | | 81900 | | 180000 | |
| Lead | 1000 | 233 | E | 3670 | E | 261 | E | 227 | E | 947 | E | 2350 | E |
| Magnesium | NA | 4440 | E | 5380 | E | 7570 | E | 5500 | E | 8690 | E | 14800 | E |
| Manganese | 10000 | 210 | | 5100 | | 6760 | | 526 | | 1610 | | 4290 | |
| Nickel | 310 | 40.1 | NE | 44.7 | NE | 11.5 | NE | 33.4 | NE | 43.9 | NE | 51.9 | NE |
| Potassium | NA | 19700 | | 912 | | 934 | | 11100 | | 1170 | | 1900 | |
| Selenium | 1500 | 11 | N | | U | | U | 10.9 | N | 3.2 | N | | U |
| Silver | 1500 | 7.3 | | 4 | | 0.05 | B | 5 | | 0.63 | B | 1.1 | B |
| Sodium | NA | 559 | | 158 | | 164 | | 466 | | 192 | | 448 | |
| Thallium | NA | 10.1 | N | | U | | U | 6.1 | N | 0.47 | BN | | U |
| Vanadium | NA | 47.1 | E | 10.7 | E | 10.3 | E | 44.3 | E | 19.7 | E | 17.1 | E |
| Zinc | 10000 | 1330 | | 6760 | | 711 | | 1310 | | 1610 | | 3830 | |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-13 8-12 | | SB-14 0-4 | | SB-14 4-8 | | SB-14 8-12 | | SB-14 12-16 | | SB-14 16-20 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-13 | | SB-14 | | SB-14 | | SB-14 | | SB-14 | | SB-14 | |
| | Sampling Date | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 8-12 ft. | | 0-4 ft. | | 4-8 ft. | | 8-12 ft. | | 12-16 ft. | | 16-20 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 36800 | | 12800 | | 22500 | | 26500 | | 8500 | | 21800 | |
| Antimony | NA | 2.0 | N* | 2.0 | N* | 0.54 | BN* | | U | 5.5 | N* | 1.5 | N* |
| Arsenic | 16 | 101 | E | 12.8 | E | 8.6 | E | 6.3 | E | 13.1 | E | 73.8 | E |
| Barium | 400 | 474 | | 128 | | 211 | | 225 | | 84.6 | | 187 | |
| Beryllium | 590 | 2 | | 1.6 | | 2.8 | | 3 | | 1.6 | | 1.6 | |
| Cadmium | 9.3 | 9.4 | E | 6.2 | E | 0.8 | E | 0.44 | E | 22.7 | E | 5.6 | E |
| Calcium | NA | 325000 | | 52600 | | 117000 | | 128000 | | 25600 | | 161000 | |
| Chromium | NA | 120 | | 63.6 | | 39.2 | | 32.9 | | 109 | | 49.5 | |
| Cobalt | NA | 17.3 | E | 6.7 | E | 4.5 | E | 4.2 | E | 8.8 | E | 9.8 | E |
| Copper | 270 | 98.7 | * | 91 | * | 33.3 | * | 30.7 | * | 318 | * | 87.8 | * |
| Iron | NA | 30500 | | 95100 | | 38500 | | 19200 | | 209000 | | 91100 | |
| Lead | 1000 | 241 | E | 1380 | E | 116 | E | 93.4 | E | 8640 | E | 212 | E |
| Magnesium | NA | 8230 | E | 13500 | E | 15800 | E | 19700 | E | 7160 | E | 12400 | E |
| Manganese | 10000 | 267 | | 1920 | | 3780 | | 3960 | | 4900 | | 693 | |
| Nickel | 310 | 42.2 | NE | 34.5 | NE | 14.4 | NE | 15.6 | NE | 71.6 | NE | 30.7 | NE |
| Potassium | NA | 11500 | | 1980 | | 2240 | | 3150 | | 640 | | 5810 | |
| Selenium | 1500 | 11.4 | N | 2.7 | N | 4.9 | N | 5 | N | 15.2 | N | 7.3 | N |
| Silver | 1500 | 7.2 | | 1.8 | | | U | | U | 4.3 | | 3 | |
| Sodium | NA | 572 | | 359 | | 631 | | 829 | | 177 | | 562 | |
| Thallium | NA | 8.8 | N | 0.65 | BN | 6.3 | N | 8.1 | N | | U | 2.7 | N |
| Vanadium | NA | 67.8 | E | 21.4 | E | 21.5 | E | 23.9 | E | 11.5 | E | 40.9 | E |
| Zinc | 10000 | 1460 | | 1500 | | 198 | | 184 | | 8620 | | 842 | |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-15 0-4 | | SB-16 0-4 | | SB-16 4-8 | | SB-16 8-12 | | SB-17 0-4 | | SB-17 4-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-15 | | SB-16 | | SB-16 | | SB-16 | | SB-17 | | SB-17 | |
| | Sampling Date | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 0-4 ft. | | 4-8 ft. | | 4-8 ft. | | 8-12 ft. | | 0-4 ft. | | 4-8 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 8210 | N* | 8850 | | 7450 | * | 12700 | * | 17100 | * | 28300 | * |
| Antimony | NA | 3.2 | E | 3.6 | N* | 3.4 | N | | U | 2.1 | N | 0.74 | B |
| Arsenic | 16 | 13.8 | | 14.7 | E | 39.2 | NE | 10.2 | NE | 24 | NE | 40.7 | NE |
| Barium | 400 | 104 | | 124 | | 93.9 | * | 133 | * | 196 | * | 459 | * |
| Beryllium | 590 | 1.7 | E | 1.6 | | 1.6 | E | 2.3 | E | 1.5 | E | 2.1 | E |
| Cadmium | 9.3 | 11.7 | | 14.6 | E | 9.7 | E | | U | 5.3 | E | 2 | E |
| Calcium | NA | 31500 | | 36900 | | 34800 | | 139000 | | 111000 | | 258000 | |
| Chromium | NA | 186 | E | 244 | | 12.9 | * | 6.8 | * | 64.7 | * | 50.5 | * |
| Cobalt | NA | 10.4 | * | 11.2 | E | 7.5 | E | 3.4 | E | 9.9 | E | 9.6 | E |
| Copper | 270 | 227 | | 590 | * | 38.9 | | 7.5 | | 223 | | 49.2 | |
| Iron | NA | 189000 | E | 216000 | | 233000 | | 12900 | | 140000 | | 17200 | |
| Lead | 1000 | 2560 | E | 2970 | E | 114 | *E | 23.2 | *E | 188 | *E | 128 | *E |
| Magnesium | NA | 9620 | | 9620 | E | 6400 | E | 13400 | E | 14900 | E | 4870 | E |
| Manganese | 10000 | 3750 | N | 4490 | | 5440 | | 1510 | | 2420 | | 208 | |
| Nickel | 310 | 101 | NE | 107 | NE | 10.5 | N*E | 8.9 | N*E | 48.5 | N*E | 29.5 | N*E |
| Potassium | NA | 789 | | 2160 | | 1920 | *E | 1610 | *E | 3220 | *E | 15100 | *E |
| Selenium | 1500 | | U | | U | | U | 3.2 | N | 2.6 | N | 8.7 | N |
| Silver | 1500 | 2.4 | | 1.2 | B | | U | | U | 0.42 | B | 1.6 | B |
| Sodium | NA | 127 | | 249 | | 187 | *E | 591 | *E | 215 | *E | 550 | *E |
| Thallium | NA | | U | | U | | U | 2.6 | N | | U | 5.6 | N |
| Vanadium | NA | 21.3 | E | 17.9 | E | 13.4 | *E | 8.9 | *E | 27.6 | *E | 58.1 | *E |
| Zinc | 10000 | 2780 | | 6380 | | 618 | N*E | 41.2 | N*E | 605 | N*E | 613 | N*E |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-18 0-4 | | SB-18 4-8 | | SB-19 0-4 | | SB-19 4-8 | | SB-20 0-4 | | SB-20 4-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-18 | | SB-18 | | SB-19 | | SB-19 | | SB-20 | | SB-20 | |
| | Sampling Date | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | | 4-8 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 10500 | * | 10900 | * | 10100 | * | 26800 | * | 9100 | * | 14400 | * |
| Antimony | NA | 1.8 | N | 1.1 | N | 3.1 | N | 0.78 | B | 2.6 | N | 1.5 | N |
| Arsenic | 16 | 26.3 | NE | 13.7 | NE | 16.6 | NE | 15.5 | NE | 31.9 | NE | 37.4 | NE |
| Barium | 400 | 125 | * | 160 | * | 109 | * | 546 | * | 118 | * | 195 | * |
| Beryllium | 590 | 1.9 | E | 0.39 | E | 1.9 | E | 1.8 | E | 1.6 | E | 1.6 | E |
| Cadmium | 9.3 | 9.1 | E | 0.58 | E | 12.2 | E | 10.5 | E | 9.7 | E | 6.8 | E |
| Calcium | NA | 37700 | | 393000 | | 41300 | | 224000 | | 25000 | | 124000 | |
| Chromium | NA | 56 | * | 56.2 | * | 45 | * | 46.8 | * | 33.2 | * | 47.4 | * |
| Cobalt | NA | 6.4 | E | 4.9 | E | 5.4 | E | 9 | E | 12.1 | E | 9 | E |
| Copper | 270 | 153 | | 239 | | 94.7 | | 55.8 | | 75.4 | | 114 | |
| Iron | NA | 175000 | | 24000 | | 205000 | | 17400 | | 214000 | | 129000 | |
| Lead | 1000 | 1060 | *E | 108 | *E | 1370 | *E | 163 | *E | 624 | *E | 677 | *E |
| Magnesium | NA | 8330 | E | 5430 | E | 12000 | E | 7680 | E | 5540 | E | 4930 | E |
| Manganese | 10000 | 5820 | | 401 | | 4160 | | 207 | | 8340 | | 4060 | |
| Nickel | 310 | 33 | N*E | 17.9 | N*E | 22.5 | N*E | 31.3 | N*E | 34.6 | N*E | 33.3 | N*E |
| Potassium | NA | 2770 | *E | 2800 | *E | 4690 | *E | 12400 | *E | 3860 | *E | 2940 | *E |
| Selenium | 1500 | | U | 5.3 | N | | U | 10.2 | N | | U | 6.8 | N |
| Silver | 1500 | 2.3 | | 0.34 | B | 1 | B | 5.6 | | 0.83 | B | 2.5 | |
| Sodium | NA | 294 | * | 320 | *E | 362 | *E | 540 | *E | 546 | *E | 308 | *E |
| Thallium | NA | | U | | U | | U | 4.3 | N | | U | 1.1 | BN |
| Vanadium | NA | 9.2 | *E | 23.1 | *E | 15.8 | *E | 56.5 | *E | 17.7 | *E | 32.2 | *E |
| Zinc | 10000 | 1650 | N*E | 239 | N*E | 3500 | N*E | 1220 | N*E | 807 | N*E | 1270 | N*E |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-21 0-4 | | SB-21 4-8 | | SB-22 0-4 | | SB-22 4-8 | | SB-23 0-4 | | SB-23 4-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-21 | | SB-21 | | SB-22 | | SB-22 | | SB-23 | | SB-23 | |
| | Sampling Date | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 0-4 ft,. | | 4-8 ft. | | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | | 4- 8 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 6450 | * | 20700 | * | 6860 | * | 5660 | * | 7250 | * | 8780 | * |
| Antimony | NA | 2.7 | N | 2.2 | N | 5.9 | N | 3.2 | N | 2.6 | N | 3.3 | N |
| Arsenic | 16 | 15 | NE | 20.5 | NE | 14.9 | NE | 66.1 | NE | 15.6 | NE | 20.3 | NE |
| Barium | 400 | 71.5 | * | 700 | * | 77.7 | * | 86.5 | * | 91.9 | * | 103 | * |
| Beryllium | 590 | 1.2 | E | 2.2 | E | 1.6 | E | 0.97 | E | 1.9 | E | 1.9 | E |
| Cadmium | 9.3 | 8.9 | E | 5.3 | E | 16.7 | E | 7.2 | E | 7.6 | E | 9.7 | E |
| Calcium | NA | 21300 | | 166000 | | 26700 | | 40100 | | 27100 | | 1600 | |
| Chromium | NA | 45.1 | * | 41.2 | * | 125 | * | 37 | * | 57.4 | * | 31.3 | * |
| Cobalt | NA | 4.8 | E | 9.4 | E | 8.6 | E | 5.1 | E | 2.8 | BE | 5.3 | E |
| Copper | 270 | 159 | | 59.2 | | 284 | | 111 | | 57.5 | | 147 | |
| Iron | NA | 150000 | | 101000 | | 218000 | | 149000 | | 138000 | | 9140 | |
| Lead | 1000 | 1820 | *E | 322 | *E | 3760 | *E | 2770 | *E | 2840 | *E | 1180 | *E |
| Magnesium | NA | 5450 | E | 9890 | E | 7140 | E | 6870 | E | 9630 | E | 6940 | E |
| Manganese | 10000 | 2480 | | 4140 | | 3670 | | 5840 | | 1840 | | 257 | |
| Nickel | 310 | 32.8 | N*E | 36.8 | N*E | 59.9 | N*E | 20.8 | N*E | 21.4 | N*E | 20.4 | N*E |
| Potassium | NA | 999 | *E | 7610 | *E | 1300 | *E | 1400 | *E | 4290 | *E | 1860 | *E |
| Selenium | 1500 | 2.4 | N | 5.3 | N | | U | | U | 3.1 | N | | U |
| Silver | 1500 | 3 | | 1.4 | B | 0.76 | B | 1.8 | | 1.5 | B | 1.8 | |
| Sodium | NA | 143 | *E | 410 | *E | 139 | *E | 158 | *E | 482 | *E | 209 | *E |
| Thallium | NA | | U | 3.5 | N | | U | 1.6 | N | 1.5 | N | | U |
| Vanadium | NA | 8.1 | *E | 46.5 | *E | 7.9 | *E | 12.8 | *E | 14.2 | *E | 6.4 | *E |
| Zinc | 10000 | 2170 | N*E | 1290 | N*E | 6880 | N*E | 2170 | N*E | 2570 | N*E | 2220 | N*E |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SB-23 8-12 | | SB-24 0-4 | | SB-24 4-8 | | SB-25 0-4 | | SB-25 4-8 | | SB-25 8-12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-23 | | SB-24 | | SB-24 | | SB-25 | | SB-25 | | SB-25 | |
| | Sampling Date | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 8-12 ft. | | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | | 4- 8 ft. | | 8-12 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | | | |
| Aluminum | NA | 13900 | * | 8160 | | 10500 | | 6640 | * | 5190 | * | 11000 | |
| Antimony | NA | 0.98 | BN | 0.60 | B | | U | 1.3 | N | 5.6 | N | 1.3 | |
| Arsenic | 16 | 12.7 | NE | 10.1 | | 6.4 | | 8 | NE | 32.7 | NE | 14.1 | |
| Barium | 400 | 67.2 | * | 229 | | 130 | | 130 | * | 67.4 | * | 166 | |
| Beryllium | 590 | 1.3 | E | 0.6 | | 0.24 | B | 0.45 | E | 1 | E | 2 | |
| Cadmium | 9.3 | 3.9 | E | 1.1 | | 0.22 | B | 1.5 | E | 16.9 | E | 6 | |
| Calcium | NA | 2840 | | 86100 | | 35900 | | 4320 | | | U | 52200 | |
| Chromium | NA | 41.5 | * | 28.2 | | 47.6 | | 31.5 | * | 528 | * | 28 | |
| Cobalt | NA | 12.6 | E | 4.1 | | 3.4 | | 5 | E | 26.1 | E | 7.3 | |
| Copper | 270 | 64.3 | | 56.2 | | 21.9 | | 94.4 | | 1860 | | 39.8 | |
| Iron | NA | 5900 | | 45300 | | 47300 | | 2870 | | 363000 | | 198000 | |
| Lead | 1000 | 458 | *E | 438 | | 88.2 | | 276 | *E | 359 | *E | 357 | |
| Magnesium | NA | 8680 | E | 8030 | | 8910 | | 10700 | E | 3840 | E | 9850 | |
| Manganese | 10000 | 2430 | | 1010 | | 3440 | | 1040 | | 5230 | | | U |
| Nickel | 310 | 43.4 | N*E | 17.9 | | 10.3 | | 35.1 | N*E | 336 | N*E | 17 | |
| Potassium | NA | 2310 | *E | 1150 | | 922 | | 843 | *E | 428 | *E | 5740 | |
| Selenium | 1500 | 4.9 | N | 3.8 | | 4.4 | | 3.8 | N | | U | | U |
| Silver | 1500 | 0.2 | B | | U | | U | | U | | U | 0.95 | B |
| Sodium | NA | 265 | *E | 388 | | 911 | | 214 | *E | 134 | *E | 616 | |
| Thallium | NA | | U | 1.5 | | 6.4 | | | U | | U | 5.2 | |
| Vanadium | NA | 14.9 | *E | 21.3 | | 28.3 | | 13.8 | *E | 14.1 | *E | 16.9 | |
| Zinc | 10000 | 655 | N*E | 415 | | 134 | | 330 | N*E | 384 | N*E | 1280 | |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SS-1 | | SS-2 | | DUP-1 | | DUP-2 | | DUP-3 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SS-1 | | SS-2 | | SB-10 | | SB-11 | | SB-20 | |
| | Sampling Date | 9/19/2012 | | 9/19/2012 | | 9/18/2012 | | 9/18/2012 | | 9/18/2012 | |
| | Sample Depth | 0-6 inches | | 0-6 inches | | 0-4 ft. | | 4-8 ft. | | 0-4 ft. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | |
| Aluminum | NA | 10300 | | 8250 | | 23300 | * | 25000 | | 9010 | * |
| Antimony | NA | 2.2 | | 3.3 | | | U | 2.5 | N* | 3.0 | N |
| Arsenic | 16 | 11.2 | | 12 | | 7 | | 93.7 | E | 34.4 | NE |
| Barium | 400 | 140 | | 99.2 | | 208 | * | 252 | | 127 | * |
| Beryllium | 590 | 2.1 | | 1.8 | | 4.3 | * | 1.7 | | 1.5 | E |
| Cadmium | 9.3 | 7.1 | | 6.5 | | 1.5 | * | 6.7 | E | 11.4 | E |
| Calcium | NA | 83000 | | 49000 | | 172000 | * | 192000 | | 24100 | |
| Chromium | NA | 81.2 | | 53.6 | | 14.8 | | 56.5 | | 76.5 | * |
| Cobalt | NA | 5.2 | | 4.7 | | 2.9 | *E | 10.6 | E | 8.8 | E |
| Copper | 270 | 148 | | 102 | | 44.3 | | 106 | * | 104 | |
| Iron | NA | 122000 | | 97200 | | 32100 | | 66700 | | 238000 | |
| Lead | 1000 | 1600 | | 1700 | | 430 | * | 182 | E | 346 | *E |
| Magnesium | NA | 12400 | | 8240 | | 23000 | * | 8040 | E | 5270 | E |
| Manganese | 10000 | 2530 | | 2130 | | 1610 | * | 311 | | 8220 | |
| Nickel | 310 | 40 | | 29.9 | | 11.9 | *E | 31.5 | NE | 31.6 | N*E |
| Potassium | NA | 1850 | | 1670 | | 1530 | * | 3730 | | 5240 | *E |
| Selenium | 1500 | | U | 3.3 | | 5 | * | 8.4 | N | | U |
| Silver | 1500 | 1 | B | 2.2 | | 0.099 | B | 5.3 | | 0.059 | B |
| Sodium | NA | 578 | | 313 | | 626 | * | 345 | | 801 | *E |
| Thallium | NA | 6.1 | | 5.6 | | 3.1 | * | 8.7 | N | | U |
| Vanadium | NA | 17.6 | | 19.9 | | 10.4 | * | 49.9 | E | 9.5 | *E |
| Zinc | 10000 | 2020 | | 1810 | | 592 | *E | 1050 | | 442 | N*E |
| Hexavalent Chromium | 400 | NS | | NS | | NS | | NS | | NS | |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SS-01_01/21/2013 | | SS-02_01/21/2013 | | SS-03_01/21/2013 | | SS-04_01/21/2013 | | SS-05_01/21/2013 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SS-1_01212013 | | SS-2_01212013 | | SS-3_01212013 | | SS-4_01212013 | | SS-5_01212013 | |
| | Sampling Date | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | |
| | Sample Depth | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | |
| **Parameter ID** | **NYSDEC Restricted Commercial Use** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** | **Concentration** | **Qualifier Flag** |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | | | |
| Aluminum | NA | NS | | NS | | NS | | NS | | NS | |
| Antimony | NA | NS | | NS | | NS | | NS | | NS | |
| Arsenic | 16 | NS | | NS | | NS | | NS | | NS | |
| Barium | 400 | NS | | NS | | NS | | NS | | NS | |
| Beryllium | 590 | NS | | NS | | NS | | NS | | NS | |
| Cadmium | 9.3 | NS | | NS | | NS | | NS | | NS | |
| Calcium | NA | NS | | NS | | NS | | NS | | NS | |
| Chromium | NA | NS | | NS | | NS | | NS | | NS | |
| Cobalt | NA | NS | | NS | | NS | | NS | | NS | |
| Copper | 270 | NS | | NS | | NS | | NS | | NS | |
| Iron | NA | NS | | NS | | NS | | NS | | NS | |
| Lead | 1000 | NS | | NS | | NS | | NS | | NS | |
| Magnesium | NA | NS | | NS | | NS | | NS | | NS | |
| Manganese | 10000 | NS | | NS | | NS | | NS | | NS | |
| Nickel | 310 | NS | | NS | | NS | | NS | | NS | |
| Potassium | NA | NS | | NS | | NS | | NS | | NS | |
| Selenium | 1500 | NS | | NS | | NS | | NS | | NS | |
| Silver | 1500 | NS | | NS | | NS | | NS | | NS | |
| Sodium | NA | NS | | NS | | NS | | NS | | NS | |
| Thallium | NA | NS | | NS | | NS | | NS | | NS | |
| Vanadium | NA | NS | | NS | | NS | | NS | | NS | |
| Zinc | 10000 | NS | | NS | | NS | | NS | | NS | |
| Hexavalent Chromium | 400 | | U | | U | | U | | U | | U |



**Table 3-1**
**Buffalo Lakeside Commerce Park**
**Subsurface Soil Sampling Results - REVISED**

| | Sample ID | SS-06_01/21/2013 | | SS-07_01/21/2013 | | SS-08_01/21/2013 | | FD-01_01/21/2013 | |
|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SS-6_01212013 | | SS-7_01212013 | | SS-8_01212013 | | SS-8 | |
| | Sampling Date | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | |
| | Sample Depth | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | | | | | |
| Aluminum | NA | NS | | NS | | NS | | NS | |
| Antimony | NA | NS | | NS | | NS | | NS | |
| Arsenic | 16 | NS | | NS | | NS | | NS | |
| Barium | 400 | NS | | NS | | NS | | NS | |
| Beryllium | 590 | NS | | NS | | NS | | NS | |
| Cadmium | 9.3 | NS | | NS | | NS | | NS | |
| Calcium | NA | NS | | NS | | NS | | NS | |
| Chromium | NA | NS | | NS | | NS | | NS | |
| Cobalt | NA | NS | | NS | | NS | | NS | |
| Copper | 270 | NS | | NS | | NS | | NS | |
| Iron | NA | NS | | NS | | NS | | NS | |
| Lead | 1000 | NS | | NS | | NS | | NS | |
| Magnesium | NA | NS | | NS | | NS | | NS | |
| Manganese | 10000 | NS | | NS | | NS | | NS | |
| Nickel | 310 | NS | | NS | | NS | | NS | |
| Potassium | NA | NS | | NS | | NS | | NS | |
| Selenium | 1500 | NS | | NS | | NS | | NS | |
| Silver | 1500 | NS | | NS | | NS | | NS | |
| Sodium | NA | NS | | NS | | NS | | NS | |
| Thallium | NA | NS | | NS | | NS | | NS | |
| Vanadium | NA | NS | | NS | | NS | | NS | |
| Zinc | 10000 | NS | | NS | | NS | | NS | |
| Hexavalent Chromium | 400 | | U | | U | | U | | U |

Key:

Exceedance of Restricted Commerical Use Soil Clean up Objectives.

* = Relative Percent difference for duplicate analysis is outside of control limits

N = Matrix spike recovery falls outside of control limits.

U = Non-detect

B = Compound was detected in the method blank.

E = Estimated concentration due to interferences.

NS = Not Sampled

| | Sample ID | SB-15 0-4 TCLP | | TCLP-1 | | SS-01_01/21/2013 | | SS-02_01/21/2013 | | SS-03_01/21/2013 | | SS-04_01/21/2013 | | SS-05_01/21/2013 | | SS-06_01/21/2013 | | SS-07_01/21/2013 | | SS-08_01/21/2013 | | FD-01_01/21/2013 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Location | SB-15 | | | | SS-1_01212013 | | SS-2_01212013 | | SS-3_01212013 | | SS-4_01212013 | | SS-5_01212013 | | SS-6_01212013 | | SS-7_01212013 | | SS-8_01212013 | | SS-8 | |
| | Sampling Date | 9/18/2012 | | 9/18/2012 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | | 1/21/2013 | |
| | Sample Depth | 0-4 ft. | | | | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | | 0-6 in. | |
| Parameter ID | NYSDEC Part 371.2 Table 1. Maximum Concentration for TCLP Procedure | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/l)** | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminum | NL | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | NL | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 5 | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U |
| Barium | 100 | 0.326 | | 0.294 | | 0.331 | | 0.302 | | 0.391 | | 0.271 | | 0.829 | | 0.579 | | 0.48 | | 0.517 | | 0.583 | |
| Beryllium | .5 | | | | | | | | | | | | | | | | | | | | | | |
| Cadmium | 1 | 0.0428 | | 0.0513 | | 0.0254 | | 0.0568 | | 0.0276 | | 0.01 | | 0.011 | | 0.0164 | | 0.0276 | | 0.0128 | | 0.0115 | |
| Calcium | NL | | | | | | | | | | | | | | | | | | | | | | |
| Chromium | 5 | 0.0078 | B | 0.0169 | B | | U | | U | 0.0017 | B | 0.0008 | B | 0.0011 | B | | U | 0.001 | B | | U | | U |
| Cobalt | NL | | | | | | | | | | | | | | | | | | | | | | |
| Copper | NL | | | | | | | | | | | | | | | | | | | | | | |
| Iron | NL | | | | | | | | | | | | | | | | | | | | | | |
| Lead | 5 | 0.441 | | 0.215 | | 0.0807 | | 0.25 | | 0.129 | | 0.035 | | 0.0578 | | 0.0983 | | 0.114 | | 0.0288 | | 0.0267 | |
| Magnesium | NL | | | | | | | | | | | | | | | | | | | | | | |
| Manganese | NL | | | | | | | | | | | | | | | | | | | | | | |
| Nickel | NL | | | | | | | | | | | | | | | | | | | | | | |
| Potassium | NL | | | | | | | | | | | | | | | | | | | | | | |
| Selenium | 1.0 | 0.0227 | B | 0.0138 | B | | U | | U | | U | | U | | U | | U | | U | | U | | U |
| Silver | 5.0 | | U | | U | | U | | U | | U | | U | | U | | U | | U | 0.0074 | B | | U |
| Sodium | NL | | | | | | | | | | | | | | | | | | | | | | |
| Thallium | NL | | | | | | | | | | | | | | | | | | | | | | |
| Vanadium | NL | | | | | | | | | | | | | | | | | | | | | | |
| Zinc | NL | | | | | | | | | | | | | | | | | | | | | | |
| Mercury | 0.2 | 0.000044 | B | 0.000052 | B | 0.000099 | B | 0.000064 | B | | U | 0.000047 | B | 0.00004 | B | 0.000059 | B | 0.000029 | B | 0.000056 | B | | U |

Key:
U = Nondetect
B = Compound was detected in the Method Blank



**Table 3-2**
**Buffalo Lakeside Commerce Park**
**Summary of TCLP Sampling Results - REVISED**

| | Sample ID | SS-1 | | SS-2 | |
|---|---|---|---|---|---|
| | Sampling Date | 9/19/2012 | | 9/19/2012 | |
| | Sample Depth | 0-6 in. | | 0-6 in. | |
| Parameter ID | NYSDEC Restricted Commercial Use | Concentration | Qualifier Flag | Concentration | Qualifier Flag |
| **Inorganic Analytes (mg/kg)** | | | | | |
| Aluminum | NA | 10300 | | 8250 | |
| Antimony | NA | 2.2 | | 3.3 | |
| Arsenic | 16 | 11.2 | | 12.0 | |
| Barium | 400 | 140 | | 99.2 | |
| Beryllium | 590 | 2.1 | | 1.8 | |
| Cadmium | 9.3 | 7.1 | | 6.5 | |
| Calcium | NA | 83000 | | 49000 | |
| Chromium | NA | 81.2 | | 53.6 | |
| Cobalt | NA | 5.2 | | 4.7 | |
| Copper | 270 | 148 | | 102 | |
| Iron | NA | 122000 | | 97200 | |
| Lead | 1000 | 1600 | | 1700 | |
| Magnesium | NA | 12400 | | 8240 | |
| Manganese | 10000 | 2530 | | 2130 | |
| Nickel | 310 | 40.0 | | 29.9 | |
| Potassium | NA | 1850 | | 1670 | |
| Selenium | 1500 | | U | 3.3 | |
| Silver | 1500 | 1.0 | B | 2.2 | |
| Sodium | NA | 578 | | 313 | |
| Thallium | NA | 6.1 | | 5.6 | |
| Vanadium | NA | 17.6 | | 19.9 | |
| Zinc | 10000 | 2020 | | 1810 | |
| Hexavalent Chromium | 400 | NS | | NS | |

Key:
U = Nondetect
B = Compound was detected in the Method Blank



**Table 3-3**
**Buffalo Lakeside Commerce Park**
**Summary of Surface Soil Sampling Results - REVISED**

cts (continued) .....

Buffalo Lakeside Commerce Park (BLCP) 9/17/2012

805 J. BLAUM AND MEREDITH PASSARO ON SIGHT FROM CDM SMITH

830 RANDY FROM SJB ON SIGHT WITH BACKHOE UNIT.

835 WEATHER IS CLEAR AND SUNNY AT ABOUT 75° F.

840 ART ARRIVES ON SITE WITH GEOPROBE UNIT.

845 EXCAVATION OF TEST PIT 1 BEGINS; J. BLAUM OVERSEEING.

915 GEOPROBE BEGINS AT SB-01.

920 HIT REFUSAL AT 2.5' FT. RIG IS GOING TO RELOCATE TO SEE IF WE CAN GET ANYTHING MORE

0-1': LIGHT BROWN SANDY-SILT MIXTURE WITH .5-1" DEBRIS

1.8-1.5': DARK BROWN, VERY FINE LAYER, HAS A SHINE TO IT. ASHY IN TEXTURE. NO COHESION.

1.5-2": BRICK AND CONCRETE DEBRIS

BLCP 9/17/12

935 DARK BROWN - SILTLY - ASHY MIX. HAS A SHINE TO IT. LAST 6" CONCRETE BRICK - GRAVEL MIXTURE.

950 SB-01 4-8': REFUSAL AT 5'. HIT THE WATER TABLE AT ~~4'~~ 4.8'.
4-5': SAMPLE CONSISTS OF LARGE CONCRETE PIECES, WOODY DEBRIS DARK GREY - GRAVELLY CLAY MIXTURE. THERE ARE WHITE FIBERS PRESENT IN THE CLAY, FOUND IN THE FOOT OF THE SAMPLE.

1005 ART MENTIONED THAT PRIOR TO REMEDIATION OF THE ADJACENT PARCEL THERE WERE CONCRETE PADS COMING OFF THE CANAL. MIGHT BE WHY WE ARE RUNNING INTO DEBRIS ON PROPERTY LINE.

1010 MOVE TO SB-2.

1015 0-4': [SB-2] TOP 1' LIGHT BROWN, SANDY - GRAVEL MIXTURE. WITH GRASS-VEGETATION. 2-4' LIGHT GRAY COARSE GRAVEL - SAND - SILT MIX.
4-6': [SB-2] SAME COURSE SAND-GRAVEL MIX FIRST 2FT. ~~LAST~~ AT 2-8 FT. SOFT - GRAY - CLAY GRAVEL MIX.

Meredith Rossner

2

BLCP 9/17/12

1015 SLIGHTLY MOIST.
6-12': ~~VERY~~ SOFT WET CLAY. VERY LITTLE DEBRIS. ~~FIT~~.
A DARK BROWN - LIGHT GRAY.

1035 MOVE TO SB-3.

1045 0-4': FIRST FOOT IS LIGHT BROWN SANDY GRAVEL MIX. ~~1-3'~~ BUILDING FIBERS ARE PRESENT, TARI FIBERS.
1-3' WHITE - ASHY - GRAVEL/CONCRETE MIXTURE. LAST FOOT. (3-4') BROWN-CLAY GRAVEL
4-8': HIT WATER AT 7'. BROWN/GRAY CLAY - GRAVEL MIXTURE. LAST FOOT - DARK ~~GRAY~~ CLAY.

1105 MOVED TO SB-04 AND BEGAN DRILLING.

1115 0-4': SAMPLE IS DARK BROWN - BLACK ~~VERY~~ FINE PARTICLES - NO COHESION. HAS A SHINE TO IT. DEBRIS THROUGHOUT SAMPLE, includes brick, plastic, and wood; CONCRETE. ROCKS found WITHIN SAMPLE ARE DARK METALLIC GRAY - light in weight.
4-8': MAJORITY OF SAMPLE IS BRICK

Meredith Rossner

3

BLCP 9/17/12

1115 DEBRIS. THERE IS GRAVEL DEBRIS OF BOTH BLUE ROCKS/SEDIMENT @ 6-5'. AND PALE YELLOW ROCKS @ 6.0 FT.
8-12': HIT ~~WATER~~ REFUSAL @ 10.5'. WATER @ 8' TOP OF SAMPLE IS STILL MOSTLY BRICK DEBRIS. MIDDLE OF SAMPLE IS COARSE GRAVEL. EVERYTHING WET - HAS A METALLIC SHEEN, INCLUDING WOOD DEBRIS FOUND IN THE BOTTOM.

1140 MOVED TO SB-5, BEGAN DRILLING.

1145 J. BLAM OFFSITE.

1150 ELECTRIC ONSITE TO FINISH MARKING OUT ELECTRIC ALONG ROADSIDE.

1200 0-4': MAJORITY OF SAMPLE IS BRICK. THERE ARE WHITE FIBERS PRESENT. LAST 6" SAMPLE IS DARK BROWN/BLACK WITH WOOD DEBRIS AND A METALLIC SHINE.
4-8': HIT REFUSAL @ 6' WATER @ 6'. MAJORITY OF SAMPLE IS BRICK. LAST 8", BLACK - DARK BROWN CLAY - WOOD MIXTURE WITH A METAL SHINE.

Meredith Passaro



BLCP 9/17/12

1230 M. PASSARO AND ART OFF SITE FOR LUNCH.

1315 M. PASSARO AND A. BACK ON SITE. AND J. BLAUM.

1325 SET UP ON SB-6.

1330 0-4': 0-2' LIGHT BROWN SAND - GRAVEL MIX. 2.5' FT ALL BRICK. REST OF SAMPLE CONSISTS OF DARK BROWN TO BLACK MATERIAL MATERIAL HAS SHINE TO IT. BRICK DEBRIS AT BOTTOM OF SAMPLE. ALSO CONCRETE PRESENT IN MIDDLE OF SAMPLE.
4-8': REFUSAL @ 6.5'. WATER AT 6'. SAMPLE IS PREDOMINANTLY WOOD/BRICK DEBRIS. ENTIRE BOTTOM 6" IS WOOD.

1345 SET UP ON SB-7

1350 0-4': 0-2' BROWN SAND-CLAY MIX with COARSE GRAVEL. ENTIRE SAMPLE CONTAINS BRICK/CONCRETE DEBRIS. ALSO PIECES OF GLASS. LAST 6", BLACK SILTY-SAND.
4-8': HIT REFUSAL @ 6.5'. HIT WATER @ 6'. BLACK TO PALE YELLOW

Meredith Passaro

BLCP 9/17/12

1350 GRAVE-SAND MIXTURE. SAMPLE HAS AN ORGANIC ODOR. WOOD WAS IN LAST 6" OF SAMPLE.

1405 MOVE TO SB-8.

0-4': TOP SIX INCHES, LIGHT BROWN SAND-GRAVEL MIXTURE. REST OF SAMPLE BLACK-DARK BROWN FINE SAND-GRAVEL MIXTURE WITH METAL SHINE. LAST 6" ALL CONCRETE.

4-8': WATER @ 7'. SAMPLE IS PREDOMINATELY CONCRETE DEBRIS AND A BROWN SAND GRAVEL AT WATER LEVEL. SAMPLE IS BLACK GRAVEL/SAND MIX. LAST FOOT O A LIGHT GRAY SAND/GRAVEL MIX. WHITE FIBERS ARE PRESENT. ALL GRAVEL HAS METALLIC SHINE.

1425 MOVE TO SB-09:

0-4': (0-2') DARK-LIGHT BROWN (ALMOST ASH) SAND-GRAVEL MIX. NO COHESION REMAINDER OF SAMPLE VERY COARSE GRAVEL AND DEBRIS. RANGING FROM LIGHT GRAY-BLACK. CONCRETE IS PRESENT. GRAVEL HAS

Meredith Passaro



BLCP 9/17/12

1425 METALLIC SHINE FROM 3-4'.

1440 LINER FOR TUBE 4-8' IS STUCK AND WILL NOT COME OUT. HAVE TO DRILL ANOTHER HOLE.

1450 0-4': SAME PROFILE AS OBSERVED FROM THE PREVIOUS SB-9 HOLE.

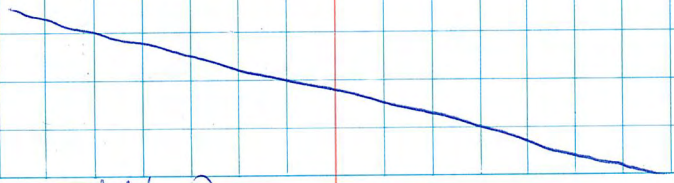
4-8': SAME PROBLEM AS ATTEMT 1 @ SB-9. GP STUCK IN METAL SOCK.

1542: GP FINALLY RETRIEVED. SAMPLE WAS RUINED. SUGGESTING TOMORROW TO COME BACK WITH AN AUGER.

1600 DRILLERS FINISH PACKING UP AND LEAVE SITE.

1605 J. BLAUM AND M. PASSARO FINISH MARKING UP FIELD LOCATIONS. FOR ALL TEST PIT OBSERVATIONS PLEASE REFER TO J. BLAUMS NOTES.

1630 M. PASSARO AND J. BLAUM OFFSITE



Meredith Passaro

BLCP 9/18/12

740 M. PASSARO AND J. BLAUM ON SITE.

810 ART AND RANDY FOR SJB ON SITE WITH BACK HOE AND GEOPROBE.

830 MOVE TO SB-10. BEGIN DRILLING

835 0-4': TOP FOOT IS DARK BROWN SAND-CLAY WITH COARSE GRAVEL. 1-3' IS LIGHT GREY CLAY SAND w/ COARSE GRAVEL. LAST 6" IS BLACK GRITTY MATERIAL WITH BRICK AND CONCRETE DEBRIS. GOOD RECOVERY TAKING DUP-1 HERE.

4-8': TOP PORTION IS LIGHT GREY-CLAY-SAND. THEN SMALL LAYER OF FINE BLACK ROCK (LOOKS LIKE COAL). REST OF SAMPLE IS A LIGHT GRAY-DAR GREY ROCK SLAG. REMENANTS OF WHAT APPEARS TO BE SOME ADHESIVE OR COHESION MATERIAL (light brown in color and in between rocks.)

8-12': WATER @ 5'. DARY GREY CLAY, for sample majority with coarse gravel. at 10', 6" layer of pale yellow rock. At 11' a

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8

BLCP 9/18/12

835 6" layer of fine black rock.

900 MOVING TO SB-11.

905 0-4': SAMPLE STARTS WITH A LAYER OF BLUE ROCK AND THEN CONSISTS OF CLAY-WITH GRAVEL DEBRIS. THERE IS AN ODOR OF PETROLEUM AND ALSO PETRO SHEENS ON THE CLAY.

4-8': ENTIRE SAMPLE HAS A PERROLEUM ODOR TO IT AND ALSO HAS CHEMICAL SHEENS ON SURFACE. THE 4-6' IS MOSTLY DARIS BLACK ROCK MIXED WITH CLAY. FROM 6-7' IS CRUSHED ROCK RANGING FROM BLACK-YELLOW IN COLOR. IN SOME PLACES IT'S VERY FINE. BOTTOM IS THICK GRAY CLAY WITH GRAVEL DEBRIS. DUP 2 taken here.

8-12': Hit water at 8'. ENTIRE SAMPLE CONSISTS OF PETRO AND CHEMICAL SHEENS. ALL A DARK GREY clay with fine-medium gravel aggregate.

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930 MOVE TO SB-12. AND BEGIN DRILLING.

935 0-4': First 1' of layer consist of very fine dark Brown and tan sand-gravel mixture. There is wood and glass debris present. There is a petro odor but not as strong as at SB-11. The sheen is not as strong either. Bottom of layer consist of dark brown to black - very fine almost ashy material. This material has been seen at almost every hole.

4-8': WOOD AND BRICK DEBRIS. SAMPLE CONSISTED ON FINE DARK-BROWN/BLACK particles w/ Gravel debris.

8-12': WATER @ 8'. Chemical sheen odors present. Thick gray clay- med aggregate.

950 move to SB-13 and begin drilling.

955 0-4': SAMPLE IS A MIXTURE of sand-clay and fine to coarse gravel. (Fill material) Bottom of sample has the fine

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BLCP 9/18/12

955 Black/brown ashy material.

4-8': Sample still appears to be fill material. It's a sand-clay mixture with small-coarse gravel. There are 2 layers of the black ashy material. (1) @ bottom 6" and the other at 5'.

8-12': sample is still a mixture of crumbly material. There are areas with more clay or more sand, but there is a consistent fine gravel aggregate throughout the layer. We hit water @ 12'.

1035: Moved to SB-14 and began drilling.

1045 0-4': Sample is of fill material consisting of sand-clay mixture with fine to coarse gravel. The bottom foot is rock slag. There are two layers of the dark-ashy material at 4' and 3'. Also contains brick and concrete debris.

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BLCP 9/18/12

1045 4-8': Rock and concrete debris still present. Light brown clay layer from 4.5-5'. Dark brown clay layer from 5-6'. More rock slag-flush debris till bottom. At bottom parts of blue rock layer.

8-12': Blue Rock at top of sample. Majority still appears to be fill material with concrete and brick debris throughout.

12-16': Top 6" is a reddish brown clay layer with medium gravel. Rest of sample is dark brown ashy material with metalic shine. Very bottom ashy material is black, has a chemical oder to it and has more cohesion than the dark brown material.

16-20': Hit refusal at 19'. The material is mostly the dark black ashy-cohesive material Last 6" is the brown-ashy material and tan clay-gravel mix.

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BLCP 9/18/12

1045 It can be noted that the water table was never hit here.

1130 Moving to SB-15 and begin drillings

1150 0-4': Entire sample recovered has a metallic shine to it. From 0-3' material is dark brown ashy. From 3-4' material is black-ashy and more still and also has more of a metallic shine.

4-8': GP got stuck in sleeve again going to move on to next point.

1200 J. BLAUM OFF SITE.

1230 M. PASSARO OFF SITE FOR LUNCH.

1300 M. PASSARO BACK ON SITE.

1310 GP UNIT MOVED TO SB-16.

1315 0-4': Sample looks very similar to that found at SB-15. Entire sample has metallic shine. From 1-3' material is dark-brown ashy material. From 3-4' black thick ashy material.

4-8': Entire sample dark brown-ashy

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1315 metallic material.
8-12': 8-9' Same dark brown ashy metallic material. From 9-12' all blue thick rock slag.
1330 Move to SB-17.
1335 0-4': Majority of sample is dark Brown-ashy-metallic material. At 3.5' there is a first colored addition to the braun material. The last 3" are grey-tan clay sand mixture with small to medium gravel.
4-8': Entire Sample is a soft grey-tan clay with very little debris or gravel. Wet @ 6.
1350 Dave Lochy on site.
1400 Dave Lochy Left Site.
1405 Drillers moved to SB-18.
0-4': Sample is entirely dark brown-metallic ashy material
4-8': 4-5' ~~water~~ dark brown-ashy material. Water @ 6'. Rest of sample was grey rock slag.
1415 Drillers move to SB-19.





1420 0-4': Entire sample 0-3' dark Brown ashy material. 3-4' Black ashy material.
4-8': 4-5' Black ashy material. Rest of sample grey-tan slag.
1435: Drillers move to SB-20.
1440: 0-4': Dup 3 taken here. TOP foot of sample is light brown sand-gravel mix. Rest of sample is dark brown ashy-metallic material. Last 3" brown material is rust in color.
4-8': Majority of sample was dark braun to black ashy material. Bottom six inches were grey tan clay.
1445: Drillers move to SB-21.
1450: 0-4': Entire sample was dark brown-ashy material. There was some wood debris.
4-8': 4-6' were black ashy material, then there was a small tan-sand layer

1450 and the rest was rock slag. At the very bottom (last 1") was the blue slag.

1500 Drillers move to SB-22

1505 0-4': Entire sample is black ashy-metallic material.

4-8': ~~Entire~~ MLP sample is black-ashy metallic material. Hit refusal ~~at the bottom of the sample is black ashy metallic material~~ MLP @ 6'. Ran into concrete found in the foot.

1520 Drillers move to SB-23.

1525 0-4': Entire sample is black ashy material.

4-8': Entire sample is black ashy material.

8-12': Sample is black ashy material. Last 6" are a slag-clay mixture. Water at 10'.

1540: Driller's move to SB-25.

1545: 0-4': Sample is fill material. Brick, Concrete,



Meredith Passaro



1545 Solid rock and sand mixture is present.

4-8': Sample is half fill material. The Bottom half is Black ashy-metallic material.

8-12': Refusal at 10'. Water at 9': ~~First half of sample is brick fill.~~ MLP ~~Last foot~~ Sample is black-metallic ashy material. Blue slag at the bottom.

1555: Drillers move to SB-24

1600: 0-4': All fill material. Brick, Rock, wood. Bottom 6" is Dark black ashy material, but there is brick in it.

4-8': Hit water at 5'. Hit refusal at 6'. Still all fill/brick material. The bottom contains black woody debris.

1620 DRILLERS are packing up equipment.

1625 M. PASSARO and drillers are off site.

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BLCP 9/19/12

0830 M. PASSARO ON SITE TO DO ONE LAST WALK OF FACILITY AND PAINT LOCATIONS FROM DAY BEFORE.

0900 DAVID LOCHY FROM NYSDEC WAS BACK ON SITE TO CHECK ON THINGS.

0915 DAVID LOCHY LEFT SITE.

0920 AT SS-1. TOOK SURFACE SAMPLE, MATERIAL WAS BLACK-ASHY MATERIAL.

0925 AT SS-2. TOOK SURFACE SAMPLE, MATERIAL WAS BLACK ASHY MATERIAL.

0945 M. PASSARO OFF SITE.

Marshall Passaro

SPECTRUM ANALYTICAL, INC
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# CHAIN OF CUSTODY RECORD

Page 1 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: John Blaum
CDM Smith
11 British American Blvd
Latham, NY 12110

Project Mgr.: John Blaum

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BCP
Location: Buffalo State: NY
Sampler(s): MEREDITH PASSARO

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8=$NaHSO_4$ 9= ICE 10= _____ 11= _____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | Grab | List preservative code below: | Analyses: 6010 TAL METALS | Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L19660-01 | SB-01 0-4' | 9/17/12 | 0935 | C | SO | | 1 | | | | 9 | X | |
| -02 | SB-01 4-8' | 9/17/12 | 0935 | C | SO | | | | | | | | |
| -03 | SB-02 0-4' | 9/17/12 | 1015 | C | SO | | | | | | | | |
| -04 | SB-02 4-8' | 9/17/12 | 1015 | C | SO | | | | | | | | |
| -05 | SB-02 8-12' | 9/17/12 | 1015 | C | SO | | | | | | | | |
| -06 | SB-03 0-4' | 9/17/12 | 1045 | C | SO | | | | | | | | |
| -07 | SB-03 4-8' | 9/17/12 | 1045 | C | SO | | | | | | | | |
| -08 | SB-04 0-4' | 9/17/12 | 1115 | C | SO | | | | | | | | |
| -09 | SB-04 4-8' | 9/17/12 | 1115 | C | SO | | | | | | | | |
| L19660-10 | SB-04 8-12' | 9/17/12 | 1115 | C | SO | | | | | | | | |

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

☒ E-mail to BlaumJP@CDMSmith.com
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/2012 | 1545 |
| FedEx | Veronica Bruno | 9/20/12 | 8:40 |

SPECTRUM ANALYTICAL, INC
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# CHAIN OF CUSTODY RECORD

Page 2 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
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Report To: John Blaum
CDM Smith
11 British American Blvd
Latham, NY 12110

Project Mgr.: John Blaum

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 0897 - 91667
Site Name: BLCP
Location: Buffalo State: NY
Sampler(s): Meredith Passaro

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= ICE 10=_____ 11=_____

List preservative code below: 9

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | Analyses: 6010 TAL Metals |
|---|---|---|---|---|---|---|---|---|---|---|
| L1966-11 | SB-05 0-4' | 9/17/12 | 1200 | C | SO | | 1 | | | X |
| -12 | SB-05 4-8' | 9/17/12 | 1200 | C | SO | | | | | |
| -13 | SB-06 0-4' | 9/17/12 | 1330 | C | SO | | | | | |
| -14 | SB-06 4-8' | 9/17/12 | 1330 | C | SO | | | | | |
| -15 | SB-07 0-4' | 9/17/12 | 1350 | C | SO | | | | | |
| -16 | SB-07 4-8' | 9/17/12 | 1350 | C | SO | | | | | |
| -17 | SB-08 0-4' | 9/17/12 | 1405 | C | SO | | | | | |
| -18 | SB-08 4-8' | 9/17/12 | 1405 | C | SO | | | | | |
| -19 | SB-09 0-4' | 9/17/12 | 1450 | C | SO | | | | | |
| L1966-20 | DUP 1 | 9/18/12 | 0835 | C | SO | | | | | |

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards:

☒ E-mail to BlaumJP@CDMSmith.com
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Jennifer Baynard | 9/20/12 | 8:40 |

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

| | |
|---|---|
| Received By: Veronica Bruzzi | Page 01 of 01 |
| Reviewed By: | Log-in Date 09/20/2012 |
| Work Order: L1966 | Client Name: CDM-Smith, Inc. |
| Project Name/Event: CLCP Buffalo / D007621-1 | |

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s) — Present / Absent
   Intact / Broken
2. Custody Seal Nos. — N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists — Present / Absent
4. Airbill — AirBill / Sticker
   Present / Absent
5. Airbill No. — FedEx 7990 0384 4439
6. Sample Tags — Present / Absent
   Sample Tag Numbers — Listed / Not Listed on Chain-of-Custody
7. Sample Condition — Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle — Present / Absent

| | |
|---|---|
| 9. Cooler Temperature | 5 °C |
| 10. Does information on TR/COCs and sample tags agree? | Yes / No |
| 11. Date Received at Laboratory | 09/20/2012 |
| 12. Time Received | 08:40 |

Sample Transfer

| Fraction (1) TVOA/VOA | Fraction (2) SVOA/PEST/ARO |
|---|---|
| Area # | Area # |
| By | By |
| On | On |

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

| Lab Sample ID | Preservation (pH) HNO3 | H2SO4 | HCl | NaOH | H3PO4 | VOA Matrix | Soil HeadSpace or Air Bubble > or equal to 1/4" |
|---|---|---|---|---|---|---|---|
| L1966-01 | | | | | | | |
| L1966-02 | | | | | | | |
| L1966-03 | | | | | | | |
| L1966-04 | | | | | | | |
| L1966-05 | | | | | | | |
| L1966-06 | | | | | | | |
| L1966-07 | | | | | | | |
| L1966-08 | | | | | | | |
| L1966-09 | | | | | | | |
| L1966-10 | | | | | | | |
| L1966-11 | | | | | | | |
| L1966-12 | | | | | | | |
| L1966-13 | | | | | | | |
| L1966-14 | | | | | | | |
| L1966-15 | | | | | | | |
| L1966-16 | | | | | | | |
| L1966-17 | | | | | | | |
| L1966-18 | | | | | | | |
| L1966-19 | | | | | | | |
| L1966-20 | | | | | | | |

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A= Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form — Yes / No

Rad OK — Yes / No



Sample Condition Form

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 3 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
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Report To: John Blaum
CDM Smith
11 British American BLVD
Latham NY 12110

Project Mgr.: John Blaum

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BLCP
Location: Buffalo State: NY
Sampler(s): Meredith Passaro

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8=$NaHSO_4$ 9=_____ 10=_____ 11=_____

List preservative code below: 9

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | Analyses: 6010 TAL METALS |
|---|---|---|---|---|---|---|---|---|---|---|
| L1967-01 | SB-10 0-4' | 9/18/12 | 0835 | C | SO | | 1 | | | X |
| -02 | SB-10 4-8' | 9/18/12 | 0835 | C | SO | | | | | |
| -03 | SB-10 8-12 | 9/18/12 | 0835 | C | SO | | | | | |
| -04 | SB-11 0-4' | 9/18/12 | 0905 | C | SO | | | | | |
| -05 | SB-11 4-8' | 9/18/12 | 0905 | C | SO | | | | | |
| -06 | SB-11 8-12' | 9/18/12 | 0905 | C | SO | | | | | |
| -07 | DUP 2 | 9/18/12 | 0905 | C | SO | | | | | |
| -08 | SB-12 0-4' | 9/18/12 | 0935 | C | SO | | | | | |
| -09 | SB-12 4-8' | 9/18/12 | 0935 | C | SO | | | | | |
| L1967-10 | SB-12 8-12' | 9/18/12 | 0935 | C | SO | | | | | |

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

☐ E-mail to BlaumJA@CDMSmith.com
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Veronica Bruyn | 9/20/12 | 8:40 |

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 4 of 7

**Special Handling:**
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Report To: John Blaum
CDM Smith
11 British American Blvd
Latham NY 12110

Project Mgr.: John Blaum

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BLCP
Location: Buffalo State: NY
Sampler(s): Meredith Passero

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8=$NaHSO_4$ 9=_____ 10=_____ 11=_____

List preservative code below: 9 9

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X1=_____ X2=_____ X3=_____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | Analyses: 6010 TAL Metals | TCLP RCRA 5 Metals | QA/QC Reporting Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1967-11 | SB-13 0-4' | 9/18/12 | 0955 | C | SO | | 1 | | | X | | ☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Other _____ |
| -12 | SB-13 4-8' | 9/18/12 | 0955 | C | SO | | | | | | | State specific reporting standards: _____ |
| -13 | SB-13 8-12' | 9/18/12 | 0955 | C | SO | | | | | | | |
| -14 | SB-14 0-4' | 9/18/12 | 1045 | C | SO | | | | | | | |
| -15 | SB-14 4-8' | 9/18/12 | 1045 | C | SO | | | | | | | |
| -16 | SB-14 8-12' | 9/18/12 | 1045 | C | SO | | | | | | | |
| -17 | SB-14 12-16' | 9/18/12 | 1045 | C | SO | | | | | | | |
| L1967-18 | SB-14 16-20' | 9/18/12 | 1045 | C | SO | | V | | | V | | |
| | TCLP-1 | 9/18/12 | 0920 | C | SO | | | | | | X | |
| | | | | | | | | | | | | |

☒ E-mail to BlaumJP@CDMSmith.com
EDD Format _____

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5.

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passero | FedEx | 9/19/12 | 1545 |
| FedEx | Veronique Bruyere | 9/20/12 | 8:40 |

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 5 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
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Report To: JOHN BLAUM
CDM SMITH
11 BRITISH AMERICAN BLVD
LATHAM NY, 12110

Project Mgr.: _____

Invoice To: SAME

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BLCP
Location: BUFFALO State: NY
Sampler(s): MEREDITH PASSARO

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
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DW=Drinking Water GW=Groundwater WW=Wastewater
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X1=_____ X2=_____ X3=_____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | List preservative code below: 9 | 9 | Analyses: 6010 TAL METALS | TCLP RCRA 8 METALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L19167-19 | SB-15 0-4' | 9/18/12 | 1150 | C | SO | | 2 | | | | | X | X |
| L19167-20 | SB-16 0-4' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | |
| | SB-16 4-8' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | |
| | SB-16 8-12' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | |
| | SB-17 0-4' | 9/18/12 | 1335 | C | SO | | 1 | | | | | | |
| | SB-17 4-8' | 9/18/12 | 1335 | C | SO | | 1 | | | | | | |
| | SB-18 0-4' | 9/18/12 | 1405 | C | SO | | 1 | | | | | | |
| | SB-18 4-8' | 9/18/12 | 1405 | C | SO | | 1 | | | | | | |
| | SB-19 0-4' | 9/18/12 | 1420 | C | SO | | 1 | | | | | | |
| | SB-19 4-8 | 9/18/12 | 1420 | C | SO | | 1 | | | | | | |

Notes:

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards:
_____

☒ E-mail to BlaumJP@cdmsmith.com
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5.

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Vernon Bryant | 9/20/12 | 8:40 |

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

| | |
|---|---|
| Received By: Veronique Bourgeois | Page 01 of 01 |
| Reviewed By: | Log-in Date 09/20/2012 |
| Work Order: L1967 | Client Name: CDM-Smith, Inc. |
| Project Name/Event: CLCP Buffalo / D007621-1 | |

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s) — Present / Absent
   Intact / Broken
2. Custody Seal Nos. — N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists — Present / Absent
4. Airbill — AirBill / Sticker
   Present / Absent
5. Airbill No. — FedEx 7990 0384 4439
6. Sample Tags — Present / Absent
   Sample Tag Numbers — Listed / Not Listed on Chain-of-Custody
7. Sample Condition — Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle — Present / Absent
9. Cooler Temperature — 5 °C
10. Does information on TR/COCs and sample tags agree? — Yes / No
11. Date Received at Laboratory — 09/20/2012
12. Time Received — 08:40

| Lab Sample ID | Preservation (pH) HNO3 | H2SO4 | HCl | NaOH | H3PO4 | VOA Matrix | Soil HeadSpace or Air Bubble > or equal to 1/4" |
|---|---|---|---|---|---|---|---|
| L1967-01 | | | | | | | |
| L1967-02 | | | | | | | |
| L1967-03 | | | | | | | |
| L1967-04 | | | | | | | |
| L1967-05 | | | | | | | |
| L1967-06 | | | | | | | |
| L1967-07 | | | | | | | |
| L1967-08 | | | | | | | |
| L1967-09 | | | | | | | |
| L1967-10 | | | | | | | |
| L1967-11 | | | | | | | |
| L1967-12 | | | | | | | |
| L1967-13 | | | | | | | |
| L1967-14 | | | | | | | |
| L1967-15 | | | | | | | |
| L1967-16 | | | | | | | |
| L1967-17 | | | | | | | |
| L1967-18 | | | | | | | |
| L1967-19 | | | | | | | |
| L1967-20 | | | | | | | |

Sample Transfer

| Fraction (1) TVOA/VOA | Fraction (2) SVOA/PEST/ARO |
|---|---|
| Area # | Area # |
| By | By |
| On | On |

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

VOA Matrix Key:

US = Unpreserved Soil — A= Air
UA = Unpreserved Aqueous — H = HCl
M = MeOH — E = Encore
N = NaHSO4 — F = Freeze

See Sample Condition Notification/Corrective Action Form — Yes / No

Rad OK — Yes / No



Sample Condition Form

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 5 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
· All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
· Samples disposed of after 30 days unless otherwise instructed.

Report To: JOHN BLAUM
CDM SMITH
11 BRITISH AMERICAN BLVD
LATHAM NY, 12110
Project Mgr.: _____

Invoice To: SAME
P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BLCP
Location: BUFFALO State: NY
Sampler(s): MEREDITH PASSARO

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= ICE 10= _____ 11= _____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | List preservative code below: 9 | 9 | Analyses: 6010 TAL METALS | TCLP RCRA 8 METALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SB-15 0-4' | 9/18/12 | 1150 | C | SO | | 2 | | | | | X | X |
| | SB-16 0-4' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | |
| L19681-01 | SB-16 4-8' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | |
| -02 | SB-16 8-12' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | |
| -03 | SB-17 0-4' | 9/18/12 | 1335 | C | SO | | 1 | | | | | | |
| -04 | SB-17 4-8' | 9/18/12 | 1335 | C | SO | | 1 | | | | | | |
| -05 | SB-18 0-4' | 9/18/12 | 1405 | C | SO | | 1 | | | | | | |
| -06 | SB-18 4-8' | 9/18/12 | 1405 | C | SO | | 1 | | | | | | |
| -07 | SB-19 0-4' | 9/18/12 | 1420 | C | SO | | 1 | | | | | | |
| L19681-08 | SB-19 4-8 | 9/18/12 | 1420 | C | SO | | 1 | | | | | | |

Notes:

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____
State specific reporting standards:

☑ E-mail to BlaumJP@cdmsmith-com
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Veenu Bajpai | 9/20/12 | 8:40 |

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 6 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: JOHN BLAUM
CDM SMITH
11 BRITISH AMERICAN BLVD
LATHAM, NY 12110

Project Mgr.: _____

Invoice To: SAME

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BLCP
Location: BUFFALO State: NY
Sampler(s): MEREDITH PASSARO

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= ICE 10= _____ 11= _____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | List preservative code below: 9 | Analyses: 6010 TAL METALS | Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1968-09 | SB-20 0-4' | 9/18/12 | 1440 | C | SO | | 1 | | | | X | |
| -10 | SB-20 4-8' | 9/18/12 | 1440 | C | SO | | | | | | | |
| -11 | DUP 3 | 9/18/12 | 1440 | C | SO | | | | | | | |
| -12 | SB-21 0-4' | 9/18/12 | 1450 | C | SO | | | | | | | |
| -13 | SB-21 4-8' | 9/18/12 | 1450 | C | SO | | | | | | | |
| -14 | SB-22 0-4' | 9/18/12 | 1505 | C | SO | | | | | | | |
| -15 | SB-22 4-8' | 9/18/12 | 1505 | C | SO | | | | | | | |
| -16 | SB-23 0-4' | 9/18/12 | 1525 | C | SO | | | | | | | |
| -17 | SB-23 4-8' | 9/18/12 | 1525 | C | SO | | | | | | | |
| L1968-18 | SB-23 8-12 | 9/18/12 | 1525 | C | SO | | | | | | | |

☒ E-mail to BLAUMJP@CDMSMITH.COM
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Veronica Bryant | 9/20/12 | 8:40 |

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 7 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
· All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
· Samples disposed of after 30 days unless otherwise instructed.

Report To: JOHN BLAUM
CDM SMITH
11 BRITISH AMERICAN BLVD
LATHAM, NY 12110

Project Mgr.: JOHN BLAUM

Invoice To: SAME

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: ~~OSC~~ BLCP
Location: BUFFALO State: NY
Sampler(s): MEREDITH PASSARO

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= ICE 10=_____ 11=_____

List preservative code below: 9

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | Analyses: 6010 TAL METALS |
|---|---|---|---|---|---|---|---|---|---|---|
| L1968-19 | SB-25 0-4 | 9/18/12 | 1545 | C | SO | | 1 | | | X |
| L1968-20 | SB-25 4-8 | 9/18/12 | 1545 | C | SO | | | | | |
| | SB-25 8-12 | 9/18/12 | 1545 | C | SO | | | | | |
| | SB-24 0-4 | 9/18/12 | 1600 | C | SO | | | | | |
| | SB-24 4-8 | 9/18/12 | 1600 | C | SO | | | | | |
| | SS-1 | 9/19/12 | 0920 | G | SO | | | | | |
| | SS-2 | 9/19/12 | 0925 | G | SO | | ↓ | | | ↓ |

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

☒ E-mail to BLAUMJP@CONSMITH.COM
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Veronica Bruyant | 9/20/12 | 8:40 |

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

| | |
|---|---|
| Received By: | Page 01 of 01 |
| Reviewed By: | Log-in Date 09/20/2012 |
| Work Order: L1968 | Client Name: CDM-Smith, Inc. |
| Project Name/Event: CLCP Buffalo / D007621-1 | |

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s) — Present / Absent
   Intact / Broken
2. Custody Seal Nos. N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists — Present / Absent
4. Airbill — AirBill / Sticker
   Present / Absent
5. Airbill No. FedEx 7990 0384 4439
6. Sample Tags — Present / Absent
   Sample Tag Numbers — Listed / Not Listed on Chain-of-Custody
7. Sample Condition — Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle — Present / Absent

| | |
|---|---|
| 9. Cooler Temperature | 5 °C |
| 10. Does information on TR/COCs and sample tags agree? | Yes / No |
| 11. Date Received at Laboratory | 09/20/2012 |
| 12. Time Received | 08:40 |

Sample Transfer

| Fraction (1) TVOA/VOA | Fraction (2) SVOA/PEST/ARO |
|---|---|
| Area # | Area # |
| By | By |
| On | On |

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

| Lab Sample ID | Preservation (pH) HNO3 | H2SO4 | HCl | NaOH | H3PO4 | VOA Matrix | Soil HeadSpace or Air Bubble > or equal to 1/4" |
|---|---|---|---|---|---|---|---|
| L1968-01 | | | | | | | |
| L1968-02 | | | | | | | |
| L1968-03 | | | | | | | |
| L1968-04 | | | | | | | |
| L1968-05 | | | | | | | |
| L1968-06 | | | | | | | |
| L1968-07 | | | | | | | |
| L1968-08 | | | | | | | |
| L1968-09 | | | | | | | |
| L1968-10 | | | | | | | |
| L1968-11 | | | | | | | |
| L1968-12 | | | | | | | |
| L1968-13 | | | | | | | |
| L1968-14 | | | | | | | |
| L1968-15 | | | | | | | |
| L1968-16 | | | | | | | |
| L1968-17 | | | | | | | |
| L1968-18 | | | | | | | |
| L1968-19 | | | | | | | |
| L1968-20 | | | | | | | |

VOA Matrix Key:

US = Unpreserved Soil — A= Air
UA = Unpreserved Aqueous — H = HCl
M = MeOH — E = Encore
N = NaHSO4 — F = Freeze

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No



Sample Condition Form

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 7 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
· All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
· Samples disposed of after 30 days unless otherwise instructed.

Report To: JOHN BLAUM
COM SMITH
11 BRITISH AMERICAN BLVD
LATHAM, NY 12110

Project Mgr.: JOHN BLAUM

Invoice To: SAME

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: ~~OSC~~ BLCP
Location: BUFFALO State: NY
Sampler(s): MEREDITH PASSARO

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8=$NaHSO_4$ 9= ICE 10= _____ 11= _____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | List preservative code below: 9 | Analyses: 6010 TAL METALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | SB-25 0-4 | 9/18/12 | 1545 | C | SO | | 1 | | | | X |
| | SB-25 4-8 | 9/18/12 | 1545 | C | SO | | | | | | |
| L1969-01 | SB-25 8-12 | 9/18/12 | 1545 | C | SO | | | | | | |
| -02 | SB-24 0-4 | 9/18/12 | 1600 | C | SO | | | | | | |
| -03 | SB-24 4-8 | 9/18/12 | 1600 | C | SO | | | | | | |
| -04 | SS-1 | 9/19/12 | 0920 | G | SO | | | | | | |
| L1969-05 | SS-2 | 9/19/12 | 0925 | G | SO | | ↓ | | | | ↓ |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Notes:

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____
State specific reporting standards: _____

☒ E-mail to BLAUMJP@COMSMITH.COM
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Veronica Bruyn | 9/20/12 | 8:40 |

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

| | |
|---|---|
| Received By: | Page 01 of 00 |
| Reviewed By: | Log-in Date 09/20/2012 |
| Work Order: L1969 | Client Name: CDM-Smith, Inc. |
| Project Name/Event: CLCP Buffalo / D007621-1 | |

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s) — Present / Absent
   Intact / Broken
2. Custody Seal Nos. N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists — Present / Absent
4. Airbill — AirBill / Sticker
   Present / Absent
5. Airbill No. FedEx 7990 0384 4439
6. Sample Tags — Present / Absent
   Sample Tag Numbers — Listed / Not Listed on Chain-of-Custody
7. Sample Condition — Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle — Present / Absent

| | |
|---|---|
| 9. Cooler Temperature | 5 °C |
| 10. Does information on TR/COCs and sample tags agree? | Yes / No |
| 11. Date Received at Laboratory | 09/20/2012 |
| 12. Time Received | 08:40 |

Sample Transfer

| Fraction (1) TVOA/VOA | Fraction (2) SVOA/PEST/ARO |
|---|---|
| Area # | Area # |
| By | By |
| On | On |

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

| Lab Sample ID | Preservation (pH) HNO3 | H2SO4 | HCl | NaOH | H3PO4 | VOA Matrix | Soil HeadSpace or Air Bubble > or equal to 1/4" |
|---|---|---|---|---|---|---|---|
| L1969-01 | | | | | | | |
| L1969-02 | | | | | | | |
| L1969-03 | | | | | | | |
| L1969-04 | | | | | | | |
| L1969-05 | | | | | | | |

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A= Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No



Sample Condition Form

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 4 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
· All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
· Samples disposed of after 30 days unless otherwise instructed.

Report To: John Blaum
CDM Smith
11 British American Blvd
Latham NY 12110

Project Mgr.: John Blaum

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BLCP
Location: Buffalo State: NY
Sampler(s): Meredith Passaro

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8=$NaHSO_4$ 9=_____ 10=_____ 11=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | List preservative code below: 9 9 | Analyses: 6010 TAL METALS | TCLP RCRA 5 METALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SB-13 0-4' | 9/18/12 | 0955 | C | SO | | 1 | | | | X | |
| | SB-13 4-8' | 9/18/12 | 0955 | C | SO | | ↓ | | | | ↓ | |
| | SB-13 8-12' | 9/18/12 | 0955 | C | SO | | | | | | | |
| | SB-14 0-4' | 9/18/12 | 1045 | C | SO | | | | | | | |
| | SB-14 4-8' | 9/18/12 | 1045 | C | SO | | | | | | | |
| | SB-14 8-12' | 9/18/12 | 1045 | C | SO | | | | | | | |
| | SB-14 12-16' | 9/18/12 | 1045 | C | SO | | | | | | | |
| | SB-14 16-20' | 9/18/12 | 1045 | C | SO | | V | | | | V | |
| L1970-01 | TCLP-1 | 9/18/12 | 0920 | C | SO | | | | | | | X |

Notes:

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards:

☒ E-mail to BlaumJP@CDMSmith.com
EDD Format _____

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Veronique Bruyere | 9/20/12 | 8:40 |

SPECTRUM ANALYTICAL, INC
*Featuring*
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 5 of 7

**Special Handling:**
TAT- Indicate Date Needed: _____
· All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
· Samples disposed of after 30 days unless otherwise instructed.

Report To: JOHN BLAUM
CDM SMITH
11 BRITISH AMERICAN BLVD
LATHAM NY, 12110
Project Mgr.: _____

Invoice To: SAME
P.O. No.: _____ RQN: _____

Project No.: 0897-91667
Site Name: BLCP
Location: BUFFALO State: NY
Sampler(s): MEREDITH PASSARO

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8=$NaHSO_4$ 9= ICE 10= _____ 11= _____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | List preservative code below: 9 | 9 | Analyses: 6010 TAL METALS | TCLP RCRA 5 METALS | Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1970-02 | SB-15 0-4' | 9/18/12 | 1150 | C | SO | | 2 | | | | | X | X | |
| | SB-16 0-4' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | | |
| | SB-16 4-8' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | | |
| | SB-16 8-12' | 9/18/12 | 1315 | C | SO | | 1 | | | | | | | |
| | SB-17 0-4' | 9/18/12 | 1335 | C | SO | | 1 | | | | | | | |
| | SB-17 4-8' | 9/18/12 | 1335 | C | SO | | 1 | | | | | | | |
| | SB-18 0-4' | 9/18/12 | 1405 | C | SO | | 1 | | | | | | | |
| | SB-18 4-8' | 9/18/12 | 1405 | C | SO | | 1 | | | | | | | |
| | SB-19 0-4' | 9/18/12 | 1420 | C | SO | | 1 | | | | | | | |
| | SB-19 4-8 | 9/18/12 | 1420 | C | SO | | 1 | | | | | | | |

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____
State specific reporting standards: _____

☑ E-mail to BlaumJP@comsmith-com
EDD Format NYSDEC

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 5.

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Meredith Passaro | FedEx | 9/19/12 | 1545 |
| FedEx | Vanessa Burgal | 9/20/12 | 8:40 |

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

| | |
|---|---|
| Received By: Veronica Briganti | Page 01 of 00 |
| Reviewed By: | Log-in Date 09/20/2012 |
| Work Order: L1970 | Client Name: CDM-Smith, Inc. |
| Project Name/Event: CLCP Buffalo / D007621-1 | |

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s) — Present / Absent
   Intact / Broken
2. Custody Seal Nos. N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists — Present / Absent
4. Airbill — AirBill / Sticker
   Present / Absent
5. Airbill No. FedEx 7990 0384 4439
6. Sample Tags — Present / Absent
   Sample Tag Numbers — Listed / Not Listed on Chain-of-Custody
7. Sample Condition — Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle — Present / Absent

| | |
|---|---|
| 9. Cooler Temperature | 5 °C |
| 10. Does information on TR/COCs and sample tags agree? | Yes / No |
| 11. Date Received at Laboratory | 09/20/2012 |
| 12. Time Received | 08:40 |

Sample Transfer

| Fraction (1) TVOA/VOA | Fraction (2) SVOA/PEST/ARO |
|---|---|
| Area # | Area # |
| By | By |
| On | On |

IR Temp Gun ID:MT-1

CoolantCondition: ICE

| Lab Sample ID | Preservation (pH) HNO3 | H2SO4 | HCl | NaOH | H3PO4 | VOA Matrix | Soil HeadSpace or Air Bubble > or equal to 1/4" |
|---|---|---|---|---|---|---|---|
| L1970-01 | | | | | | | |
| L1970-02 | | | | | | | |

Preservative Name/Lot No:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A= Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-1**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033176.80 ft. EASTING: 1076165.10 ft.

G.S. ELEVATION: 580.6 ft. M.P. ELEV:

WATER: 4.8 ft. TOTAL DEPTH:5.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Light Brown Gravelly Sand Fill | | | | 580 | | |
| | | | Fly Ash | | | | | | |
| | | | Brick and Crushed Stone | | | | | | SB-01 0-4' |
| 5 | | | Rock Slag as well as large concrete pieces, woody debris, and white building fibers were present all in the Slag. | | 3 | | 575 | | SB-01 4-8' |
| 10 | | | | | 2 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-2**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033135.50 ft. EASTING: 1076053.00 ft.

G.S. ELEVATION: 580.7 ft. M.P. ELEV:

WATER: 8 ft. TOTAL DEPTH:12.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Light Brown Gravelly Sand | | | | 580 | | |
| | | | Light Gray fill material consisting of crushed rock, sand, and silt. Possilbly Concrete Debris | | | | | | |
| 5 | | | | | 4 | | 575 | | |
| | | | Soft gray clay with Coarse Gravel | | | | | | |
| | | | ▼ | | | | | | |
| | | | Light Gray to Dark Brown Clay. | | | | | | |
| 10 | | | | | 4 | | 570 | | |
| | | | | | | | | | |
| 15 | | | | | 4 | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-3**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033098.70 ft. EASTING: 1075953.70 ft.

G.S. ELEVATION: 581 ft. M.P. ELEV:

WATER: 7 ft. TOTAL DEPTH:8.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Light Brown Sandy Gravel | | | | 580 | | |
| | | | White Ashy Crushed gravel and Concrete | | | | | | |
| | | | Brown Clay Gravel Mix | | | | | | |
| 5 | | | Brown to Gray Clay | | 4 | | 575 | | |
| | | | Dark Gray Clay | | 4 | | | | |
| 10 | | | | | | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-4**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033378.60 ft. EASTING: 1076221.20 ft.

G.S. ELEVATION: 582.8 ft. M.P. ELEV:

WATER: 8 ft. TOTAL DEPTH:10.5 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Fill material such as Brick, Plastic, Wood, and Concrete. Dark Brown to Black Fly Ash is also present | | | | 580 | | |
| 5 | | | Brick Fill | | 4 | | | | |
| | | | Blue Rock Fill | | | | 575 | | |
| | | | Pale Yellow Rock Fill | | | | | | |
| | | | Brick Fill | | | | | | |
| 10 | | | Coarse Gravel and Wood Debris, metallic shine present | | 4 | | | | |
| | | | | | 2.5 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-5**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033478.90 ft. EASTING: 1076197.90 ft.

G.S. ELEVATION: 583.7 ft. M.P. ELEV:

WATER: 6 ft. TOTAL DEPTH:6.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Brick Fill | | | | 580 | | |
| | | | Fly Ash - white fibers are present. | | | | | | |
| 5 | | | Brick Fill | | 4 | | 575 | | |
| | | | Fly Ash - white fibers and wood debris are present. | | | | | | |
| 10 | | | | | 2 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter



STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-6**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033597.50 ft. EASTING: 1076154.40 ft.

G.S. ELEVATION: 582.9 ft. M.P. ELEV:

WATER: 6 ft. TOTAL DEPTH:6.5 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Light Brown Sandy Gravel | | | | 580 | | |
| | | | Brick Fill | | | | | | |
| | | | Fly Ash Material | | | | | | |
| 5 | | | Brick and Wood Fill | | 4 | | 575 | | |
| | | | Wood Debris | | | | | | |
| 10 | | | | | 2.5 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-7**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033617.90 ft. EASTING: 1076073.90 ft.

G.S. ELEVATION: 581.2 ft. M.P. ELEV:

WATER: 6 ft. TOTAL DEPTH:6.5 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Light Brown Sandy Gravel. Fill material such as brick and glass are present | | | | 580 | | |
| | | | Brick, Concrete, and Glass Fill | | | | | | |
| 5 | | | Fly Ash Material. Coarse Gravel and Sand both present. Organic odor is present, but no chemical sheens are visible. | | 4 | | 575 | | |
| | | | Wood Debris | | | | | | |
| 10 | | | | | 2.5 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01
LOCATION: Buffalo, NY

Soil Boring NO: **SB-8**
New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12
DRILLING COMPANY: SJB
DRILLING EQUIPMENT: Geoprobe
DRILLING METHOD: DP
SAMPLING METHOD: Composite
SURFACE COMPLETION:

NORTHING: 1033573.20 ft. EASTING: 1075947.00 ft.
G.S. ELEVATION: 581.3 ft. M.P. ELEV:
WATER: 7 ft. TOTAL DEPTH:8.0 ft.
LOGGED BY: MLP CHECKED BY:
HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W
VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Light Brown Sandy Gravel<br>Fly Ash Material with Coarse Gravel | | | | 580 | | |
| 5 | | | Rock Slag<br>Brown Sandy Gravel Mix, metallic shine present | | 4 | | 575 | | |
| | | | Black Fly Ash Material<br>Light Gray Rock Slag | | 4 | | | | |
| 10 | | | | | | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-9**

New York State Department of Environmental Conservation

STARTED: 9/17/12 COMPLETED: 9/17/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033517.20 ft. EASTING: 1075800.80 ft.

G.S. ELEVATION: 581.5 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:4.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Fly Ash Material with coarse gravel | | | | 580 | | |
| | | | Rock Slag, has a metallic Shine. Also contains construction fill material. | | | | | | |
| 5 | | | | | 4 | | 575 | | |
| 10 | | | | | | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01
LOCATION: Buffalo, NY

Soil Boring NO: **SB-10**
New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12
DRILLING COMPANY: SJB
DRILLING EQUIPMENT: Geoprobe
DRILLING METHOD: DP
SAMPLING METHOD: Composite
SURFACE COMPLETION:

NORTHING: 1033446.80 ft. EASTING: 1075676.70 ft.
G.S. ELEVATION: 583.2 ft. M.P. ELEV:
WATER: 8 ft. TOTAL DEPTH:12.0 ft.
LOGGED BY: MLP CHECKED BY:
HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W
VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Fly Ash with coarse Gravel | | | | 583 | | |
| | | | Light Gray Clay, Sand Mixture - possibly the slag material | | | | 580 | | |
| | | | Black Fly Ash | | | | | | |
| 5 | | | Light Gray Clay, Sand Mixture - possibly the Slag material | | 4 | | | | |
| | | | Layer of Small black rock- possibly Coal | | | | 575 | | |
| | | | Light to Dark Gray Rock Slag | | | | | | |
| | | | Dark Gray Rock Slag | | 4 | | | | |
| 10 | | | Pale Yellow Crushed Rock Fill | | | | | | |
| | | | Layer of Small black rock- possibly Coal | | | | 570 | | |
| | | | | | 3.5 | | | | |
| 15 | | | | | | | | | |
| | | | | | | | 565 | | |
| 20 | | | | | | | | | |
| | | | | | | | 560 | | |
| 25 | | | | | | | | | |
| | | | | | | | 555 | | |
| 30 | | | | | | | | | |
| | | | | | | | 550 | | |
| 35 | | | | | | | | | |
| | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-11**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12
DRILLING COMPANY: SJB
DRILLING EQUIPMENT: Geoprobe
DRILLING METHOD: DP
SAMPLING METHOD: Composite
SURFACE COMPLETION:

NORTHING: 1033326.40 ft. EASTING: 1075696.20 ft.
G.S. ELEVATION: 584.2 ft. M.P. ELEV:
WATER: 8 ft. TOTAL DEPTH:12.0 ft.
LOGGED BY: MLP CHECKED BY:
HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W
VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Blue Rock Fill | | | | | | |
| | | | Blue-Gray Clay with coarse gravel. Chemical Sheens and Odor are present | | | | 580 | | |
| 5 | | | Gray-Black Clay with coarse gravel. Chemical Sheens and Odor are present. | | 4 | | | | |
| | | | Crushed Pale Yellow to Black Rock. Chemical Sheens and odor are present. | | | | | | |
| | | | Thick Dark Gray Clay with coarse Gravel | | | | 575 | | |
| 10 | | | Thick Dark Gray Clay with medium to fine gravel. Chemical Sheens and odor are present. | | 4 | | | | |
| | | | | | 4 | | 570 | | |
| 15 | | | | | | | | | |
| | | | | | | | 565 | | |
| 20 | | | | | | | | | |
| | | | | | | | 560 | | |
| 25 | | | | | | | | | |
| | | | | | | | 555 | | |
| 30 | | | | | | | | | |
| | | | | | | | 550 | | |
| 35 | | | | | | | | | |
| | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-12**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12
DRILLING COMPANY: SJB
DRILLING EQUIPMENT: Geoprobe
DRILLING METHOD: DP
SAMPLING METHOD: Composite
SURFACE COMPLETION:

NORTHING: 1033239.40 ft. EASTING: 1075728.10 ft.
G.S. ELEVATION: 584.7 ft. M.P. ELEV:
WATER: 8 ft. TOTAL DEPTH:12.0 ft.
LOGGED BY: MLP CHECKED BY:
HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W
VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Dark Brown topsoil material | | | | | | |
| | | | Dark Fly Ash Material. Chemical sheens and odor are present. | | | | | | |
| 5 | | | Dark Fly Ash Material. Wood and brick debris are present. | | 4 | | 580 | | |
| 10 | | | Thick Dark Gray Clay with coarse gravel. | | 4 | | 575 | | |
| 15 | | | | | 4 | | 570 | | |
| 20 | | | | | | | 565 | | |
| 25 | | | | | | | 560 | | |
| 30 | | | | | | | 555 | | |
| 35 | | | | | | | 550 | | |
| | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01
LOCATION: Buffalo, NY

Soil Boring NO: **SB-13**
New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12
DRILLING COMPANY: SJB
DRILLING EQUIPMENT: Geoprobe
DRILLING METHOD: DP
SAMPLING METHOD: Composite
SURFACE COMPLETION:

NORTHING: 1033105.20 ft. EASTING: 1075797.10 ft.
G.S. ELEVATION: 588.6 ft. M.P. ELEV:
WATER: 12 ft. TOTAL DEPTH:12.0 ft.
LOGGED BY: MLP CHECKED BY:
HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W
VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Fill Material | | | | 588.6 | | |
| 4 | | | Dark Fly Ash Material | | | | 585 | | |
| 5 | | | Fill Material, partly Rock Slag | | 4 | | | | |
| 6 | | | Dark Fly Ash Material | | | | | | |
| 7 | | | Fill Material, partly Rock Slag | | | | | | |
| 8 | | | Dark Fly Ash Material | | | | 580 | | |
| 10 | | | Crumbly Fill Material | | 4 | | | | |
| 12 | | | | | 4 | | 575 | | |
| 15 | | | | | | | | | |
| 20 | | | | | | | 570 | | |
| 25 | | | | | | | 565 | | |
| 30 | | | | | | | 560 | | |
| 35 | | | | | | | 555 | | |
| | | | | | | | 550 | | |

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter



STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01
LOCATION: Buffalo, NY

Soil Boring NO: **SB-14**
New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12
DRILLING COMPANY: SJB
DRILLING EQUIPMENT: Geoprobe
DRILLING METHOD: DP
SAMPLING METHOD: Composite
SURFACE COMPLETION:

NORTHING: 1033257.30 ft. EASTING: 1075779.60 ft.
G.S. ELEVATION: 597.7 ft. M.P. ELEV:
WATER: NA TOTAL DEPTH:19.0 ft.
LOGGED BY: MLP CHECKED BY:
HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W
VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Fill Material consisting of sand, clay, crushed rock, fine gravel, brick, and concrete. | | | | 595 | | |
| | | | Dark Fly Ash Material | | | | | | |
| 5 | | | Gray-tan Rock Slag | | 4 | | | | |
| | | | Dark Fly Ash Material | | | | 590 | | |
| | | | Fill Material consisting of rock and concrete | | | | | | |
| | | | Light brown clay layer | | | | | | |
| 10 | | | Dark Brown Clay layer | | 4 | | | | |
| | | | Gray-tan Rock Slag | | | | | | |
| | | | Blue Crushed Rock | | | | 585 | | |
| | | | Fill Material Consisting of Brick and Concrete | | | | | | |
| | | | Reddish Brown Clay Layer, brick is present. | | 4 | | | | |
| 15 | | | Dark Fly Ash Material, chemical odor is present | | | | | | |
| | | | | | 4 | | 580 | | |
| | | | Light Brown Clay with coarse gravel. | | | | | | |
| 20 | | | | | 3 | | 575 | | |
| 25 | | | | | | | 570 | | |
| 30 | | | | | | | 565 | | |
| 35 | | | | | | | 560 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_IL_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-15**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033240.90 ft. EASTING: 1076098.90 ft.

G.S. ELEVATION: 588 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:4.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Fly Ash Material | | | | 585 | | |
| 5 | | | | | 4 | | 580 | | |
| 10 | | | | | | | 575 | | |
| 15 | | | | | | | 570 | | |
| 20 | | | | | | | 565 | | |
| 25 | | | | | | | 560 | | |
| 30 | | | | | | | 555 | | |
| 35 | | | | | | | 550 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-16**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033368.70 ft. EASTING: 1076078.70 ft.

G.S. ELEVATION: 585.4 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:12.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Dark Fly Ash Material | | | | 585 | | |
| 5 | | | | | 4 | | 580 | | |
| 10 | | | Thick Blue Rock Slag | | 4 | | 575 | | |
| 15 | | | | | 4 | | 570 | | |
| 20 | | | | | | | 565 | | |
| 25 | | | | | | | 560 | | |
| 30 | | | | | | | 555 | | |
| 35 | | | | | | | 550 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_IL_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-17**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033470.20 ft. EASTING: 1076055.00 ft.

G.S. ELEVATION: 583.8 ft. M.P. ELEV:

WATER: 6 ft. TOTAL DEPTH:8.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Dark Fly Ash Material | | | | 580 | | |
| 5 | | | Gray - Tan Rock Slag<br>▼ Soft Gray- Tan Clay with fine gravel. | | 4 | | 575 | | |
| 10 | | | | | 4 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01
LOCATION: Buffalo, NY

Soil Boring NO: **SB-18**
New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12
DRILLING COMPANY: SJB
DRILLING EQUIPMENT: Geoprobe
DRILLING METHOD: DP
SAMPLING METHOD: Composite
SURFACE COMPLETION:

NORTHING: 1033476.20 ft. EASTING: 1075954.40 ft.
G.S. ELEVATION: 582.6 ft. M.P. ELEV:
WATER: 6 ft. TOTAL DEPTH:8.0 ft.
LOGGED BY: MLP CHECKED BY:
HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W
VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Dark Fly Ash Material | | | | 580 | | |
| 5 | | | ▼ Gray Rock Slag | | 4 | | 575 | | |
| 10 | | | | | 4 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-19**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033389.30 ft. EASTING: 1075832.50 ft.

G.S. ELEVATION: 583.4 ft. M.P. ELEV:

WATER: TOTAL DEPTH:8.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Dark Fly Ash Material | | | | 580 | | |
| 5 | | | Gray - Tan Rock Slag | | 4 | | 575 | | |
| 10 | | | | | 4 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-20**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033351.40 ft. EASTING: 1075985.90 ft.

G.S. ELEVATION: 585.8 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:8.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Light Brown Sandy Gravel | | | | 585 | | |
| | | | Dark Fly Ash Material | | | | | | |
| 5 | | | | | 4 | | 580 | | |
| | | | Gray Tan Rock Slag | | | | | | |
| 10 | | | | | 4 | | 575 | | |
| 15 | | | | | | | 570 | | |
| 20 | | | | | | | 565 | | |
| 25 | | | | | | | 560 | | |
| 30 | | | | | | | 555 | | |
| 35 | | | | | | | 550 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-21**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033283.10 ft. EASTING: 1075900.70 ft.

G.S. ELEVATION: 586.2 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:8.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Dark Fly Ash Material | | | | 585 | | |
| 5 | | | Tan Sand Layer | | 4 | | 580 | | |
| | | | Gray Tan Rock Slag | | | | | | |
| | | | Blue Rock Slag | | | | | | |
| 10 | | | | | 4 | | 575 | | |
| 15 | | | | | | | 570 | | |
| 20 | | | | | | | 565 | | |
| 25 | | | | | | | 560 | | |
| 30 | | | | | | | 555 | | |
| 35 | | | | | | | 550 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-22**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033235.20 ft. EASTING: 1076023.40 ft.

G.S. ELEVATION: 585.1 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:6.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Dark Fly Ash Material, Concrete in shoe at refusal. | | | | 585 | | |
| 5 | | | | | 4 | | 580 | | |
| 10 | | | | | 2 | | 575 | | |
| 15 | | | | | | | 570 | | |
| 20 | | | | | | | 565 | | |
| 25 | | | | | | | 560 | | |
| 30 | | | | | | | 555 | | |
| 35 | | | | | | | 550 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-23**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033198.00 ft. EASTING: 1075881.60 ft.

G.S. ELEVATION: 590.8 ft. M.P. ELEV:

WATER: 10 ft. TOTAL DEPTH:12.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Dark Fly Ash Material | | | | 590 | | |
| 5 | | | | | 4 | | 585 | | |
| 10 | | | Gray Tan Rock Slag | | 4 | | 580 | | |
| 15 | | | | | 4 | | 575 | | |
| 20 | | | | | | | 570 | | |
| 25 | | | | | | | 565 | | |
| 30 | | | | | | | 560 | | |
| 35 | | | | | | | 555 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-24**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033431.10 ft. EASTING: 1076120.00 ft.

G.S. ELEVATION: 582.2 ft. M.P. ELEV:

WATER: 5 ft. TOTAL DEPTH:6.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Fill Material, brick, rock, and wood are all present. | | | | 580 | | |
| | | | Dark Fly Ash Material | | | | | | |
| 5 | | | Fill Material | | 4 | | 575 | | |
| 10 | | | | | 2 | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Soil Boring NO: **SB-25**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY: SJB

DRILLING EQUIPMENT: Geoprobe

DRILLING METHOD: DP

SAMPLING METHOD: Composite

SURFACE COMPLETION:

NORTHING: 1033528.90 ft. EASTING: 1076093.70 ft.

G.S. ELEVATION: 584.5 ft. M.P. ELEV:

WATER: 9 ft. TOTAL DEPTH:10.0 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: 4 Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Fill Material consisting of brick, concrete, and crushed rock. | | | | 580 | | |
| 5 | | | Dark Fly Ash Material | | 4 | | | | |
| 10 | | | Blue Rock Slag | | 4 | | 575 | | |
| 15 | | | | | 2 | | 570 | | |
| 20 | | | | | | | 565 | | |
| 25 | | | | | | | 560 | | |
| 30 | | | | | | | 555 | | |
| 35 | | | | | | | 550 | | |
| | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Soil Boring LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Surface Soil Sample NO: **SS-1**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY:

DRILLING EQUIPMENT:

DRILLING METHOD:

SAMPLING METHOD: Grab

SURFACE COMPLETION:

NORTHING: 1033114.10 ft. EASTING: 1075931.50 ft.

G.S. ELEVATION: 580.5 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:0.5 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | Dark Fly Ash Material | | | | 580 | | |
| 5 | | | | | | | 575 | | |
| 10 | | | | | | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Surface Soil Sample LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

PROJECT: Buffalo Lakeside Commerce Park Operable Unit:01

LOCATION: Buffalo, NY

Surface Soil Sample NO: **SS-2**

New York State Department of Environmental Conservation

STARTED: 9/18/12 COMPLETED: 9/18/12

DRILLING COMPANY:

DRILLING EQUIPMENT:

DRILLING METHOD:

SAMPLING METHOD: Grab

SURFACE COMPLETION:

NORTHING: 1033143.50 ft. EASTING: 1076000.10 ft.

G.S. ELEVATION: 580.4 ft. M.P. ELEV:

WATER: NA TOTAL DEPTH:0.5 ft.

LOGGED BY: MLP CHECKED BY:

HORIZONTAL DATUM: NAD83, COORD. SYS.: NYS Plane, W

VERTICAL DATUM: NAVD88

| DEPTH (feet) | GRAPHIC LOG | USCS | DESCRIPTION (Sampler Length: Feet) | LITHOLOGIC SAMPLE | RECOV. (feet) | PID (ppm) | ELEV. (ft) | ANALYTICAL SAMPLE | SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | Dark Fly Ash Material | | | | 580 | | |
| 5 | | | | | | | 575 | | |
| 10 | | | | | | | 570 | | |
| 15 | | | | | | | 565 | | |
| 20 | | | | | | | 560 | | |
| 25 | | | | | | | 555 | | |
| 30 | | | | | | | 550 | | |
| 35 | | | | | | | 545 | | |

STANDARD LOG: DPT BORING WITH SAMPLES BLCP.GPJ STANDARD_REGION_II_RAC_PROJECT.GDT 11/21/12 REV.

Surface Soil Sample LOG

PROJECT NO. 0897-91667

CDM Smith
11 British American Blvd
Latham NY/ 12180

Soil sample (SB) results in micrograms per kilogram
Groundwater (GW) results in micrograms per liter

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-1
**Surface Elevation:** 598 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 3.0 ft | 598 | 595 | Fill consisting of Sand, Clay, Brick, and Concrete. Gravel? | | | |
| 3.0 ft | 6.0 ft | 595 | 592 | Fill consisting of Sand, Clay, Gravel, Brick, and Concrete. | | | |
| 6.0 ft | 9.0 ft | 592 | 589 | Dark Fly Ash | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-2
**Surface Elevation:** 595 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 1.0 ft | 595 | 594 | Fill consisting of Clay and Gravel. Some Concrete. | | | |
| 1.0 ft | 8.0 ft | 594 | 587 | Dark Fly Ash, with some Concrete | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-3
**Surface Elevation:** 590 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 3.0 ft | 590 | 587 | Fill consisting of Sand, Clay, Gravel and Concrete. Some Brick. | | | |
| 3.0 ft | 8.0 ft | 587 | 582 | Dark Fly Ash | | | |
| 8.0 ft | 9.0 ft | 582 | 581 | Gray Rock Slag | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-4
**Surface Elevation:** 590 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 6.0 ft | 590 | 584 | Dark Fly Ash, with Fill consisting of Sand, Clay, Gravel and Concrete. Petroleum odor observed. Hard digging. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-5
**Surface Elevation:** 584 ft (MSL)



| Depth | | Elevation | | Material Description | Water Depth/Date |
|---|---|---|---|---|---|
| From | To | From | To | C = Coarse M = Medium F = Fine | |
| 0.0 ft | 5.0 ft | 584 | 579 | Dark Fly Ash, with Fill consisting of Sand, Clay, Gravel and Concrete. Petroleum odor observed. Hard digging. | |
| 5.0 ft | 6.0 ft | 579 | 578 | Gray Rock Slag. Petroleum odor observed. Hard digging. | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-6
**Surface Elevation:** 581.5 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 3.0 ft | 581.5 | 578.5 | Dark Fly Ash, with Fill consisting of Sand, Clay, and Gravel | | | |
| 3.0 ft | 6.0 ft | 578.5 | 575.5 | Gray Rock Slag. Hard digging. | | | |
| 6.0 ft | 7.0 ft | 575.5 | 574.5 | Gray to Black Rock Slag. Hard Digging. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-7
**Surface Elevation:** 586.5 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 5.0 ft | 586.5 | 581.5 | Dark Fly Ash, with Wood Timbers. Hard Digging. | | | |
| 5.0 ft | 8.0 ft | 581.5 | 578.5 | Black Fly Ash. Soft Digging. | | | |
| 8.0 ft | 9.0 ft | 578.5 | 577.5 | Gray Rock Slag. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-8
**Surface Elevation:** 584 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 5.0 ft | 584 | 579 | Brown to Gray Fly Ash, with Wood Timbers. | | | |
| 5.0 ft | 6.0 ft | 579 | 578 | Gray Rock Slag. | | | |
| 6.0 ft | 7.0 ft | 578 | 577 | Blue/Gray Clay with some Sand. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-9
**Surface Elevation:** 590 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 3.0 ft | 590 | 587 | Black Fly Ash, with Wood Timbers. | | | |
| 3.0 ft | 4.0 ft | 587 | 586 | Compacted Black Fly Ash. Hard Digging. | | | |
| 4.0 ft | 8.0 ft | 586 | 582 | Softer Black Fly Ash. Easier Digging. | | | |
| 8.0 ft | 11.0 ft | 582 | 579 | Rock Slag. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-10
**Surface Elevation:** 586 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 3.0 ft | 586 | 583 | Rock and Fill consisting of Sand and Gravel. | | | |
| 3.0 ft | 6.0 ft | 583 | 580 | Compacted Black Fly Ash. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-11
**Surface Elevation:** 586 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 1.0 ft | 586 | 585 | Construction & Demolition Debris. | | | |
| 0.0 ft | 6.0 ft | 586 | 580 | Compacted Black Fly Ash. Hard Digging. | | | |
| 6.0 ft | 7.0 ft | 580 | 579 | Gray Rock Slag. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-12
**Surface Elevation:** 588.5 ft (MSL)



| Depth | | Elevation | | Material Description | Water Depth/Date |
|---|---|---|---|---|---|
| From | To | From | To | C = Coarse M = Medium F = Fine | |
| 0.0 ft | 4.0 ft | 588.5 | 584.5 | C&D Debris consisting of pipe, bricks, concrete, rebar, and conduit. Brown Fly Ash mixed in with C&D Debris. | |
| 4.0 ft | 6.0 ft | 584.5 | 582.5 | Gray Rock Slag. | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-13
**Surface Elevation:** 581 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 1.5 ft | 581 | 579.5 | 3"-minus Stone changing over to Dark Fly Ash moving south to Parcel Boundary. | | | |
| 1.5 ft | 3.0 ft | 579.5 | 578 | Gray Crushed Stone | | | |
| 3.0 ft | 4.0 ft | 578 | 577 | Gray Clay | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-14
**Surface Elevation:** 586 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 2.0 ft | 586 | 584 | Brown Fly Ash. Dense. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-15
**Surface Elevation:** 581.5 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 4.0 ft | 581.5 | 577.5 | C&D Debris consisting of brick and concrete changing over to Dark Fly Ash moving west to Hazardous Area (fenced). | | | |
| 4.0 ft | 6.0 ft | 577.5 | 575.5 | Gray Rock Slag. Dense. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-16
**Surface Elevation:** 582 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 6.0 ft | 582 | 576 | C&D Debris consisting of brick, concrete, pipe, and fiberglass. | | | |
| 6.0 ft | 7.0 ft | 576 | 575 | Gray Rock Slag. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-17
**Surface Elevation:** 582.5 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 6.0 ft | 582.5 | 576.5 | C&D Debris consisting of brick and fiberglass, mixed in with Dark Fly Ash. Changes over Black Fly Ash only farther west. | | | |

# Test Pit Log

**Client:** NYSDEC
**Project:** Buffalo Lakeside Commerce Park
**Date:** September 17-18, 2012

**Project No:** 0897-91667
**Test Pit No.:** TP-18
**Surface Elevation:** 583 ft (MSL)



| Depth | | Elevation | | Material Description | | | Water Depth/Date |
|---|---|---|---|---|---|---|---|
| From | To | From | To | C = Coarse | M = Medium | F = Fine | |
| 0.0 ft | 1.0 ft | 583 | 582 | Dark Fly Ash. | | | |
| 1.0 ft | 5.0 ft | 582 | 578 | Dark Fly Ash mixed in with C&D Debris consisting of brick and metal. | | | |
| 5.0 ft | 6.0 ft | 578 | 577 | Gray Rock Slag. | | | |

Report Date:
11-Oct-12 17:44

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# *Laboratory Report*

CDM-Smith, Inc.
11 British American Blvd, Suite 200
Latham, NY 12110

Work Order: L1966
Project : BLCP Buffalo
Project #: D007621-1

Attn: John P. Blaum

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| L1966-01 | SB-01 0-4 | Soil | 17-Sep-12 09:35 | 20-Sep-12 08:40 |
| L1966-02 | SB-01 4-8 | Soil | 17-Sep-12 09:35 | 20-Sep-12 08:40 |
| L1966-03 | SB-02 0-4 | Soil | 17-Sep-12 10:15 | 20-Sep-12 08:40 |
| L1966-04 | SB-02 4-8 | Soil | 17-Sep-12 10:15 | 20-Sep-12 08:40 |
| L1966-05 | SB-02 8-12 | Soil | 17-Sep-12 10:15 | 20-Sep-12 08:40 |
| L1966-06 | SB-03 0-4 | Soil | 17-Sep-12 10:45 | 20-Sep-12 08:40 |
| L1966-07 | SB-03 4-8 | Soil | 17-Sep-12 10:45 | 20-Sep-12 08:40 |
| L1966-08 | SB-04 0-4 | Soil | 17-Sep-12 11:15 | 20-Sep-12 08:40 |
| L1966-09 | SB-04 4-8 | Soil | 17-Sep-12 11:15 | 20-Sep-12 08:40 |
| L1966-10 | SB-04 8-12 | Soil | 17-Sep-12 11:15 | 20-Sep-12 08:40 |
| L1966-11 | SB-05 0-4 | Soil | 17-Sep-12 12:00 | 20-Sep-12 08:40 |
| L1966-12 | SB-05 4-8 | Soil | 17-Sep-12 12:00 | 20-Sep-12 08:40 |
| L1966-13 | SB-06 0-4 | Soil | 17-Sep-12 13:30 | 20-Sep-12 08:40 |
| L1966-14 | SB-06 4-8 | Soil | 17-Sep-12 13:30 | 20-Sep-12 08:40 |
| L1966-15 | SB-07 0-4 | Soil | 17-Sep-12 13:50 | 20-Sep-12 08:40 |
| L1966-16 | SB-07 4-8 | Soil | 17-Sep-12 13:50 | 20-Sep-12 08:40 |
| L1966-17 | SB-08 0-4 | Soil | 17-Sep-12 14:05 | 20-Sep-12 08:40 |
| L1966-18 | SB-08 4-8 | Soil | 17-Sep-12 14:05 | 20-Sep-12 08:40 |
| L1966-19 | SB-09 0-4 | Soil | 17-Sep-12 14:50 | 20-Sep-12 08:40 |
| L1966-20 | DUP 1 | Soil | 18-Sep-12 08:35 | 20-Sep-12 08:40 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

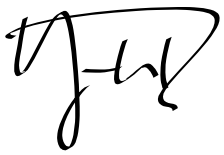
Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Florida | E87664 |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:



Yihai Ding
Laboratory Director



*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# * Data Summary Pack *

**175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499**
**www.spectrum-analytical.com**

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Identification and Analytical Requirements Summary

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1966

| Customer Sample ID | Laboratory Sample ID | Analytical Requirements | | | | |
|---|---|---|---|---|---|---|
| | | MSVOA Method # | MSSEMI Method # | GC* Method # | ME | Other |
| SB-01 0-4 | L1966-01 | | | | SW6010_S | |
| SB-01 4-8 | L1966-02 | | | | SW6010_S | |
| SB-02 0-4 | L1966-03 | | | | SW6010_S | |
| SB-02 4-8 | L1966-04 | | | | SW6010_S | |
| SB-02 8-12 | L1966-05 | | | | SW6010_S | |
| SB-03 0-4 | L1966-06 | | | | SW6010_S | |
| SB-03 4-8 | L1966-07 | | | | SW6010_S | |
| SB-04 0-4 | L1966-08 | | | | SW6010_S | |
| SB-04 4-8 | L1966-09 | | | | SW6010_S | |
| SB-04 8-12 | L1966-10 | | | | SW6010_S | |
| SB-05 0-4 | L1966-11 | | | | SW6010_S | |
| SB-05 4-8 | L1966-12 | | | | SW6010_S | |
| SB-06 0-4 | L1966-13 | | | | SW6010_S | |
| SB-06 4-8 | L1966-14 | | | | SW6010_S | |
| SB-07 0-4 | L1966-15 | | | | SW6010_S | |
| SB-07 4-8 | L1966-16 | | | | SW6010_S | |
| SB-08 0-4 | L1966-17 | | | | SW6010_S | |
| SB-08 4-8 | L1966-18 | | | | SW6010_S | |
| SB-09 0-4 | L1966-19 | | | | SW6010_S | |
| DUP 1 | L1966-20 | | | | SW6010_S | |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Preparation and Analysis Summary ME

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1966

| Laboratory Sample ID | Matrix | Metals Requested | Date Received By Lab | Date Analyzed |
|---|---|---|---|---|
| SW6010_S | | | | |
| L1966-01A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-02A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-03A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-04A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-05A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-06A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-07A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-08A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-09A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-10A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-11A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-12A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-13A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-14A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-15A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-16A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-17A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-18A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-19A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-20A | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-20ADUP | SL | SW6010_S | 9/20/2012 | 10/1/2012 |
| L1966-20AMS | SL | SW6010_S | 9/20/2012 | 10/1/2012 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1966**

**Client ID:** CDM_LATHAM
**Project:** CLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1966-01A | SB-01 0-4 | 09/17/2012 09:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-01A | SB-01 0-4 | 09/17/2012 09:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-02A | SB-01 4-8 | 09/17/2012 09:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-02A | SB-01 4-8 | 09/17/2012 09:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-03A | SB-02 0-4 | 09/17/2012 10:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-03A | SB-02 0-4 | 09/17/2012 10:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-04A | SB-02 4-8 | 09/17/2012 10:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-04A | SB-02 4-8 | 09/17/2012 10:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-05A | SB-02 8-12 | 09/17/2012 10:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-05A | SB-02 8-12 | 09/17/2012 10:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-06A | SB-03 0-4 | 09/17/2012 10:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-06A | SB-03 0-4 | 09/17/2012 10:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-07A | SB-03 4-8 | 09/17/2012 10:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-07A | SB-03 4-8 | 09/17/2012 10:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-08A | SB-04 0-4 | 09/17/2012 11:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-08A | SB-04 0-4 | 09/17/2012 11:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-09A | SB-04 4-8 | 09/17/2012 11:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-09A | SB-04 4-8 | 09/17/2012 11:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-10A | SB-04 8-12 | 09/17/2012 11:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-10A | SB-04 8-12 | 09/17/2012 11:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-11A | SB-05 0-4 | 09/17/2012 12:00 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1966**

**Client ID:** CDM_LATHAM
**Project:** CLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1966-11A | SB-05 0-4 | 09/17/2012 12:00 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-12A | SB-05 4-8 | 09/17/2012 12:00 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-12A | SB-05 4-8 | 09/17/2012 12:00 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-13A | SB-06 0-4 | 09/17/2012 13:30 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-13A | SB-06 0-4 | 09/17/2012 13:30 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-14A | SB-06 4-8 | 09/17/2012 13:30 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-14A | SB-06 4-8 | 09/17/2012 13:30 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-15A | SB-07 0-4 | 09/17/2012 13:50 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-15A | SB-07 0-4 | 09/17/2012 13:50 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-16A | SB-07 4-8 | 09/17/2012 13:50 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-16A | SB-07 4-8 | 09/17/2012 13:50 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-17A | SB-08 0-4 | 09/17/2012 14:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-17A | SB-08 0-4 | 09/17/2012 14:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-18A | SB-08 4-8 | 09/17/2012 14:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-18A | SB-08 4-8 | 09/17/2012 14:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-19A | SB-09 0-4 | 09/17/2012 14:50 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-19A | SB-09 0-4 | 09/17/2012 14:50 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1966-20A | DUP 1 | 09/18/2012 08:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1966-20A | DUP 1 | 09/18/2012 08:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# * Metals *

# REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM-Smith, Inc.

Project: BLCP Buffalo

Laboratory Workorder / SDG #: L1966

SW846 6010C

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form or other record of communication is included with the Sample Receipt Documentation.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 6010C.

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3050B.

## V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: OPTIMA3
Instrument Type: ICP
Description: Optima ICP-OES
Manufacturer: Perkin-Elmer
Model: 4300 DV

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

#### 2. Matrix spike (MS):

Matrix spikes were performed on sample: DUP 1 (L1966-20AMS).

Percent recoveries were within the QC limits with the following exceptions:

DUP 1 (L1966-20AMS), Spike sample recovery is below criteria for Antimony at 39% with criteria of (75-125).

### D. Post Digestion Spike (PDS):

Post-digestion spike analysis was performed on sample: DUP 1 (L1966-20APDS).

DUP 1 (L1966-20APDS) for Antimony due to recovery of this element outside of QC limits in the matrix spike.

### E. Duplicate sample:

Duplicate analyses were performed on sample: DUP 1 (L1966-20ADUP).

Relative percent differences were within the QC limits with the following exceptions:

DUP 1 (L1966-20ADUP), Duplicate analysis not within control limit for Aluminum, Barium, Beryllium, Cadmium, Calcium, Cobalt, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Sodium, Thallium, Vanadium and Zinc.

## F. Serial Dilution (SD):

Serial Dilution analyses were performed on sample: DUP 1 (L1966-20ASD).

Percent differences were within the QC limits with the exception of the following:

DUP 1 (L1966-20ASD), Serial Dilution analysis not within control limit for Cobalt, Nickel and Zinc.

## G. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed: 

Date: 10/11/12

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

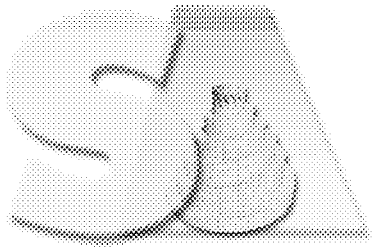
E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.



*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

DUP 1

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-20

Level (low/med): MED Date Received: 09/20/2012

% Solids: 86.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 23300 | | * | P |
| 7440-36-0 | Antimony | 0.36 | U | N | P |
| 7440-38-2 | Arsenic | 7.0 | | | P |
| 7440-39-3 | Barium | 208 | | * | P |
| 7440-41-7 | Beryllium | 4.3 | | * | P |
| 7440-43-9 | Cadmium | 1.5 | | * | P |
| 7440-70-2 | Calcium | 172000 | | * | P |
| 7440-47-3 | Chromium | 14.8 | | | P |
| 7440-48-4 | Cobalt | 2.9 | | *E | P |
| 7440-50-8 | Copper | 44.3 | | | P |
| 7439-89-6 | Iron | 32100 | | | P |
| 7439-92-1 | Lead | 430 | | * | P |
| 7439-95-4 | Magnesium | 23000 | | * | P |
| 7439-96-5 | Manganese | 1610 | | * | P |
| 7440-02-0 | Nickel | 11.9 | | *E | P |
| 7440-09-7 | Potassium | 1530 | | * | P |
| 7782-49-2 | Selenium | 5.0 | | * | P |
| 7440-22-4 | Silver | 0.099 | B | | P |
| 7440-23-5 | Sodium | 626 | | * | P |
| 7440-28-0 | Thallium | 3.1 | | * | P |
| 7440-62-2 | Vanadium | 10.4 | | * | P |
| 7440-66-6 | Zinc | 592 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-01 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-01

Level (low/med): MED Date Received: 09/20/2012

% Solids: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 10200 | | * | P |
| 7440-36-0 | Antimony | 2.6 | | N | P |
| 7440-38-2 | Arsenic | 11.4 | | | P |
| 7440-39-3 | Barium | 68.5 | | * | P |
| 7440-41-7 | Beryllium | 1.5 | | * | P |
| 7440-43-9 | Cadmium | 4.5 | | * | P |
| 7440-70-2 | Calcium | 29500 | | * | P |
| 7440-47-3 | Chromium | 59.0 | | | P |
| 7440-48-4 | Cobalt | 9.5 | | *E | P |
| 7440-50-8 | Copper | 277 | | | P |
| 7439-89-6 | Iron | 106000 | | | P |
| 7439-92-1 | Lead | 1260 | | * | P |
| 7439-95-4 | Magnesium | 7180 | | * | P |
| 7439-96-5 | Manganese | 1770 | | * | P |
| 7440-02-0 | Nickel | 64.3 | | *E | P |
| 7440-09-7 | Potassium | 835 | | * | P |
| 7782-49-2 | Selenium | 0.68 | U | * | P |
| 7440-22-4 | Silver | 0.14 | B | | P |
| 7440-23-5 | Sodium | 153 | | * | P |
| 7440-28-0 | Thallium | 0.23 | U | * | P |
| 7440-62-2 | Vanadium | 20.2 | | * | P |
| 7440-66-6 | Zinc | 1250 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-01 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-02

Level (low/med): MED Date Received: 09/20/2012

% Solids: 67.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 19700 | | * | P |
| 7440-36-0 | Antimony | 0.51 | B | N | P |
| 7440-38-2 | Arsenic | 20.5 | | | P |
| 7440-39-3 | Barium | 160 | | * | P |
| 7440-41-7 | Beryllium | 3.7 | | * | P |
| 7440-43-9 | Cadmium | 2.9 | | * | P |
| 7440-70-2 | Calcium | 110000 | | * | P |
| 7440-47-3 | Chromium | 43.4 | | | P |
| 7440-48-4 | Cobalt | 5.1 | | *E | P |
| 7440-50-8 | Copper | 68.4 | | | P |
| 7439-89-6 | Iron | 117000 | | | P |
| 7439-92-1 | Lead | 120 | | * | P |
| 7439-95-4 | Magnesium | 23800 | | * | P |
| 7439-96-5 | Manganese | 3320 | | * | P |
| 7440-02-0 | Nickel | 17.3 | | *E | P |
| 7440-09-7 | Potassium | 1820 | | * | P |
| 7782-49-2 | Selenium | 1.3 | B | * | P |
| 7440-22-4 | Silver | 0.085 | U | | P |
| 7440-23-5 | Sodium | 394 | | * | P |
| 7440-28-0 | Thallium | 0.74 | B | * | P |
| 7440-62-2 | Vanadium | 14.4 | | * | P |
| 7440-66-6 | Zinc | 1000 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-02 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-03

Level (low/med): MED Date Received: 09/20/2012

% Solids: 83.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 12700 | | * | P |
| 7440-36-0 | Antimony | 0.30 | U | N | P |
| 7440-38-2 | Arsenic | 3.0 | | | P |
| 7440-39-3 | Barium | 12.9 | | * | P |
| 7440-41-7 | Beryllium | 0.63 | | * | P |
| 7440-43-9 | Cadmium | 0.012 | U | * | P |
| 7440-70-2 | Calcium | 81900 | | * | P |
| 7440-47-3 | Chromium | 22.8 | | | P |
| 7440-48-4 | Cobalt | 14.7 | | *E | P |
| 7440-50-8 | Copper | 24.2 | | | P |
| 7439-89-6 | Iron | 27900 | | | P |
| 7439-92-1 | Lead | 17.8 | | * | P |
| 7439-95-4 | Magnesium | 5930 | | * | P |
| 7439-96-5 | Manganese | 637 | | * | P |
| 7440-02-0 | Nickel | 46.3 | | *E | P |
| 7440-09-7 | Potassium | 1360 | | * | P |
| 7782-49-2 | Selenium | 1.7 | | * | P |
| 7440-22-4 | Silver | 0.051 | U | | P |
| 7440-23-5 | Sodium | 122 | | * | P |
| 7440-28-0 | Thallium | 0.18 | U | * | P |
| 7440-62-2 | Vanadium | 15.1 | | * | P |
| 7440-66-6 | Zinc | 38.6 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-02 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-04

Level (low/med): MED Date Received: 09/20/2012

% Solids: 88.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 14200 | | * | P |
| 7440-36-0 | Antimony | 0.42 | U | N | P |
| 7440-38-2 | Arsenic | 5.7 | | | P |
| 7440-39-3 | Barium | 33.8 | | * | P |
| 7440-41-7 | Beryllium | 0.75 | | * | P |
| 7440-43-9 | Cadmium | 0.016 | U | * | P |
| 7440-70-2 | Calcium | 60700 | | * | P |
| 7440-47-3 | Chromium | 23.8 | | | P |
| 7440-48-4 | Cobalt | 13.8 | | *E | P |
| 7440-50-8 | Copper | 42.2 | | | P |
| 7439-89-6 | Iron | 31200 | | | P |
| 7439-92-1 | Lead | 21.1 | | * | P |
| 7439-95-4 | Magnesium | 8890 | | * | P |
| 7439-96-5 | Manganese | 606 | | * | P |
| 7440-02-0 | Nickel | 46.3 | | *E | P |
| 7440-09-7 | Potassium | 1720 | | * | P |
| 7782-49-2 | Selenium | 2.3 | | * | P |
| 7440-22-4 | Silver | 0.070 | U | | P |
| 7440-23-5 | Sodium | 155 | | * | P |
| 7440-28-0 | Thallium | 0.24 | U | * | P |
| 7440-62-2 | Vanadium | 17.0 | | * | P |
| 7440-66-6 | Zinc | 74.2 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-02 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-05

Level (low/med): MED Date Received: 09/20/2012

% Solids: 79.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 15800 | | * | P |
| 7440-36-0 | Antimony | 0.41 | U | N | P |
| 7440-38-2 | Arsenic | 5.2 | | | P |
| 7440-39-3 | Barium | 27.7 | | * | P |
| 7440-41-7 | Beryllium | 0.79 | | * | P |
| 7440-43-9 | Cadmium | 0.016 | U | * | P |
| 7440-70-2 | Calcium | 70700 | | * | P |
| 7440-47-3 | Chromium | 26.6 | | | P |
| 7440-48-4 | Cobalt | 21.8 | | *E | P |
| 7440-50-8 | Copper | 28.5 | | | P |
| 7439-89-6 | Iron | 34700 | | | P |
| 7439-92-1 | Lead | 27.0 | | * | P |
| 7439-95-4 | Magnesium | 7200 | | * | P |
| 7439-96-5 | Manganese | 687 | | * | P |
| 7440-02-0 | Nickel | 58.3 | | *E | P |
| 7440-09-7 | Potassium | 1990 | | * | P |
| 7782-49-2 | Selenium | 2.4 | | * | P |
| 7440-22-4 | Silver | 0.070 | U | | P |
| 7440-23-5 | Sodium | 151 | | * | P |
| 7440-28-0 | Thallium | 0.24 | U | * | P |
| 7440-62-2 | Vanadium | 19.4 | | * | P |
| 7440-66-6 | Zinc | 58.6 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-03 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-06

Level (low/med): MED Date Received: 09/20/2012

% Solids: 88.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 13700 | | * | P |
| 7440-36-0 | Antimony | 0.38 | U | N | P |
| 7440-38-2 | Arsenic | 3.6 | | | P |
| 7440-39-3 | Barium | 19.6 | | * | P |
| 7440-41-7 | Beryllium | 0.71 | | * | P |
| 7440-43-9 | Cadmium | 0.015 | U | * | P |
| 7440-70-2 | Calcium | 86400 | | * | P |
| 7440-47-3 | Chromium | 24.1 | | | P |
| 7440-48-4 | Cobalt | 17.2 | | *E | P |
| 7440-50-8 | Copper | 26.6 | | | P |
| 7439-89-6 | Iron | 30500 | | | P |
| 7439-92-1 | Lead | 20.4 | | * | P |
| 7439-95-4 | Magnesium | 6510 | | * | P |
| 7439-96-5 | Manganese | 746 | | * | P |
| 7440-02-0 | Nickel | 49.7 | | *E | P |
| 7440-09-7 | Potassium | 1940 | | * | P |
| 7782-49-2 | Selenium | 2.0 | | * | P |
| 7440-22-4 | Silver | 0.065 | U | | P |
| 7440-23-5 | Sodium | 132 | | * | P |
| 7440-28-0 | Thallium | 0.22 | U | * | P |
| 7440-62-2 | Vanadium | 16.2 | | * | P |
| 7440-66-6 | Zinc | 40.1 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-03 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-07

Level (low/med): MED Date Received: 09/20/2012

% Solids: 87.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 14200 | | * | P |
| 7440-36-0 | Antimony | 0.31 | U | N | P |
| 7440-38-2 | Arsenic | 4.6 | | | P |
| 7440-39-3 | Barium | 11.7 | | * | P |
| 7440-41-7 | Beryllium | 0.58 | | * | P |
| 7440-43-9 | Cadmium | 0.012 | U | * | P |
| 7440-70-2 | Calcium | 70700 | | * | P |
| 7440-47-3 | Chromium | 25.7 | | | P |
| 7440-48-4 | Cobalt | 17.7 | | *E | P |
| 7440-50-8 | Copper | 27.1 | | | P |
| 7439-89-6 | Iron | 32700 | | | P |
| 7439-92-1 | Lead | 22.9 | | * | P |
| 7439-95-4 | Magnesium | 7360 | | * | P |
| 7439-96-5 | Manganese | 479 | | * | P |
| 7440-02-0 | Nickel | 54.2 | | *E | P |
| 7440-09-7 | Potassium | 2320 | | * | P |
| 7782-49-2 | Selenium | 1.6 | | * | P |
| 7440-22-4 | Silver | 0.052 | U | | P |
| 7440-23-5 | Sodium | 132 | | * | P |
| 7440-28-0 | Thallium | 0.18 | U | * | P |
| 7440-62-2 | Vanadium | 17.3 | | * | P |
| 7440-66-6 | Zinc | 57.4 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-04 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-08

Level (low/med): MED Date Received: 09/20/2012

% Solids: 85.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 13900 | | * | P |
| 7440-36-0 | Antimony | 1.0 | B | N | P |
| 7440-38-2 | Arsenic | 10.9 | | | P |
| 7440-39-3 | Barium | 211 | | * | P |
| 7440-41-7 | Beryllium | 2.4 | | * | P |
| 7440-43-9 | Cadmium | 2.1 | | * | P |
| 7440-70-2 | Calcium | 82700 | | * | P |
| 7440-47-3 | Chromium | 47.3 | | | P |
| 7440-48-4 | Cobalt | 5.4 | | *E | P |
| 7440-50-8 | Copper | 314 | | | P |
| 7439-89-6 | Iron | 81000 | | | P |
| 7439-92-1 | Lead | 262 | | * | P |
| 7439-95-4 | Magnesium | 16700 | | * | P |
| 7439-96-5 | Manganese | 3170 | | * | P |
| 7440-02-0 | Nickel | 25.4 | | *E | P |
| 7440-09-7 | Potassium | 1760 | | * | P |
| 7782-49-2 | Selenium | 4.8 | | * | P |
| 7440-22-4 | Silver | 0.068 | U | | P |
| 7440-23-5 | Sodium | 461 | | * | P |
| 7440-28-0 | Thallium | 1.3 | | * | P |
| 7440-62-2 | Vanadium | 17.1 | | * | P |
| 7440-66-6 | Zinc | 598 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-04 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-09

Level (low/med): MED Date Received: 09/20/2012

% Solids: 85.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 13500 | | * | P |
| 7440-36-0 | Antimony | 1.7 | | N | P |
| 7440-38-2 | Arsenic | 7.8 | | | P |
| 7440-39-3 | Barium | 160 | | * | P |
| 7440-41-7 | Beryllium | 2.1 | | * | P |
| 7440-43-9 | Cadmium | 4.5 | | * | P |
| 7440-70-2 | Calcium | 57700 | | * | P |
| 7440-47-3 | Chromium | 42.7 | | | P |
| 7440-48-4 | Cobalt | 12.1 | | *E | P |
| 7440-50-8 | Copper | 103 | | | P |
| 7439-89-6 | Iron | 61600 | | | P |
| 7439-92-1 | Lead | 517 | | * | P |
| 7439-95-4 | Magnesium | 13100 | | * | P |
| 7439-96-5 | Manganese | 1770 | | * | P |
| 7440-02-0 | Nickel | 50.9 | | *E | P |
| 7440-09-7 | Potassium | 2200 | | * | P |
| 7782-49-2 | Selenium | 4.5 | | * | P |
| 7440-22-4 | Silver | 0.066 | U | | P |
| 7440-23-5 | Sodium | 687 | | * | P |
| 7440-28-0 | Thallium | 1.3 | | * | P |
| 7440-62-2 | Vanadium | 43.7 | | * | P |
| 7440-66-6 | Zinc | 1050 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-04 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-10

Level (low/med): MED Date Received: 09/20/2012

% Solids: 79.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 22700 | | * | P |
| 7440-36-0 | Antimony | 0.42 | U | N | P |
| 7440-38-2 | Arsenic | 7.5 | | | P |
| 7440-39-3 | Barium | 229 | | * | P |
| 7440-41-7 | Beryllium | 3.6 | | * | P |
| 7440-43-9 | Cadmium | 1.4 | | * | P |
| 7440-70-2 | Calcium | 117000 | | * | P |
| 7440-47-3 | Chromium | 31.9 | | | P |
| 7440-48-4 | Cobalt | 3.0 | | *E | P |
| 7440-50-8 | Copper | 173 | | | P |
| 7439-89-6 | Iron | 67000 | | | P |
| 7439-92-1 | Lead | 359 | | * | P |
| 7439-95-4 | Magnesium | 19200 | | * | P |
| 7439-96-5 | Manganese | 3700 | | * | P |
| 7440-02-0 | Nickel | 18.9 | | *E | P |
| 7440-09-7 | Potassium | 5820 | | * | P |
| 7782-49-2 | Selenium | 6.5 | | * | P |
| 7440-22-4 | Silver | 0.070 | U | | P |
| 7440-23-5 | Sodium | 736 | | * | P |
| 7440-28-0 | Thallium | 4.5 | | * | P |
| 7440-62-2 | Vanadium | 15.2 | | * | P |
| 7440-66-6 | Zinc | 1090 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-05 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-11

Level (low/med): MED Date Received: 09/20/2012

% Solids: 86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 7070 | | * | P |
| 7440-36-0 | Antimony | 1.0 | B | N | P |
| 7440-38-2 | Arsenic | 8.9 | | | P |
| 7440-39-3 | Barium | 223 | | * | P |
| 7440-41-7 | Beryllium | 0.38 | | * | P |
| 7440-43-9 | Cadmium | 0.81 | | * | P |
| 7440-70-2 | Calcium | 70500 | | * | P |
| 7440-47-3 | Chromium | 29.5 | | | P |
| 7440-48-4 | Cobalt | 6.0 | | *E | P |
| 7440-50-8 | Copper | 99.5 | | | P |
| 7439-89-6 | Iron | 43900 | | | P |
| 7439-92-1 | Lead | 387 | | * | P |
| 7439-95-4 | Magnesium | 11500 | | * | P |
| 7439-96-5 | Manganese | 910 | | * | P |
| 7440-02-0 | Nickel | 19.5 | | *E | P |
| 7440-09-7 | Potassium | 1080 | | * | P |
| 7782-49-2 | Selenium | 2.7 | | * | P |
| 7440-22-4 | Silver | 0.13 | B | | P |
| 7440-23-5 | Sodium | 318 | | * | P |
| 7440-28-0 | Thallium | 0.22 | U | * | P |
| 7440-62-2 | Vanadium | 24.4 | | * | P |
| 7440-66-6 | Zinc | 437 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-05 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-12

Level (low/med): MED Date Received: 09/20/2012

% Solids: 76.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 11400 | | * | P |
| 7440-36-0 | Antimony | 0.44 | U | N | P |
| 7440-38-2 | Arsenic | 6.1 | | | P |
| 7440-39-3 | Barium | 220 | | * | P |
| 7440-41-7 | Beryllium | 0.32 | | * | P |
| 7440-43-9 | Cadmium | 0.34 | | * | P |
| 7440-70-2 | Calcium | 67800 | | * | P |
| 7440-47-3 | Chromium | 28.9 | | | P |
| 7440-48-4 | Cobalt | 3.8 | | *E | P |
| 7440-50-8 | Copper | 27.0 | | | P |
| 7439-89-6 | Iron | 11100 | | | P |
| 7439-92-1 | Lead | 355 | | * | P |
| 7439-95-4 | Magnesium | 6180 | | * | P |
| 7439-96-5 | Manganese | 515 | | * | P |
| 7440-02-0 | Nickel | 11.1 | | *E | P |
| 7440-09-7 | Potassium | 1580 | | * | P |
| 7782-49-2 | Selenium | 1.7 | B | * | P |
| 7440-22-4 | Silver | 0.075 | U | | P |
| 7440-23-5 | Sodium | 980 | | * | P |
| 7440-28-0 | Thallium | 0.32 | B | * | P |
| 7440-62-2 | Vanadium | 26.2 | | * | P |
| 7440-66-6 | Zinc | 203 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-06 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-13

Level (low/med): MED Date Received: 09/20/2012

% Solids: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 10700 | | * | P |
| 7440-36-0 | Antimony | 0.40 | U | N | P |
| 7440-38-2 | Arsenic | 8.8 | | | P |
| 7440-39-3 | Barium | 103 | | * | P |
| 7440-41-7 | Beryllium | 1.6 | | * | P |
| 7440-43-9 | Cadmium | 3.5 | | * | P |
| 7440-70-2 | Calcium | 52600 | | * | P |
| 7440-47-3 | Chromium | 108 | | | P |
| 7440-48-4 | Cobalt | 6.3 | | *E | P |
| 7440-50-8 | Copper | 221 | | | P |
| 7439-89-6 | Iron | 132000 | | | P |
| 7439-92-1 | Lead | 324 | | * | P |
| 7439-95-4 | Magnesium | 10000 | | * | P |
| 7439-96-5 | Manganese | 2650 | | * | P |
| 7440-02-0 | Nickel | 52.0 | | *E | P |
| 7440-09-7 | Potassium | 1520 | | * | P |
| 7782-49-2 | Selenium | 0.68 | U | * | P |
| 7440-22-4 | Silver | 0.37 | B | | P |
| 7440-23-5 | Sodium | 223 | | * | P |
| 7440-28-0 | Thallium | 0.23 | U | * | P |
| 7440-62-2 | Vanadium | 19.0 | | * | P |
| 7440-66-6 | Zinc | 800 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-06 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-14

Level (low/med): MED Date Received: 09/20/2012

% Solids: 73.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 7250 | | * | P |
| 7440-36-0 | Antimony | 0.87 | B | N | P |
| 7440-38-2 | Arsenic | 11.7 | | | P |
| 7440-39-3 | Barium | 285 | | * | P |
| 7440-41-7 | Beryllium | 0.40 | | * | P |
| 7440-43-9 | Cadmium | 3.5 | | * | P |
| 7440-70-2 | Calcium | 109000 | | * | P |
| 7440-47-3 | Chromium | 41.1 | | | P |
| 7440-48-4 | Cobalt | 4.6 | | *E | P |
| 7440-50-8 | Copper | 126 | | | P |
| 7439-89-6 | Iron | 25600 | | | P |
| 7439-92-1 | Lead | 411 | | * | P |
| 7439-95-4 | Magnesium | 13700 | | * | P |
| 7439-96-5 | Manganese | 642 | | * | P |
| 7440-02-0 | Nickel | 13.3 | | *E | P |
| 7440-09-7 | Potassium | 1810 | | * | P |
| 7782-49-2 | Selenium | 3.6 | | * | P |
| 7440-22-4 | Silver | 2.0 | B | | P |
| 7440-23-5 | Sodium | 287 | | * | P |
| 7440-28-0 | Thallium | 0.30 | U | * | P |
| 7440-62-2 | Vanadium | 22.1 | | * | P |
| 7440-66-6 | Zinc | 483 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-07 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-15

Level (low/med): MED Date Received: 09/20/2012

% Solids: 80.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 24800 | | * | P |
| 7440-36-0 | Antimony | 0.38 | U | N | P |
| 7440-38-2 | Arsenic | 22.9 | | | P |
| 7440-39-3 | Barium | 336 | | * | P |
| 7440-41-7 | Beryllium | 3.7 | | * | P |
| 7440-43-9 | Cadmium | 2.7 | | * | P |
| 7440-70-2 | Calcium | 179000 | | * | P |
| 7440-47-3 | Chromium | 39.2 | | | P |
| 7440-48-4 | Cobalt | 6.7 | | *E | P |
| 7440-50-8 | Copper | 227 | | | P |
| 7439-89-6 | Iron | 46100 | | | P |
| 7439-92-1 | Lead | 203 | | * | P |
| 7439-95-4 | Magnesium | 22500 | | * | P |
| 7439-96-5 | Manganese | 2430 | | * | P |
| 7440-02-0 | Nickel | 32.4 | | *E | P |
| 7440-09-7 | Potassium | 9210 | | * | P |
| 7782-49-2 | Selenium | 6.4 | | * | P |
| 7440-22-4 | Silver | 0.064 | U | | P |
| 7440-23-5 | Sodium | 795 | | * | P |
| 7440-28-0 | Thallium | 4.4 | | * | P |
| 7440-62-2 | Vanadium | 16.8 | | * | P |
| 7440-66-6 | Zinc | 462 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-07 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-16

Level (low/med): MED Date Received: 09/20/2012

% Solids: 79.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 2310 | | * | P |
| 7440-36-0 | Antimony | 0.58 | B | N | P |
| 7440-38-2 | Arsenic | 2.0 | | | P |
| 7440-39-3 | Barium | 285 | | * | P |
| 7440-41-7 | Beryllium | 0.37 | | * | P |
| 7440-43-9 | Cadmium | 0.017 | U | * | P |
| 7440-70-2 | Calcium | 26300 | | * | P |
| 7440-47-3 | Chromium | 3.8 | | | P |
| 7440-48-4 | Cobalt | 0.34 | B | *E | P |
| 7440-50-8 | Copper | 8.4 | | | P |
| 7439-89-6 | Iron | 11800 | | | P |
| 7439-92-1 | Lead | 60.4 | | * | P |
| 7439-95-4 | Magnesium | 4970 | | * | P |
| 7439-96-5 | Manganese | 364 | | * | P |
| 7440-02-0 | Nickel | 1.5 | B | *E | P |
| 7440-09-7 | Potassium | 1550 | | * | P |
| 7782-49-2 | Selenium | 1.7 | B | * | P |
| 7440-22-4 | Silver | 0.071 | U | | P |
| 7440-23-5 | Sodium | 176 | | * | P |
| 7440-28-0 | Thallium | 0.24 | U | * | P |
| 7440-62-2 | Vanadium | 4.4 | | * | P |
| 7440-66-6 | Zinc | 72.7 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-08 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-17

Level (low/med): MED Date Received: 09/20/2012

% Solids: 80.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 23400 | | * | P |
| 7440-36-0 | Antimony | 0.40 | U | N | P |
| 7440-38-2 | Arsenic | 16.0 | | | P |
| 7440-39-3 | Barium | 216 | | * | P |
| 7440-41-7 | Beryllium | 3.2 | | * | P |
| 7440-43-9 | Cadmium | 5.9 | | * | P |
| 7440-70-2 | Calcium | 143000 | | * | P |
| 7440-47-3 | Chromium | 59.2 | | | P |
| 7440-48-4 | Cobalt | 5.2 | | *E | P |
| 7440-50-8 | Copper | 52.3 | | | P |
| 7439-89-6 | Iron | 84800 | | | P |
| 7439-92-1 | Lead | 373 | | * | P |
| 7439-95-4 | Magnesium | 19000 | | * | P |
| 7439-96-5 | Manganese | 4120 | | * | P |
| 7440-02-0 | Nickel | 17.4 | | *E | P |
| 7440-09-7 | Potassium | 5300 | | * | P |
| 7782-49-2 | Selenium | 4.5 | | * | P |
| 7440-22-4 | Silver | 0.068 | U | | P |
| 7440-23-5 | Sodium | 503 | | * | P |
| 7440-28-0 | Thallium | 1.7 | | * | P |
| 7440-62-2 | Vanadium | 26.5 | | * | P |
| 7440-66-6 | Zinc | 1060 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-08 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-18

Level (low/med): MED Date Received: 09/20/2012

% Solids: 91.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 18600 | | * | P |
| 7440-36-0 | Antimony | 1.1 | | N | P |
| 7440-38-2 | Arsenic | 9.1 | | | P |
| 7440-39-3 | Barium | 148 | | * | P |
| 7440-41-7 | Beryllium | 3.1 | | * | P |
| 7440-43-9 | Cadmium | 8.8 | | * | P |
| 7440-70-2 | Calcium | 98300 | | * | P |
| 7440-47-3 | Chromium | 12.6 | | | P |
| 7440-48-4 | Cobalt | 6.5 | | *E | P |
| 7440-50-8 | Copper | 9.9 | | | P |
| 7439-89-6 | Iron | 250000 | | | P |
| 7439-92-1 | Lead | 2.5 | | * | P |
| 7439-95-4 | Magnesium | 11200 | | * | P |
| 7439-96-5 | Manganese | 4840 | | * | P |
| 7440-02-0 | Nickel | 6.7 | | *E | P |
| 7440-09-7 | Potassium | 1240 | | * | P |
| 7782-49-2 | Selenium | 0.58 | U | * | P |
| 7440-22-4 | Silver | 0.058 | U | | P |
| 7440-23-5 | Sodium | 470 | | * | P |
| 7440-28-0 | Thallium | 0.20 | U | * | P |
| 7440-62-2 | Vanadium | 26.9 | | * | P |
| 7440-66-6 | Zinc | 11.1 | | *E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-09 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Lab Sample ID: L1966-19

Level (low/med): MED Date Received: 09/20/2012

% Solids: 86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 21700 | | * | P |
| 7440-36-0 | Antimony | 0.83 | B | N | P |
| 7440-38-2 | Arsenic | 74.9 | | | P |
| 7440-39-3 | Barium | 215 | | * | P |
| 7440-41-7 | Beryllium | 1.9 | | * | P |
| 7440-43-9 | Cadmium | 5.1 | | * | P |
| 7440-70-2 | Calcium | 193000 | | * | P |
| 7440-47-3 | Chromium | 46.6 | | | P |
| 7440-48-4 | Cobalt | 9.1 | | *E | P |
| 7440-50-8 | Copper | 53.8 | | | P |
| 7439-89-6 | Iron | 22600 | | | P |
| 7439-92-1 | Lead | 144 | | * | P |
| 7439-95-4 | Magnesium | 9050 | | * | P |
| 7439-96-5 | Manganese | 524 | | * | P |
| 7440-02-0 | Nickel | 26.0 | | *E | P |
| 7440-09-7 | Potassium | 4370 | | * | P |
| 7782-49-2 | Selenium | 8.1 | | * | P |
| 7440-22-4 | Silver | 4.8 | | | P |
| 7440-23-5 | Sodium | 358 | | * | P |
| 7440-28-0 | Thallium | 6.3 | | * | P |
| 7440-62-2 | Vanadium | 31.5 | | * | P |
| 7440-66-6 | Zinc | 834 | | *E | P |

Comments:

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Solid LCS Source: LCS(D) ID:

Aqueous LCS Source: **LCS-68351**

| Analyte | Aqueous (ug/L) True | Found | %R | Solid (mg/Kg) True | Found | C | Limits | | %R |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 455.0 | 468.6 | | 364 | 546.0 | 103.0 |
| Antimony | | | | 22.8 | 23.8 | | 18.2 | 27.3 | 104.4 |
| Arsenic | | | | 22.8 | 22.6 | | 18.2 | 27.3 | 99.1 |
| Barium | | | | 455.0 | 491.9 | | 364 | 546.0 | 108.1 |
| Beryllium | | | | 11.4 | 12.0 | | 9.1 | 13.6 | 105.3 |
| Cadmium | | | | 11.4 | 11.1 | | 9.1 | 13.6 | 97.4 |
| Calcium | | | | 1135.0 | 1137.8 | | 908 | 1362.0 | 100.2 |
| Chromium | | | | 45.5 | 47.9 | | 36.4 | 54.6 | 105.3 |
| Cobalt | | | | 113.5 | 119.8 | | 90.8 | 136.2 | 105.6 |
| Copper | | | | 56.5 | 58.4 | | 45.2 | 67.8 | 103.4 |
| Iron | | | | 227.5 | 243.0 | | 182 | 273.0 | 106.8 |
| Lead | | | | 22.8 | 22.6 | | 18.2 | 27.3 | 99.1 |
| Magnesium | | | | 1135.0 | 1199.1 | | 908 | 1362.0 | 105.6 |
| Manganese | | | | 113.5 | 120.7 | | 90.8 | 136.2 | 106.3 |
| Nickel | | | | 113.5 | 120.1 | | 90.8 | 136.2 | 105.8 |
| Potassium | | | | 1135.0 | 1191.2 | | 908 | 1362.0 | 105.0 |
| Selenium | | | | 22.8 | 21.0 | | 18.2 | 27.3 | 92.1 |
| Silver | | | | 56.5 | 59.5 | | 42.4 | 67.8 | 105.3 |
| Sodium | | | | 1135.0 | 1226.8 | | 908 | 1362.0 | 108.1 |
| Thallium | | | | 22.8 | 20.5 | | 18.2 | 27.3 | 89.9 |
| Vanadium | | | | 113.5 | 118.1 | | 90.8 | 136.2 | 104.1 |
| Zinc | | | | 113.5 | 117.6 | | 90.8 | 136.2 | 103.6 |

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

DUP 1S

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Level (low/med): MED

% Solids for Sample: 86.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | 75-125 | 8.4 | | 0.36 | U | 21.5 | 39 | N | P |
| Arsenic | 75-125 | 28.6 | | 7.0 | | 21.5 | 100 | | P |
| Barium | 75-125 | 602 | | 208 | | 430 | 92 | | P |
| Beryllium | 75-125 | 14.8 | | 4.3 | | 10.7 | 98 | | P |
| Cadmium | 75-125 | 10.6 | | 1.5 | | 10.7 | 85 | | P |
| Chromium | 75-125 | 59.0 | | 14.8 | | 43.0 | 103 | | P |
| Cobalt | 75-125 | 110 | | 2.9 | | 107 | 100 | | P |
| Copper | 75-125 | 98.5 | | 44.3 | | 53.4 | 102 | | P |
| Lead | | 268 | | 430 | | 21.5 | -755 | | P |
| Nickel | 75-125 | 123 | | 11.9 | | 107 | 103 | | P |
| Selenium | 75-125 | 24.8 | | 5.0 | | 21.5 | 92 | | P |
| Silver | 75-125 | 64.3 | | 0.061 | B | 53.4 | 120 | | P |
| Thallium | 75-125 | 19.2 | | 3.1 | | 21.5 | 75 | | P |
| Vanadium | 75-125 | 126 | | 10.4 | | 107 | 108 | | P |
| Zinc | | 466 | | 592 | | 107 | -117 | | P |

Comments:

U.S. EPA - CLP

5B

EPA SAMPLE NO.

POST DIGEST SPIKE SAMPLE RECOVERY

DUP 1A

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Level (low/med): MED

Concentration Units (ug/L or mg/kg dry weight): ug/L

| Analyte | Control Limit %R | Spike Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 508.92 | | 5.28 | U | 455.0 | 112 | | P |

Comments:

U.S. EPA - CLP

6

DUPLICATES

EPA SAMPLE NO.

DUP 1D

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Matrix (soil/water): SOIL Level (low/med): MED

% Solids for Sample: 86.7 % Solids for Duplicate: 86.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit | Sample (S) | C | Duplicate (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 23274.1789 | | 16574.5179 | | 33.6 | * | P |
| Antimony | | 0.3600 | U | 0.3600 | U | | | P |
| Arsenic | | 7.0426 | | 6.9890 | | 0.8 | | P |
| Barium | | 208.1279 | | 135.0326 | | 42.6 | * | P |
| Beryllium | | 4.3278 | | 2.3405 | | 59.6 | * | P |
| Cadmium | 0.2 | 1.5324 | | 0.9769 | | 44.3 | * | P |
| Calcium | | 172469.1032 | | 95581.3086 | | 57.4 | * | P |
| Chromium | | 14.7967 | | 16.0303 | | 8 | | P |
| Cobalt | 2.4 | 2.9439 | | 5.4546 | | 59.8 | * | P |
| Copper | | 44.2582 | | 39.2627 | | 12 | | P |
| Iron | | 32090.4662 | | 28323.4063 | | 12.5 | | P |
| Lead | | 430.0864 | | 246.3173 | | 54.3 | * | P |
| Magnesium | | 22972.0975 | | 14419.2408 | | 45.7 | * | P |
| Manganese | | 1606.2955 | | 1107.8852 | | 36.7 | * | P |
| Nickel | 2.4 | 11.8695 | | 19.9715 | | 50.9 | * | P |
| Potassium | | 1530.9470 | | 1152.2926 | | 28.2 | * | P |
| Selenium | 1.4 | 5.0246 | | 3.2259 | | 43.6 | * | P |
| Silver | | 0.0989 | B | 0.0610 | U | 200 | | P |
| Sodium | | 626.0439 | | 378.8930 | | 49.2 | * | P |
| Thallium | 0.9 | 3.0989 | | 1.5595 | | 66.1 | * | P |
| Vanadium | 2.4 | 10.4155 | | 14.0065 | | 29.4 | * | P |
| Zinc | | 591.5086 | | 366.9335 | | 46.9 | * | P |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Preparation Blank Matrix (soil/water): SOIL

Method Blank ID: **MB-68351**

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

**OPTIMA3_121001A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/01/12 11:01 | C | 10/01/12 11:41 | C | 10/01/12 12:18 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 66.0 | U | 66.0 | U | 66.0 | U | 66.0 | U | 1.367 | B | P |
| Antimony | 9.3 | U | 9.3 | U | 9.3 | U | 9.3 | U | 0.684 | B | P |
| Arsenic | 4.3 | U | 4.3 | U | 4.3 | U | 4.3 | U | 0.410 | U | P |
| Barium | 1.6 | B | 1.1 | U | 1.9 | B | 1.4 | B | 0.036 | B | P |
| Beryllium | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U | 0.002 | U | P |
| Cadmium | 0.9 | U | 0.9 | U | 0.9 | U | 0.9 | U | 0.015 | U | P |
| Calcium | 110.0 | U | 110.0 | U | 110.0 | U | 110.0 | U | 6.100 | U | P |
| Chromium | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.030 | B | P |
| Cobalt | 0.7 | U | 0.7 | U | 0.7 | U | 0.7 | U | 0.044 | U | P |
| Copper | 3.6 | U | 3.6 | U | 3.6 | U | 3.6 | U | 0.166 | B | P |
| Iron | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U | 1.794 | B | P |
| Lead | 4.2 | U | 4.2 | U | 4.2 | U | 4.2 | U | 0.170 | U | P |
| Magnesium | 76.0 | U | 76.0 | U | 76.0 | U | 76.0 | U | 0.630 | U | P |
| Manganese | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 0.130 | U | P |
| Nickel | 0.9 | U | 0.8 | U | 0.8 | U | 0.8 | U | 0.043 | U | P |
| Potassium | 76.6 | B | 114.9 | B | 174.6 | B | 96.0 | B | 3.400 | U | P |
| Selenium | 12.0 | U | 12.0 | U | 12.0 | U | 12.0 | U | 0.640 | U | P |
| Silver | 11.4 | B | 6.9 | U | 6.9 | U | 6.9 | U | 0.064 | U | P |
| Sodium | 34.6 | B | 29.0 | U | 34.2 | B | 29.0 | U | 1.100 | U | P |
| Thallium | 6.2 | U | 6.2 | U | 6.2 | U | 6.2 | U | 0.220 | U | P |
| Vanadium | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 0.060 | U | P |
| Zinc | 4.9 | U | 4.9 | U | 4.9 | U | 4.9 | U | 0.189 | B | P |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121001A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/01/12 12:47 | C | 10/01/12 13:24 | C | 10/01/12 14:04 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 66.0 | U | 66.0 | U | 66.0 | U | | | P |
| Antimony | | | 9.3 | U | 9.3 | U | 9.3 | U | | | P |
| Arsenic | | | 4.3 | U | 4.8 | B | 4.3 | U | | | P |
| Barium | | | 1.5 | B | 1.1 | U | 1.3 | B | | | P |
| Beryllium | | | 0.3 | U | 0.3 | U | 0.3 | U | | | P |
| Cadmium | | | 0.9 | U | 0.9 | U | 0.9 | U | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | 110.0 | U | | | P |
| Chromium | | | 0.6 | U | 0.6 | U | 0.6 | U | | | P |
| Cobalt | | | 0.7 | U | 0.7 | U | 0.7 | U | | | P |
| Copper | | | 3.6 | U | 3.6 | U | 3.6 | U | | | P |
| Iron | | | 31.0 | U | 31.0 | U | 31.0 | U | | | P |
| Lead | | | 4.2 | U | 4.2 | U | 4.2 | U | | | P |
| Magnesium | | | 76.0 | U | 76.0 | U | 76.0 | U | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |
| Nickel | | | 0.8 | U | 0.8 | U | 0.8 | U | | | P |
| Potassium | | | 123.8 | B | 93.7 | B | 182.7 | B | | | P |
| Selenium | | | 12.0 | U | 12.0 | U | 12.0 | U | | | P |
| Silver | | | 6.9 | U | 6.9 | U | 6.9 | U | | | P |
| Sodium | | | 29.0 | U | 29.0 | U | 29.0 | U | | | P |
| Thallium | | | 6.2 | U | 6.2 | U | 6.2 | U | | | P |
| Vanadium | | | 1.1 | U | 1.1 | U | 1.1 | U | | | P |
| Zinc | | | 4.9 | U | 4.9 | U | 4.9 | U | | | P |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121001A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/01/12 14:40 | C | 10/01/12 15:17 | C | 10/01/12 15:50 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 66.0 | U | 66.0 | U | 66.0 | U | | | P |
| Antimony | | | 9.3 | U | 9.3 | U | 9.3 | U | | | P |
| Arsenic | | | 4.3 | U | 4.3 | U | | | | | P |
| Barium | | | 1.1 | U | 1.1 | U | | | | | P |
| Beryllium | | | 0.3 | U | 0.3 | U | | | | | P |
| Cadmium | | | 0.9 | U | 0.9 | U | | | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | 110.0 | U | | | P |
| Chromium | | | 0.6 | U | 0.6 | U | | | | | P |
| Cobalt | | | 0.7 | U | 0.7 | U | | | | | P |
| Copper | | | 3.6 | U | 3.6 | U | | | | | P |
| Iron | | | 34.7 | B | 31.0 | U | 31.0 | U | | | P |
| Lead | | | 4.2 | U | 4.2 | U | | | | | P |
| Magnesium | | | 76.0 | U | 76.0 | U | | | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |
| Nickel | | | 0.8 | U | 0.8 | U | | | | | P |
| Potassium | | | 209.0 | B | 121.3 | B | | | | | P |
| Selenium | | | 12.0 | U | 12.0 | U | | | | | P |
| Silver | | | 6.9 | U | 6.9 | U | | | | | P |
| Sodium | | | 29.0 | U | 29.0 | U | | | | | P |
| Thallium | | | 6.2 | U | 6.2 | U | | | | | P |
| Vanadium | | | 1.1 | U | 1.1 | U | | | | | P |
| Zinc | | | 6.3 | B | 6.9 | B | | | | | P |

U.S. EPA - CLP

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1966

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121001A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/01/12 16:27 | C | 10/01/12 17:00 | C | | C | | C | M |
| Aluminum | | | 66.0 | U | 66.0 | U | | | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | | | | | P |
| Iron | | | 31.0 | U | 31.0 | U | | | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | | | | | P |

Report Date:
11-Oct-12 17:55

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# *Laboratory Report*

CDM-Smith, Inc.
11 British American Blvd, Suite 200
Latham, NY 12110

Work Order: L1967
Project : BLCP Buffalo
Project #: D007621-1

Attn: John P. Blaum

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| L1967-01 | SB-10 0-4 | Soil | 18-Sep-12 08:35 | 20-Sep-12 08:40 |
| L1967-02 | SB-10 4-8 | Soil | 18-Sep-12 08:35 | 20-Sep-12 08:40 |
| L1967-03 | SB-10 8-12 | Soil | 18-Sep-12 08:35 | 20-Sep-12 08:40 |
| L1967-04 | SB-11 0-4 | Soil | 18-Sep-12 09:05 | 20-Sep-12 08:40 |
| L1967-05 | SB-11 4-8 | Soil | 18-Sep-12 09:05 | 20-Sep-12 08:40 |
| L1967-06 | SB-11 8-12 | Soil | 18-Sep-12 09:05 | 20-Sep-12 08:40 |
| L1967-07 | DUP 2 | Soil | 18-Sep-12 09:05 | 20-Sep-12 08:40 |
| L1967-08 | SB-12 0-4 | Soil | 18-Sep-12 09:35 | 20-Sep-12 08:40 |
| L1967-09 | SB-12 4-8 | Soil | 18-Sep-12 09:35 | 20-Sep-12 08:40 |
| L1967-10 | SB-12 8-12 | Soil | 18-Sep-12 09:35 | 20-Sep-12 08:40 |
| L1967-11 | SB-13 0-4 | Soil | 18-Sep-12 09:55 | 20-Sep-12 08:40 |
| L1967-12 | SB-13 4-8 | Soil | 18-Sep-12 09:55 | 20-Sep-12 08:40 |
| L1967-13 | SB-13 8-12 | Soil | 18-Sep-12 09:55 | 20-Sep-12 08:40 |
| L1967-14 | SB-14 0-4 | Soil | 18-Sep-12 10:45 | 20-Sep-12 08:40 |
| L1967-15 | SB-14 4-8 | Soil | 18-Sep-12 10:45 | 20-Sep-12 08:40 |
| L1967-16 | SB-14 8-12 | Soil | 18-Sep-12 10:45 | 20-Sep-12 08:40 |
| L1967-17 | SB-14 12-16 | Soil | 18-Sep-12 10:45 | 20-Sep-12 08:40 |
| L1967-18 | SB-14 16-20 | Soil | 18-Sep-12 10:45 | 20-Sep-12 08:40 |
| L1967-19 | SB-15 0-4 | Soil | 18-Sep-12 11:50 | 20-Sep-12 08:40 |
| L1967-20 | SB-16 0-4 | Soil | 18-Sep-12 13:15 | 20-Sep-12 08:40 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

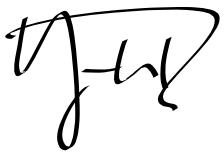
Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Florida | E87664 |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:



Yihai Ding
Laboratory Director



*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# * Data Summary Pack *

**175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499**
**www.spectrum-analytical.com**

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Identification and Analytical Requirements Summary

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1967

| Customer Sample ID | Laboratory Sample ID | Analytical Requirements | | | | |
|---|---|---|---|---|---|---|
| | | MSVOA Method # | MSSEMI Method # | GC* Method # | ME | Other |
| SB-10 0-4 | L1967-01 | | | | SW6010_S | |
| SB-10 4-8 | L1967-02 | | | | SW6010_S | |
| SB-10 8-12 | L1967-03 | | | | SW6010_S | |
| SB-11 0-4 | L1967-04 | | | | SW6010_S | |
| SB-11 4-8 | L1967-05 | | | | SW6010_S | |
| SB-11 8-12 | L1967-06 | | | | SW6010_S | |
| DUP 2 | L1967-07 | | | | SW6010_S | |
| SB-12 0-4 | L1967-08 | | | | SW6010_S | |
| SB-12 4-8 | L1967-09 | | | | SW6010_S | |
| SB-12 8-12 | L1967-10 | | | | SW6010_S | |
| SB-13 0-4 | L1967-11 | | | | SW6010_S | |
| SB-13 4-8 | L1967-12 | | | | SW6010_S | |
| SB-13 8-12 | L1967-13 | | | | SW6010_S | |
| SB-14 0-4 | L1967-14 | | | | SW6010_S | |
| SB-14 4-8 | L1967-15 | | | | SW6010_S | |
| SB-14 8-12 | L1967-16 | | | | SW6010_S | |
| SB-14 12-16 | L1967-17 | | | | SW6010_S | |
| SB-14 16-20 | L1967-18 | | | | SW6010_S | |
| SB-15 0-4 | L1967-19 | | | | SW6010_S | |
| SB-16 0-4 | L1967-20 | | | | SW6010_S | |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Preparation and Analysis Summary ME

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1967

| Laboratory Sample ID | Matrix | Metals Requested | Date Received By Lab | Date Analyzed |
|---|---|---|---|---|
| SW6010_S | | | | |
| L1967-01A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-02A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-03A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-04A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-05A | SL | SW6010_S | 9/20/2012 | 10/3/2012 |
| L1967-06A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-07A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-08A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-09A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-10A | SL | SW6010_S | 9/20/2012 | 10/3/2012 |
| L1967-11A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-12A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-13A | SL | SW6010_S | 9/20/2012 | 10/3/2012 |
| L1967-14A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-15A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-16A | SL | SW6010_S | 9/20/2012 | 10/3/2012 |
| L1967-17A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-18A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-19A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-20A | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-20ADUP | SL | SW6010_S | 9/20/2012 | 10/5/2012 |
| L1967-20AMS | SL | SW6010_S | 9/20/2012 | 10/3/2012 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1967**

**Client ID:** CDM_LATHAM
**Project:** CLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1967-01A | SB-10 0-4 | 09/18/2012 08:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-01A | SB-10 0-4 | 09/18/2012 08:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-02A | SB-10 4-8 | 09/18/2012 08:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-02A | SB-10 4-8 | 09/18/2012 08:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-03A | SB-10 8-12 | 09/18/2012 08:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-03A | SB-10 8-12 | 09/18/2012 08:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-04A | SB-11 0-4 | 09/18/2012 09:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-04A | SB-11 0-4 | 09/18/2012 09:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-05A | SB-11 4-8 | 09/18/2012 09:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-05A | SB-11 4-8 | 09/18/2012 09:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-06A | SB-11 8-12 | 09/18/2012 09:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-06A | SB-11 8-12 | 09/18/2012 09:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-07A | DUP 2 | 09/18/2012 09:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-07A | DUP 2 | 09/18/2012 09:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-08A | SB-12 0-4 | 09/18/2012 09:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-08A | SB-12 0-4 | 09/18/2012 09:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-09A | SB-12 4-8 | 09/18/2012 09:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-09A | SB-12 4-8 | 09/18/2012 09:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-10A | SB-12 8-12 | 09/18/2012 09:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-10A | SB-12 8-12 | 09/18/2012 09:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-11A | SB-13 0-4 | 09/18/2012 09:55 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1967**

**Client ID:** CDM_LATHAM
**Project:** CLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1967-11A | SB-13 0-4 | 09/18/2012 09:55 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-12A | SB-13 4-8 | 09/18/2012 09:55 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-12A | SB-13 4-8 | 09/18/2012 09:55 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-13A | SB-13 8-12 | 09/18/2012 09:55 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-13A | SB-13 8-12 | 09/18/2012 09:55 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-14A | SB-14 0-4 | 09/18/2012 10:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-14A | SB-14 0-4 | 09/18/2012 10:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-15A | SB-14 4-8 | 09/18/2012 10:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-15A | SB-14 4-8 | 09/18/2012 10:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-16A | SB-14 8-12 | 09/18/2012 10:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-16A | SB-14 8-12 | 09/18/2012 10:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-17A | SB-14 12-16 | 09/18/2012 10:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-17A | SB-14 12-16 | 09/18/2012 10:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-18A | SB-14 16-20 | 09/18/2012 10:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-18A | SB-14 16-20 | 09/18/2012 10:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-19A | SB-15 0-4 | 09/18/2012 11:50 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-19A | SB-15 0-4 | 09/18/2012 11:50 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1967-20A | SB-16 0-4 | 09/18/2012 13:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1967-20A | SB-16 0-4 | 09/18/2012 13:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# * Metals *

# REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM-Smith, Inc.

Project: BLCP Buffalo

Laboratory Workorder / SDG #: L1967

SW846 6010C

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 6010C.

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3050B.

## V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: OPTIMA3
Instrument Type: ICP
Description: Optima ICP-OES
Manufacturer: Perkin-Elmer
Model: 4300 DV

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

#### 2. Matrix spike (MS):

Matrix spikes were performed on sample: SB-16 0-4 (L1967-20AMS).

Percent recoveries were within the QC limits with the following exceptions:

SB-16 0-4 (L1967-20AMS), Spike sample recovery is below criteria for Antimony at 38% with criteria of (75-125), Nickel at 73% with criteria of (75-125), Selenium at 0% with criteria of (75-125) and Thallium at 22% with criteria of (75-125).

### D. Post Digestion Spike (PDS):

Post-digestion spike analysis was performed on sample: SB-16 0-4 (L1967-20APDS).

SB-16 0-4 (L1967-20APDS) for Antimony, Nickel, Selenium and Thallium due to recoveries of these elements outside of QC limits in the matrix spike.

### E. Duplicate sample:

Duplicate analyses were performed on sample: SB-16 0-4 (L1967-20ADUP).

Relative percent differences were within the QC limits with the following exceptions:

SB-16 0-4 (L1967-20ADUP), Duplicate analysis not within control limit for Antimony and Copper.

## F. Serial Dilution (SD):

Serial Dilution analyses were performed on sample: SB-16 0-4 (L1967-20ASD).

Percent differences were within the QC limits with the exception of the following:

SB-16 0-4 (L1967-20ASD), Serial Dilution analysis not within control limit for Arsenic, Cadmium, Cobalt, Lead, Magnesium, Nickel and Vanadium.

## G. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed: 

Date: 10/11/12

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

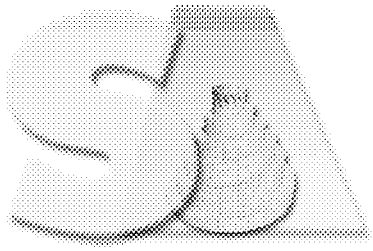
E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.



*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

DUP 2

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-07

Level (low/med): MED Date Received: 09/20/2012

% Solids: 66.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 25000 | | | P |
| 7440-36-0 | Antimony | 2.5 | | N* | P |
| 7440-38-2 | Arsenic | 93.7 | | E | P |
| 7440-39-3 | Barium | 252 | | | P |
| 7440-41-7 | Beryllium | 1.7 | | | P |
| 7440-43-9 | Cadmium | 6.7 | | E | P |
| 7440-70-2 | Calcium | 192000 | | | P |
| 7440-47-3 | Chromium | 56.5 | | | P |
| 7440-48-4 | Cobalt | 10.6 | | E | P |
| 7440-50-8 | Copper | 106 | | * | P |
| 7439-89-6 | Iron | 66700 | | | P |
| 7439-92-1 | Lead | 182 | | E | P |
| 7439-95-4 | Magnesium | 8040 | | E | P |
| 7439-96-5 | Manganese | 311 | | | P |
| 7440-02-0 | Nickel | 31.5 | | NE | P |
| 7440-09-7 | Potassium | 3730 | | | P |
| 7782-49-2 | Selenium | 8.4 | | N | P |
| 7440-22-4 | Silver | 5.3 | | | P |
| 7440-23-5 | Sodium | 345 | | | P |
| 7440-28-0 | Thallium | 8.7 | | N | P |
| 7440-62-2 | Vanadium | 49.9 | | E | P |
| 7440-66-6 | Zinc | 1050 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-10 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-01

Level (low/med): MED Date Received: 09/20/2012

% Solids: 83.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 26200 | | | P |
| 7440-36-0 | Antimony | 0.57 | B | N* | P |
| 7440-38-2 | Arsenic | 8.6 | | E | P |
| 7440-39-3 | Barium | 218 | | | P |
| 7440-41-7 | Beryllium | 4.5 | | | P |
| 7440-43-9 | Cadmium | 2.4 | | E | P |
| 7440-70-2 | Calcium | 135000 | | | P |
| 7440-47-3 | Chromium | 19.1 | | | P |
| 7440-48-4 | Cobalt | 4.5 | | E | P |
| 7440-50-8 | Copper | 55.0 | | * | P |
| 7439-89-6 | Iron | 39800 | | | P |
| 7439-92-1 | Lead | 553 | | E | P |
| 7439-95-4 | Magnesium | 25400 | | E | P |
| 7439-96-5 | Manganese | 1800 | | | P |
| 7440-02-0 | Nickel | 16.8 | | NE | P |
| 7440-09-7 | Potassium | 1550 | | | P |
| 7782-49-2 | Selenium | 5.4 | | N | P |
| 7440-22-4 | Silver | 0.37 | B | | P |
| 7440-23-5 | Sodium | 618 | | | P |
| 7440-28-0 | Thallium | 3.2 | | N | P |
| 7440-62-2 | Vanadium | 11.9 | | E | P |
| 7440-66-6 | Zinc | 754 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-10 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-02

Level (low/med): MED Date Received: 09/20/2012

% Solids: 83.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 12100 | | | P |
| 7440-36-0 | Antimony | 0.40 | U | N* | P |
| 7440-38-2 | Arsenic | 10.7 | | E | P |
| 7440-39-3 | Barium | 53.2 | | | P |
| 7440-41-7 | Beryllium | 0.77 | | | P |
| 7440-43-9 | Cadmium | 0.77 | | E | P |
| 7440-70-2 | Calcium | 77600 | | | P |
| 7440-47-3 | Chromium | 31.7 | | | P |
| 7440-48-4 | Cobalt | 11.0 | | E | P |
| 7440-50-8 | Copper | 39.2 | | * | P |
| 7439-89-6 | Iron | 39800 | | | P |
| 7439-92-1 | Lead | 49.1 | | E | P |
| 7439-95-4 | Magnesium | 7140 | | E | P |
| 7439-96-5 | Manganese | 587 | | | P |
| 7440-02-0 | Nickel | 35.7 | | NE | P |
| 7440-09-7 | Potassium | 1480 | | | P |
| 7782-49-2 | Selenium | 2.4 | | N | P |
| 7440-22-4 | Silver | 0.093 | B | | P |
| 7440-23-5 | Sodium | 157 | | | P |
| 7440-28-0 | Thallium | 0.23 | U | N | P |
| 7440-62-2 | Vanadium | 22.4 | | E | P |
| 7440-66-6 | Zinc | 173 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-10 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-03

Level (low/med): MED Date Received: 09/20/2012

% Solids: 58.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 26700 | | | P |
| 7440-36-0 | Antimony | 1.2 | B | N* | P |
| 7440-38-2 | Arsenic | 82.0 | | E | P |
| 7440-39-3 | Barium | 157 | | | P |
| 7440-41-7 | Beryllium | 1.8 | | | P |
| 7440-43-9 | Cadmium | 8.1 | | E | P |
| 7440-70-2 | Calcium | 214000 | | | P |
| 7440-47-3 | Chromium | 50.5 | | | P |
| 7440-48-4 | Cobalt | 13.0 | | E | P |
| 7440-50-8 | Copper | 106 | | * | P |
| 7439-89-6 | Iron | 42700 | | | P |
| 7439-92-1 | Lead | 167 | | E | P |
| 7439-95-4 | Magnesium | 7070 | | E | P |
| 7439-96-5 | Manganese | 879 | | | P |
| 7440-02-0 | Nickel | 26.7 | | NE | P |
| 7440-09-7 | Potassium | 17300 | | | P |
| 7782-49-2 | Selenium | 17.9 | | N | P |
| 7440-22-4 | Silver | 7.2 | | | P |
| 7440-23-5 | Sodium | 903 | | | P |
| 7440-28-0 | Thallium | 4.8 | | N | P |
| 7440-62-2 | Vanadium | 47.1 | | E | P |
| 7440-66-6 | Zinc | 817 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-11 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-04

Level (low/med): MED Date Received: 09/20/2012

% Solids: 75.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 11200 | | | P |
| 7440-36-0 | Antimony | 7.8 | | N* | P |
| 7440-38-2 | Arsenic | 22.9 | | E | P |
| 7440-39-3 | Barium | 136 | | | P |
| 7440-41-7 | Beryllium | 1.8 | | | P |
| 7440-43-9 | Cadmium | 18.6 | | E | P |
| 7440-70-2 | Calcium | 48500 | | | P |
| 7440-47-3 | Chromium | 50.5 | | | P |
| 7440-48-4 | Cobalt | 9.1 | | E | P |
| 7440-50-8 | Copper | 181 | | * | P |
| 7439-89-6 | Iron | 257000 | | | P |
| 7439-92-1 | Lead | 3560 | | E | P |
| 7439-95-4 | Magnesium | 8500 | | E | P |
| 7439-96-5 | Manganese | 7940 | | | P |
| 7440-02-0 | Nickel | 29.9 | | NE | P |
| 7440-09-7 | Potassium | 833 | | | P |
| 7782-49-2 | Selenium | 0.84 | U | N | P |
| 7440-22-4 | Silver | 1.8 | B | | P |
| 7440-23-5 | Sodium | 208 | | | P |
| 7440-28-0 | Thallium | 0.29 | U | N | P |
| 7440-62-2 | Vanadium | 13.5 | | E | P |
| 7440-66-6 | Zinc | 6150 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-11 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-05

Level (low/med): MED Date Received: 09/20/2012

% Solids: 71.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 25700 | | | P |
| 7440-36-0 | Antimony | 1.4 | B | N* | P |
| 7440-38-2 | Arsenic | 76.1 | | E | P |
| 7440-39-3 | Barium | 282 | | | P |
| 7440-41-7 | Beryllium | 1.7 | | | P |
| 7440-43-9 | Cadmium | 6.6 | | E | P |
| 7440-70-2 | Calcium | 194000 | | | P |
| 7440-47-3 | Chromium | 67.3 | | | P |
| 7440-48-4 | Cobalt | 10.6 | | E | P |
| 7440-50-8 | Copper | 59.1 | | * | P |
| 7439-89-6 | Iron | 25100 | | | P |
| 7439-92-1 | Lead | 217 | | E | P |
| 7439-95-4 | Magnesium | 21000 | | E | P |
| 7439-96-5 | Manganese | 521 | | | P |
| 7440-02-0 | Nickel | 29.1 | | NE | P |
| 7440-09-7 | Potassium | 6220 | | | P |
| 7782-49-2 | Selenium | 8.1 | | N | P |
| 7440-22-4 | Silver | 5.5 | | | P |
| 7440-23-5 | Sodium | 516 | | | P |
| 7440-28-0 | Thallium | 8.2 | | N | P |
| 7440-62-2 | Vanadium | 37.4 | | E | P |
| 7440-66-6 | Zinc | 1080 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-11 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-06

Level (low/med): MED Date Received: 09/20/2012

% Solids: 61.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 28800 | | | P |
| 7440-36-0 | Antimony | 3.2 | | N* | P |
| 7440-38-2 | Arsenic | 126 | | E | P |
| 7440-39-3 | Barium | 285 | | | P |
| 7440-41-7 | Beryllium | 2.1 | | | P |
| 7440-43-9 | Cadmium | 8.4 | | E | P |
| 7440-70-2 | Calcium | 203000 | | | P |
| 7440-47-3 | Chromium | 61.7 | | | P |
| 7440-48-4 | Cobalt | 13.7 | | E | P |
| 7440-50-8 | Copper | 98.9 | | * | P |
| 7439-89-6 | Iron | 46000 | | | P |
| 7439-92-1 | Lead | 233 | | E | P |
| 7439-95-4 | Magnesium | 4440 | | E | P |
| 7439-96-5 | Manganese | 210 | | | P |
| 7440-02-0 | Nickel | 40.1 | | NE | P |
| 7440-09-7 | Potassium | 19700 | | | P |
| 7782-49-2 | Selenium | 11.0 | | N | P |
| 7440-22-4 | Silver | 7.3 | | | P |
| 7440-23-5 | Sodium | 559 | | | P |
| 7440-28-0 | Thallium | 10.1 | | N | P |
| 7440-62-2 | Vanadium | 47.1 | | E | P |
| 7440-66-6 | Zinc | 1330 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-12 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-08

Level (low/med): MED Date Received: 09/20/2012

% Solids: 80.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 7730 | | | P |
| 7440-36-0 | Antimony | 4.7 | | N* | P |
| 7440-38-2 | Arsenic | 10.5 | | E | P |
| 7440-39-3 | Barium | 86.5 | | | P |
| 7440-41-7 | Beryllium | 1.4 | | | P |
| 7440-43-9 | Cadmium | 17.0 | | E | P |
| 7440-70-2 | Calcium | 30100 | | | P |
| 7440-47-3 | Chromium | 63.7 | | | P |
| 7440-48-4 | Cobalt | 7.1 | | E | P |
| 7440-50-8 | Copper | 176 | | * | P |
| 7439-89-6 | Iron | 229000 | | | P |
| 7439-92-1 | Lead | 3670 | | E | P |
| 7439-95-4 | Magnesium | 5380 | | E | P |
| 7439-96-5 | Manganese | 5100 | | | P |
| 7440-02-0 | Nickel | 44.7 | | NE | P |
| 7440-09-7 | Potassium | 912 | | | P |
| 7782-49-2 | Selenium | 0.65 | U | N | P |
| 7440-22-4 | Silver | 4.0 | | | P |
| 7440-23-5 | Sodium | 158 | | | P |
| 7440-28-0 | Thallium | 0.22 | U | N | P |
| 7440-62-2 | Vanadium | 10.7 | | E | P |
| 7440-66-6 | Zinc | 6760 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-12 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-09

Level (low/med): MED Date Received: 09/20/2012

% Solids: 83.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 5660 | | | P |
| 7440-36-0 | Antimony | 2.1 | | N* | P |
| 7440-38-2 | Arsenic | 17.9 | | E | P |
| 7440-39-3 | Barium | 70.5 | | | P |
| 7440-41-7 | Beryllium | 1.2 | | | P |
| 7440-43-9 | Cadmium | 9.8 | | E | P |
| 7440-70-2 | Calcium | 30000 | | | P |
| 7440-47-3 | Chromium | 19.1 | | | P |
| 7440-48-4 | Cobalt | 7.3 | | E | P |
| 7440-50-8 | Copper | 29.6 | | * | P |
| 7439-89-6 | Iron | 250000 | | | P |
| 7439-92-1 | Lead | 261 | | E | P |
| 7439-95-4 | Magnesium | 7570 | | E | P |
| 7439-96-5 | Manganese | 6760 | | | P |
| 7440-02-0 | Nickel | 11.5 | | NE | P |
| 7440-09-7 | Potassium | 934 | | | P |
| 7782-49-2 | Selenium | 0.48 | U | N | P |
| 7440-22-4 | Silver | 0.050 | B | | P |
| 7440-23-5 | Sodium | 164 | | | P |
| 7440-28-0 | Thallium | 0.17 | U | N | P |
| 7440-62-2 | Vanadium | 10.3 | | E | P |
| 7440-66-6 | Zinc | 711 | | | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-12 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-10

Level (low/med): MED Date Received: 09/20/2012

% Solids: 62.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 25500 | | | P |
| 7440-36-0 | Antimony | 1.5 | B | N* | P |
| 7440-38-2 | Arsenic | 64.1 | | E | P |
| 7440-39-3 | Barium | 367 | | | P |
| 7440-41-7 | Beryllium | 2.0 | | | P |
| 7440-43-9 | Cadmium | 6.8 | | E | P |
| 7440-70-2 | Calcium | 219000 | | | P |
| 7440-47-3 | Chromium | 60.4 | | | P |
| 7440-48-4 | Cobalt | 13.0 | | E | P |
| 7440-50-8 | Copper | 74.7 | | * | P |
| 7439-89-6 | Iron | 30100 | | | P |
| 7439-92-1 | Lead | 227 | | E | P |
| 7439-95-4 | Magnesium | 5500 | | E | P |
| 7439-96-5 | Manganese | 526 | | | P |
| 7440-02-0 | Nickel | 33.4 | | NE | P |
| 7440-09-7 | Potassium | 11100 | | | P |
| 7782-49-2 | Selenium | 10.9 | | N | P |
| 7440-22-4 | Silver | 5.0 | | | P |
| 7440-23-5 | Sodium | 466 | | | P |
| 7440-28-0 | Thallium | 6.1 | | N | P |
| 7440-62-2 | Vanadium | 44.3 | | E | P |
| 7440-66-6 | Zinc | 1310 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-13 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-11

Level (low/med): MED Date Received: 09/20/2012

% Solids: 84.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 11100 | | | P |
| 7440-36-0 | Antimony | 1.6 | | N* | P |
| 7440-38-2 | Arsenic | 11.3 | | E | P |
| 7440-39-3 | Barium | 76.8 | | | P |
| 7440-41-7 | Beryllium | 1.2 | | | P |
| 7440-43-9 | Cadmium | 4.2 | | E | P |
| 7440-70-2 | Calcium | 58000 | | | P |
| 7440-47-3 | Chromium | 63.6 | | | P |
| 7440-48-4 | Cobalt | 9.7 | | E | P |
| 7440-50-8 | Copper | 94.7 | | * | P |
| 7439-89-6 | Iron | 81900 | | | P |
| 7439-92-1 | Lead | 947 | | E | P |
| 7439-95-4 | Magnesium | 8690 | | E | P |
| 7439-96-5 | Manganese | 1610 | | | P |
| 7440-02-0 | Nickel | 43.9 | | NE | P |
| 7440-09-7 | Potassium | 1170 | | | P |
| 7782-49-2 | Selenium | 3.2 | | N | P |
| 7440-22-4 | Silver | 0.63 | B | | P |
| 7440-23-5 | Sodium | 192 | | | P |
| 7440-28-0 | Thallium | 0.47 | B | N | P |
| 7440-62-2 | Vanadium | 19.7 | | E | P |
| 7440-66-6 | Zinc | 1610 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-13 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-12

Level (low/med): MED Date Received: 09/20/2012

% Solids: 81.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 13800 | | | P |
| 7440-36-0 | Antimony | 3.7 | | N* | P |
| 7440-38-2 | Arsenic | 17.8 | | E | P |
| 7440-39-3 | Barium | 162 | | | P |
| 7440-41-7 | Beryllium | 2.6 | | | P |
| 7440-43-9 | Cadmium | 14.3 | | E | P |
| 7440-70-2 | Calcium | 74700 | | | P |
| 7440-47-3 | Chromium | 98.5 | | | P |
| 7440-48-4 | Cobalt | 8.8 | | E | P |
| 7440-50-8 | Copper | 161 | | * | P |
| 7439-89-6 | Iron | 180000 | | | P |
| 7439-92-1 | Lead | 2350 | | E | P |
| 7439-95-4 | Magnesium | 14800 | | E | P |
| 7439-96-5 | Manganese | 4290 | | | P |
| 7440-02-0 | Nickel | 51.9 | | NE | P |
| 7440-09-7 | Potassium | 1900 | | | P |
| 7782-49-2 | Selenium | 0.73 | U | N | P |
| 7440-22-4 | Silver | 1.1 | B | | P |
| 7440-23-5 | Sodium | 448 | | | P |
| 7440-28-0 | Thallium | 0.25 | U | N | P |
| 7440-62-2 | Vanadium | 17.1 | | E | P |
| 7440-66-6 | Zinc | 3830 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-13 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-13

Level (low/med): MED Date Received: 09/20/2012

% Solids: 57.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 36800 | | | P |
| 7440-36-0 | Antimony | 2.0 | | N* | P |
| 7440-38-2 | Arsenic | 101 | | E | P |
| 7440-39-3 | Barium | 474 | | | P |
| 7440-41-7 | Beryllium | 2.0 | | | P |
| 7440-43-9 | Cadmium | 9.4 | | E | P |
| 7440-70-2 | Calcium | 325000 | | | P |
| 7440-47-3 | Chromium | 120 | | | P |
| 7440-48-4 | Cobalt | 17.3 | | E | P |
| 7440-50-8 | Copper | 98.7 | | * | P |
| 7439-89-6 | Iron | 30500 | | | P |
| 7439-92-1 | Lead | 241 | | E | P |
| 7439-95-4 | Magnesium | 8230 | | E | P |
| 7439-96-5 | Manganese | 267 | | | P |
| 7440-02-0 | Nickel | 42.2 | | NE | P |
| 7440-09-7 | Potassium | 11500 | | | P |
| 7782-49-2 | Selenium | 11.4 | | N | P |
| 7440-22-4 | Silver | 7.2 | | | P |
| 7440-23-5 | Sodium | 572 | | | P |
| 7440-28-0 | Thallium | 8.8 | | N | P |
| 7440-62-2 | Vanadium | 67.8 | | E | P |
| 7440-66-6 | Zinc | 1460 | | | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-14 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-14

Level (low/med): MED Date Received: 09/20/2012

% Solids: 85.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 12800 | | | P |
| 7440-36-0 | Antimony | 2.0 | | N* | P |
| 7440-38-2 | Arsenic | 12.8 | | E | P |
| 7440-39-3 | Barium | 128 | | | P |
| 7440-41-7 | Beryllium | 1.6 | | | P |
| 7440-43-9 | Cadmium | 6.2 | | E | P |
| 7440-70-2 | Calcium | 52600 | | | P |
| 7440-47-3 | Chromium | 63.6 | | | P |
| 7440-48-4 | Cobalt | 6.7 | | E | P |
| 7440-50-8 | Copper | 91.0 | | * | P |
| 7439-89-6 | Iron | 95100 | | | P |
| 7439-92-1 | Lead | 1380 | | E | P |
| 7439-95-4 | Magnesium | 13500 | | E | P |
| 7439-96-5 | Manganese | 1920 | | | P |
| 7440-02-0 | Nickel | 34.5 | | NE | P |
| 7440-09-7 | Potassium | 1980 | | | P |
| 7782-49-2 | Selenium | 2.7 | | N | P |
| 7440-22-4 | Silver | 1.8 | | | P |
| 7440-23-5 | Sodium | 359 | | | P |
| 7440-28-0 | Thallium | 0.65 | B | N | P |
| 7440-62-2 | Vanadium | 21.4 | | E | P |
| 7440-66-6 | Zinc | 1500 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-14 12-16

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-17

Level (low/med): MED Date Received: 09/20/2012

% Solids: 76.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 8500 | | | P |
| 7440-36-0 | Antimony | 5.5 | | N* | P |
| 7440-38-2 | Arsenic | 13.1 | | E | P |
| 7440-39-3 | Barium | 84.6 | | | P |
| 7440-41-7 | Beryllium | 1.6 | | | P |
| 7440-43-9 | Cadmium | 22.7 | | E | P |
| 7440-70-2 | Calcium | 25600 | | | P |
| 7440-47-3 | Chromium | 109 | | | P |
| 7440-48-4 | Cobalt | 8.8 | | E | P |
| 7440-50-8 | Copper | 318 | | * | P |
| 7439-89-6 | Iron | 209000 | | | P |
| 7439-92-1 | Lead | 8640 | | E | P |
| 7439-95-4 | Magnesium | 7160 | | E | P |
| 7439-96-5 | Manganese | 4900 | | | P |
| 7440-02-0 | Nickel | 71.6 | | NE | P |
| 7440-09-7 | Potassium | 640 | | | P |
| 7782-49-2 | Selenium | 15.2 | | N | P |
| 7440-22-4 | Silver | 4.3 | | | P |
| 7440-23-5 | Sodium | 177 | | | P |
| 7440-28-0 | Thallium | 0.23 | U | N | P |
| 7440-62-2 | Vanadium | 11.5 | | E | P |
| 7440-66-6 | Zinc | 8620 | | | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-14 16-20

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-18

Level (low/med): MED Date Received: 09/20/2012

% Solids: 69.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 21800 | | | P |
| 7440-36-0 | Antimony | 1.5 | | N* | P |
| 7440-38-2 | Arsenic | 73.8 | | E | P |
| 7440-39-3 | Barium | 187 | | | P |
| 7440-41-7 | Beryllium | 1.6 | | | P |
| 7440-43-9 | Cadmium | 5.6 | | E | P |
| 7440-70-2 | Calcium | 161000 | | | P |
| 7440-47-3 | Chromium | 49.5 | | | P |
| 7440-48-4 | Cobalt | 9.8 | | E | P |
| 7440-50-8 | Copper | 87.8 | | * | P |
| 7439-89-6 | Iron | 91100 | | | P |
| 7439-92-1 | Lead | 212 | | E | P |
| 7439-95-4 | Magnesium | 12400 | | E | P |
| 7439-96-5 | Manganese | 693 | | | P |
| 7440-02-0 | Nickel | 30.7 | | NE | P |
| 7440-09-7 | Potassium | 5810 | | | P |
| 7782-49-2 | Selenium | 7.3 | | N | P |
| 7440-22-4 | Silver | 3.0 | | | P |
| 7440-23-5 | Sodium | 562 | | | P |
| 7440-28-0 | Thallium | 2.7 | | N | P |
| 7440-62-2 | Vanadium | 40.9 | | E | P |
| 7440-66-6 | Zinc | 842 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-14 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-15

Level (low/med): MED Date Received: 09/20/2012

% Solids: 83.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 22500 | | | P |
| 7440-36-0 | Antimony | 0.54 | B | N* | P |
| 7440-38-2 | Arsenic | 8.6 | | E | P |
| 7440-39-3 | Barium | 211 | | | P |
| 7440-41-7 | Beryllium | 2.8 | | | P |
| 7440-43-9 | Cadmium | 0.80 | | E | P |
| 7440-70-2 | Calcium | 117000 | | | P |
| 7440-47-3 | Chromium | 39.2 | | | P |
| 7440-48-4 | Cobalt | 4.5 | | E | P |
| 7440-50-8 | Copper | 33.3 | | * | P |
| 7439-89-6 | Iron | 38500 | | | P |
| 7439-92-1 | Lead | 116 | | E | P |
| 7439-95-4 | Magnesium | 15800 | | E | P |
| 7439-96-5 | Manganese | 3780 | | | P |
| 7440-02-0 | Nickel | 14.4 | | NE | P |
| 7440-09-7 | Potassium | 2240 | | | P |
| 7782-49-2 | Selenium | 4.9 | | N | P |
| 7440-22-4 | Silver | 0.062 | U | | P |
| 7440-23-5 | Sodium | 631 | | | P |
| 7440-28-0 | Thallium | 6.3 | | N | P |
| 7440-62-2 | Vanadium | 21.5 | | E | P |
| 7440-66-6 | Zinc | 198 | | | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-14 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-16

Level (low/med): MED Date Received: 09/20/2012

% Solids: 82.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 26500 | | | P |
| 7440-36-0 | Antimony | 0.42 | U | N* | P |
| 7440-38-2 | Arsenic | 6.3 | | E | P |
| 7440-39-3 | Barium | 225 | | | P |
| 7440-41-7 | Beryllium | 3.0 | | | P |
| 7440-43-9 | Cadmium | 0.44 | | E | P |
| 7440-70-2 | Calcium | 128000 | | | P |
| 7440-47-3 | Chromium | 32.9 | | | P |
| 7440-48-4 | Cobalt | 4.2 | | E | P |
| 7440-50-8 | Copper | 30.7 | | * | P |
| 7439-89-6 | Iron | 19200 | | | P |
| 7439-92-1 | Lead | 93.4 | | E | P |
| 7439-95-4 | Magnesium | 19700 | | E | P |
| 7439-96-5 | Manganese | 3960 | | | P |
| 7440-02-0 | Nickel | 15.6 | | NE | P |
| 7440-09-7 | Potassium | 3150 | | | P |
| 7782-49-2 | Selenium | 5.0 | | N | P |
| 7440-22-4 | Silver | 0.071 | U | | P |
| 7440-23-5 | Sodium | 829 | | | P |
| 7440-28-0 | Thallium | 8.1 | | N | P |
| 7440-62-2 | Vanadium | 23.9 | | E | P |
| 7440-66-6 | Zinc | 184 | | | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-15 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-19

Level (low/med): MED Date Received: 09/20/2012

% Solids: 79.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 8210 | | | P |
| 7440-36-0 | Antimony | 3.2 | | N* | P |
| 7440-38-2 | Arsenic | 13.8 | | E | P |
| 7440-39-3 | Barium | 104 | | | P |
| 7440-41-7 | Beryllium | 1.7 | | | P |
| 7440-43-9 | Cadmium | 11.7 | | E | P |
| 7440-70-2 | Calcium | 31500 | | | P |
| 7440-47-3 | Chromium | 186 | | | P |
| 7440-48-4 | Cobalt | 10.4 | | E | P |
| 7440-50-8 | Copper | 227 | | * | P |
| 7439-89-6 | Iron | 189000 | | | P |
| 7439-92-1 | Lead | 2560 | | E | P |
| 7439-95-4 | Magnesium | 9620 | | E | P |
| 7439-96-5 | Manganese | 3750 | | | P |
| 7440-02-0 | Nickel | 101 | | NE | P |
| 7440-09-7 | Potassium | 789 | | | P |
| 7782-49-2 | Selenium | 0.76 | U | N | P |
| 7440-22-4 | Silver | 2.4 | | | P |
| 7440-23-5 | Sodium | 127 | | | P |
| 7440-28-0 | Thallium | 0.26 | U | N | P |
| 7440-62-2 | Vanadium | 21.3 | | E | P |
| 7440-66-6 | Zinc | 2780 | | | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-16 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Lab Sample ID: L1967-20

Level (low/med): MED Date Received: 09/20/2012

% Solids: 79.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 8850 | | | P |
| 7440-36-0 | Antimony | 3.6 | | N* | P |
| 7440-38-2 | Arsenic | 14.7 | | E | P |
| 7440-39-3 | Barium | 124 | | | P |
| 7440-41-7 | Beryllium | 1.6 | | | P |
| 7440-43-9 | Cadmium | 14.6 | | E | P |
| 7440-70-2 | Calcium | 36900 | | | P |
| 7440-47-3 | Chromium | 244 | | | P |
| 7440-48-4 | Cobalt | 11.2 | | E | P |
| 7440-50-8 | Copper | 590 | | * | P |
| 7439-89-6 | Iron | 216000 | | | P |
| 7439-92-1 | Lead | 2970 | | E | P |
| 7439-95-4 | Magnesium | 9620 | | E | P |
| 7439-96-5 | Manganese | 4490 | | | P |
| 7440-02-0 | Nickel | 107 | | NE | P |
| 7440-09-7 | Potassium | 2160 | | | P |
| 7782-49-2 | Selenium | 0.60 | U | N | P |
| 7440-22-4 | Silver | 1.2 | B | | P |
| 7440-23-5 | Sodium | 249 | | | P |
| 7440-28-0 | Thallium | 0.21 | U | N | P |
| 7440-62-2 | Vanadium | 17.9 | | E | P |
| 7440-66-6 | Zinc | 6380 | | | P |

Comments:

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7

LABORATORY CONTROL SAMPLE

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Solid LCS Source: LCS(D) ID:

Aqueous LCS Source: **LCS-68405**

| Analyte | Aqueous (ug/L) True | Found | %R | Solid (mg/Kg) True | Found | C | Limits | | %R |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 455.0 | 466.1 | | 364 | 546.0 | 102.4 |
| Antimony | | | | 22.8 | 24.2 | | 18.2 | 27.3 | 106.1 |
| Arsenic | | | | 22.8 | 22.8 | | 18.2 | 27.3 | 100.0 |
| Barium | | | | 455.0 | 475.2 | | 364 | 546.0 | 104.4 |
| Beryllium | | | | 11.4 | 11.7 | | 9.1 | 13.6 | 102.6 |
| Cadmium | | | | 11.4 | 11.4 | | 9.1 | 13.6 | 100.0 |
| Calcium | | | | 1135.0 | 1121.5 | | 908 | 1362.0 | 98.8 |
| Chromium | | | | 45.5 | 46.9 | | 36.4 | 54.6 | 103.1 |
| Cobalt | | | | 113.5 | 117.7 | | 90.8 | 136.2 | 103.7 |
| Copper | | | | 56.5 | 56.7 | | 45.2 | 67.8 | 100.4 |
| Iron | | | | 227.5 | 241.2 | | 182 | 273.0 | 106.0 |
| Lead | | | | 22.8 | 23.1 | | 18.2 | 27.3 | 101.3 |
| Magnesium | | | | 1135.0 | 1169.7 | | 908 | 1362.0 | 103.1 |
| Manganese | | | | 113.5 | 117.9 | | 90.8 | 136.2 | 103.9 |
| Nickel | | | | 113.5 | 117.6 | | 90.8 | 136.2 | 103.6 |
| Potassium | | | | 1135.0 | 1168.8 | | 908 | 1362.0 | 103.0 |
| Selenium | | | | 22.8 | 21.6 | | 18.2 | 27.3 | 94.7 |
| Silver | | | | 56.5 | 57.2 | | 42.4 | 67.8 | 101.2 |
| Sodium | | | | 1135.0 | 1120.4 | | 908 | 1362.0 | 98.7 |
| Thallium | | | | 22.8 | 21.0 | | 18.2 | 27.3 | 92.1 |
| Vanadium | | | | 113.5 | 114.4 | | 90.8 | 136.2 | 100.8 |
| Zinc | | | | 113.5 | 112.8 | | 90.8 | 136.2 | 99.4 |

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5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

SB-16 0-4S

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Level (low/med): MED

% Solids for Sample: 79.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | 75-125 | 11.8 | | 3.6 | | 21.4 | 38 | N | P |
| Arsenic | 75-125 | 35.4 | | 14.7 | | 21.4 | 97 | | P |
| Barium | 75-125 | 513 | | 124 | | 428 | 91 | | P |
| Beryllium | 75-125 | 11.3 | | 1.6 | | 10.7 | 91 | | P |
| Cadmium | 75-125 | 24.9 | | 14.6 | | 10.7 | 96 | | P |
| Chromium | | 243 | | 244 | | 42.8 | -3 | | P |
| Cobalt | 75-125 | 102 | | 11.2 | | 107 | 85 | | P |
| Copper | | 358 | | 590 | | 53.2 | -436 | | P |
| Lead | | 3230 | | 2970 | | 21.4 | 1254 | | P |
| Nickel | 75-125 | 184 | | 107 | | 107 | 73 | N | P |
| Selenium | 75-125 | 0.60 | U | 0.60 | U | 21.4 | 0 | N | P |
| Silver | 75-125 | 58.0 | | 1.2 | B | 53.2 | 107 | | P |
| Thallium | 75-125 | 4.7 | | 0.21 | U | 21.4 | 22 | N | P |
| Vanadium | 75-125 | 120 | | 17.9 | | 107 | 96 | | P |
| Zinc | | 7300 | | 6380 | | 107 | 867 | | P |

Comments:

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5B

EPA SAMPLE NO.

POST DIGEST SPIKE SAMPLE RECOVERY

SB-16 0-4A

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Level (low/med): MED

Concentration Units (ug/L or mg/kg dry weight): ug/L

| Analyte | Control Limit %R | Spike Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 476.14 | | 77.05 | | 455.0 | 88 | | P |
| Nickel | | 3751.28 | | 2264.77 | | 2270.0 | 66 | | P |
| Selenium | | 21.24 | B | 0.64 | U | 455.0 | 5 | | P |
| Thallium | | 170.66 | | 0.22 | U | 455.0 | 38 | | P |

Comments:

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6

DUPLICATES

EPA SAMPLE NO.

SB-16 0-4D

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Matrix (soil/water): SOIL Level (low/med): MED

% Solids for Sample: 79.9 % Solids for Duplicate: 79.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit | Sample (S) | C | Duplicate (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 8848.7503 | | 10041.1203 | | 12.6 | | P |
| Antimony | 0.9 | 3.6253 | | 4.9646 | | 31.2 | * | P |
| Arsenic | | 14.7463 | | 16.5073 | | 11.3 | | P |
| Barium | | 123.7770 | | 135.5374 | | 9.1 | | P |
| Beryllium | | 1.6381 | | 1.8870 | | 14.1 | | P |
| Cadmium | | 14.6011 | | 16.4613 | | 12 | | P |
| Calcium | | 36948.8376 | | 43933.5565 | | 17.3 | | P |
| Chromium | | 243.9859 | | 203.5843 | | 18.1 | | P |
| Cobalt | 2.4 | 11.1894 | | 11.3364 | | 1.3 | | P |
| Copper | | 590.1868 | | 227.9164 | | 88.6 | * | P |
| Iron | | 215742.5970 | | 247198.6766 | | 13.6 | | P |
| Lead | | 2965.2240 | | 3208.4665 | | 7.9 | | P |
| Magnesium | | 9618.4748 | | 10877.3595 | | 12.3 | | P |
| Manganese | | 4488.7219 | | 5372.9251 | | 17.9 | | P |
| Nickel | | 106.5569 | | 92.2104 | | 14.4 | | P |
| Potassium | | 2160.4474 | | 2593.3870 | | 18.2 | | P |
| Selenium | | 0.6000 | U | 0.6000 | U | | | P |
| Silver | 1.4 | 1.1971 | B | 2.1150 | | 55.4 | | P |
| Sodium | | 248.6866 | | 264.0654 | | 6 | | P |
| Thallium | | 0.2100 | U | 0.2100 | U | | | P |
| Vanadium | | 17.8884 | | 18.9622 | | 5.8 | | P |
| Zinc | | 6375.4554 | | 7029.4220 | | 9.8 | | P |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): SOIL

Method Blank ID: **MB-68405**

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

**OPTIMA3_121002B**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/02/12 12:18 | C | 10/02/12 12:52 | C | 10/02/12 13:25 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 66.0 | U | 66.0 | U | 66.0 | U | 66.0 | U | 1.999 | B | P |
| Antimony | 9.3 | U | 9.3 | U | 9.3 | U | 9.3 | U | 0.380 | U | P |
| Arsenic | 4.3 | U | 4.3 | U | 4.3 | U | 4.3 | U | 0.410 | U | P |
| Barium | 1.5 | B | 1.5 | B | 1.1 | U | 1.1 | U | 0.073 | B | P |
| Beryllium | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U | 0.002 | U | P |
| Cadmium | 0.9 | U | 0.9 | U | 0.9 | U | 0.9 | U | 0.015 | U | P |
| Calcium | 110.0 | U | 110.0 | U | 110.0 | U | 110.0 | U | 6.100 | U | P |
| Chromium | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.037 | B | P |
| Cobalt | 0.7 | U | 0.7 | U | 0.7 | U | 0.7 | U | 0.044 | U | P |
| Copper | 3.6 | U | 3.6 | U | 3.6 | U | 3.6 | U | 0.127 | B | P |
| Iron | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U | 4.171 | B | P |
| Lead | 4.2 | U | 4.2 | U | 4.2 | U | 4.2 | U | 0.170 | U | P |
| Magnesium | 76.0 | U | 76.0 | U | 76.0 | U | 76.0 | U | 0.834 | B | P |
| Manganese | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 0.248 | B | P |
| Nickel | 0.9 | U | 0.8 | U | 0.8 | U | 0.8 | U | 0.043 | U | P |
| Selenium | 12.0 | U | 12.0 | U | 12.0 | U | 12.0 | U | 0.640 | U | P |
| Silver | 6.9 | U | 6.9 | U | 6.9 | U | 6.9 | U | 0.064 | U | P |
| Sodium | 29.0 | U | 29.0 | U | 59.6 | B | 34.2 | B | 1.100 | U | P |
| Thallium | 6.2 | U | 6.2 | U | 6.2 | U | 6.2 | U | 0.220 | U | P |
| Vanadium | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 0.060 | U | P |

# 3
# BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121002B**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/02/12 14:03 | C | 10/02/12 14:37 | C | 10/02/12 15:13 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 66.0 | U | 66.0 | U | 66.0 | U | | | P |
| Antimony | | | 9.3 | U | 9.3 | U | 9.3 | U | | | P |
| Arsenic | | | 4.3 | U | 4.3 | U | 4.3 | U | | | P |
| Barium | | | 1.2 | B | 1.5 | B | 1.1 | U | | | P |
| Beryllium | | | 0.3 | U | 0.3 | U | 0.3 | U | | | P |
| Cadmium | | | 0.9 | U | 0.9 | U | 0.9 | U | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | -148.6 | B | | | P |
| Chromium | | | 0.6 | U | 0.8 | B | 0.6 | U | | | P |
| Cobalt | | | 0.7 | U | 0.7 | U | 0.7 | U | | | P |
| Copper | | | 3.6 | U | 3.6 | U | 3.6 | U | | | P |
| Iron | | | 31.0 | U | 31.0 | U | 31.0 | U | | | P |
| Lead | | | 4.2 | U | 4.2 | U | 4.2 | U | | | P |
| Magnesium | | | 76.0 | U | 76.0 | U | 76.0 | U | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |
| Nickel | | | 0.8 | U | 0.8 | U | 0.8 | U | | | P |
| Selenium | | | 12.0 | U | 12.0 | U | 12.0 | U | | | P |
| Silver | | | 6.9 | U | 6.9 | U | 6.9 | U | | | P |
| Sodium | | | 29.0 | U | 29.0 | U | 29.0 | U | | | P |
| Thallium | | | 6.2 | U | 6.2 | U | 6.2 | U | | | P |
| Vanadium | | | 1.1 | U | 1.1 | U | 1.1 | U | | | P |

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121002B**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/02/12 15:55 | C | 10/02/12 16:35 | C | 10/02/12 17:09 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 66.0 | U | 66.0 | U | 66.0 | U | | | P |
| Antimony | | | 9.3 | U | 9.3 | U | 9.3 | U | | | P |
| Arsenic | | | 4.3 | U | 4.3 | U | 4.3 | U | | | P |
| Barium | | | 1.1 | U | 1.1 | U | 1.1 | U | | | P |
| Beryllium | | | 0.3 | U | 0.3 | U | 0.3 | U | | | P |
| Cadmium | | | 0.9 | U | 0.9 | U | 0.9 | U | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | 110.0 | U | | | P |
| Chromium | | | 0.6 | U | 0.6 | U | 0.6 | U | | | P |
| Cobalt | | | 0.7 | U | 0.7 | U | 0.7 | U | | | P |
| Copper | | | 3.6 | U | 3.6 | U | 3.6 | U | | | P |
| Iron | | | 31.0 | U | 31.0 | U | | | | | P |
| Lead | | | 4.2 | U | 4.9 | B | 11.1 | | | | P |
| Magnesium | | | 76.0 | U | 76.0 | U | 76.0 | U | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |
| Nickel | | | 0.8 | U | 0.8 | U | 0.8 | U | | | P |
| Selenium | | | 12.0 | U | 12.0 | U | 12.0 | U | | | P |
| Silver | | | 6.9 | U | 6.9 | U | 6.9 | U | | | P |
| Sodium | | | 29.0 | U | 29.0 | U | 29.0 | U | | | P |
| Thallium | | | 6.2 | U | 6.2 | U | 6.2 | U | | | P |
| Vanadium | | | 1.1 | U | 1.1 | U | 1.1 | U | | | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121002B**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/02/12 17:42 | C | 10/02/12 18:23 | C | 10/02/12 18:56 | C | | C | M |
| Calcium | | | 110.0 | U | 110.0 | U | 110.0 | U | | | P |
| Lead | | | 6.8 | B | 5.6 | B | 5.5 | B | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): SOIL

Method Blank ID: **MB-68405**

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

**OPTIMA3_121003A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/03/12 9:03 | C | 10/03/12 9:33 | C | 10/03/12 10:10 | C | | C | M |
| Potassium | 76.0 | U | 101.9 | B | 118.0 | B | 216.5 | B | 6.546 | B | P |
| Zinc | 4.9 | U | 4.9 | U | -6.0 | B | 4.9 | U | 0.180 | U | P |

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BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121003A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/03/12 10:50 | C | 10/03/12 11:24 | C | 10/03/12 11:51 | C | | C | M |
| Potassium | | | 185.0 | B | 76.0 | U | 76.0 | U | | | P |
| Zinc | | | 8.2 | B | 21.3 | B | 41.8 | B | | | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121003A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/03/12 12:13 | C | | C | | C | | C | M |
| Zinc | | | 16.8 | B | | | | | | | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121005A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/05/12 8:31 | C | 10/05/12 9:04 | C | 10/05/12 9:41 | C | | C | M |
| Iron | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U | | | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121005A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/05/12 10:18 | C | 10/05/12 10:51 | C | 10/05/12 11:28 | C | | C | M |
| Iron | | | 31.0 | U | 31.0 | U | 31.0 | U | | | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1967

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121005A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/05/12 11:50 | C | | C | | C | | C | M |
| Iron | | | 31.0 | U | | | | | | | P |

Report Date:
12-Oct-12 08:33

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

# *Laboratory Report*

CDM-Smith, Inc.
11 British American Blvd, Suite 200
Latham, NY 12110

Work Order: L1968
Project : BLCP Buffalo
Project #: D007621-1

Attn: John P. Blaum

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| L1968-01 | SB-16 4-8 | Soil | 18-Sep-12 13:15 | 20-Sep-12 08:40 |
| L1968-02 | SB-16 8-12 | Soil | 18-Sep-12 13:15 | 20-Sep-12 08:40 |
| L1968-03 | SB-17 0-4 | Soil | 18-Sep-12 13:35 | 20-Sep-12 08:40 |
| L1968-04 | SB-17 4-8 | Soil | 18-Sep-12 13:35 | 20-Sep-12 08:40 |
| L1968-05 | SB-18 0-4 | Soil | 18-Sep-12 14:05 | 20-Sep-12 08:40 |
| L1968-06 | SB-18 4-8 | Soil | 18-Sep-12 14:05 | 20-Sep-12 08:40 |
| L1968-07 | SB-19 0-4 | Soil | 18-Sep-12 14:20 | 20-Sep-12 08:40 |
| L1968-08 | SB-19 4-8 | Soil | 18-Sep-12 14:20 | 20-Sep-12 08:40 |
| L1968-09 | SB-20 0-4 | Soil | 18-Sep-12 14:40 | 20-Sep-12 08:40 |
| L1968-10 | SB-20 4-8 | Soil | 18-Sep-12 14:40 | 20-Sep-12 08:40 |
| L1968-11 | DUP 3 | Soil | 18-Sep-12 14:40 | 20-Sep-12 08:40 |
| L1968-12 | SB-21 0-4 | Soil | 18-Sep-12 14:50 | 20-Sep-12 08:40 |
| L1968-13 | SB-21 4-8 | Soil | 18-Sep-12 14:50 | 20-Sep-12 08:40 |
| L1968-14 | SB-22 0-4 | Soil | 18-Sep-12 15:05 | 20-Sep-12 08:40 |
| L1968-15 | SB-22 4-8 | Soil | 18-Sep-12 15:05 | 20-Sep-12 08:40 |
| L1968-16 | SB-23 0-4 | Soil | 18-Sep-12 15:25 | 20-Sep-12 08:40 |
| L1968-17 | SB-23 4-8 | Soil | 18-Sep-12 15:25 | 20-Sep-12 08:40 |
| L1968-18 | SB-23 8-12 | Soil | 18-Sep-12 15:25 | 20-Sep-12 08:40 |
| L1968-19 | SB-25 0-4 | Soil | 18-Sep-12 15:45 | 20-Sep-12 08:40 |
| L1968-20 | SB-25 4-8 | Soil | 18-Sep-12 15:45 | 20-Sep-12 08:40 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Florida | E87664 |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# * Data Summary Pack *

**175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499**
**www.spectrum-analytical.com**

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Identification and Analytical Requirements Summary

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1968

| Customer Sample ID | Laboratory Sample ID | Analytical Requirements | | | | |
|---|---|---|---|---|---|---|
| | | MSVOA Method # | MSSEMI Method # | GC* Method # | ME | Other |
| SB-16 4-8 | L1968-01 | | | | SW6010_S | |
| SB-16 8-12 | L1968-02 | | | | SW6010_S | |
| SB-17 0-4 | L1968-03 | | | | SW6010_S | |
| SB-17 4-8 | L1968-04 | | | | SW6010_S | |
| SB-18 0-4 | L1968-05 | | | | SW6010_S | |
| SB-18 4-8 | L1968-06 | | | | SW6010_S | |
| SB-19 0-4 | L1968-07 | | | | SW6010_S | |
| SB-19 4-8 | L1968-08 | | | | SW6010_S | |
| SB-20 0-4 | L1968-09 | | | | SW6010_S | |
| SB-20 4-8 | L1968-10 | | | | SW6010_S | |
| DUP 3 | L1968-11 | | | | SW6010_S | |
| SB-21 0-4 | L1968-12 | | | | SW6010_S | |
| SB-21 4-8 | L1968-13 | | | | SW6010_S | |
| SB-22 0-4 | L1968-14 | | | | SW6010_S | |
| SB-22 4-8 | L1968-15 | | | | SW6010_S | |
| SB-23 0-4 | L1968-16 | | | | SW6010_S | |
| SB-23 4-8 | L1968-17 | | | | SW6010_S | |
| SB-23 8-12 | L1968-18 | | | | SW6010_S | |
| SB-25 0-4 | L1968-19 | | | | SW6010_S | |
| SB-25 4-8 | L1968-20 | | | | SW6010_S | |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Preparation and Analysis Summary ME

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1968

| Laboratory Sample ID | Matrix | Metals Requested | Date Received By Lab | Date Analyzed |
|---|---|---|---|---|
| SW6010_S | | | | |
| L1968-01A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-02A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-03A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-04A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-05A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-06A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-07A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-08A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-09A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-10A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-11A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-12A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-13A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-14A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-15A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-16A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-17A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-18A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-19A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-20A | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-20ADUP | SL | SW6010_S | 9/20/2012 | 10/9/2012 |
| L1968-20AMS | SL | SW6010_S | 9/20/2012 | 10/9/2012 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1968**

**Client ID:** CDM_LATHAM
**Project:** BLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1968-01A | SB-16 4-8 | 09/18/2012 13:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-01A | SB-16 4-8 | 09/18/2012 13:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-02A | SB-16 8-12 | 09/18/2012 13:15 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-02A | SB-16 8-12 | 09/18/2012 13:15 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-03A | SB-17 0-4 | 09/18/2012 13:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-03A | SB-17 0-4 | 09/18/2012 13:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-04A | SB-17 4-8 | 09/18/2012 13:35 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-04A | SB-17 4-8 | 09/18/2012 13:35 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-05A | SB-18 0-4 | 09/18/2012 14:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-05A | SB-18 0-4 | 09/18/2012 14:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-06A | SB-18 4-8 | 09/18/2012 14:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-06A | SB-18 4-8 | 09/18/2012 14:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-07A | SB-19 0-4 | 09/18/2012 14:20 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-07A | SB-19 0-4 | 09/18/2012 14:20 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-08A | SB-19 4-8 | 09/18/2012 14:20 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-08A | SB-19 4-8 | 09/18/2012 14:20 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-09A | SB-20 0-4 | 09/18/2012 14:40 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-09A | SB-20 0-4 | 09/18/2012 14:40 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-10A | SB-20 4-8 | 09/18/2012 14:40 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-10A | SB-20 4-8 | 09/18/2012 14:40 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-11A | DUP 3 | 09/18/2012 14:40 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1968**

**Client ID:** CDM_LATHAM
**Project:** BLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1968-11A | DUP 3 | 09/18/2012 14:40 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-12A | SB-21 0-4 | 09/18/2012 14:50 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-12A | SB-21 0-4 | 09/18/2012 14:50 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-13A | SB-21 4-8 | 09/18/2012 14:50 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-13A | SB-21 4-8 | 09/18/2012 14:50 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-14A | SB-22 0-4 | 09/18/2012 15:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-14A | SB-22 0-4 | 09/18/2012 15:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-15A | SB-22 4-8 | 09/18/2012 15:05 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-15A | SB-22 4-8 | 09/18/2012 15:05 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-16A | SB-23 0-4 | 09/18/2012 15:25 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-16A | SB-23 0-4 | 09/18/2012 15:25 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-17A | SB-23 4-8 | 09/18/2012 15:25 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-17A | SB-23 4-8 | 09/18/2012 15:25 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-18A | SB-23 8-12 | 09/18/2012 15:25 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-18A | SB-23 8-12 | 09/18/2012 15:25 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-19A | SB-25 0-4 | 09/18/2012 15:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-19A | SB-25 0-4 | 09/18/2012 15:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1968-20A | SB-25 4-8 | 09/18/2012 15:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1968-20A | SB-25 4-8 | 09/18/2012 15:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# * Metals *

# REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM-Smith, Inc.

Project: BLCP Buffalo

Laboratory Workorder / SDG #: L1968

SW846 6010C

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 6010C.

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3050B.

## V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: OPTIMA3
Instrument Type: ICP
Description: Optima ICP-OES
Manufacturer: Perkin-Elmer
Model: 4300 DV

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

#### 2. Matrix spike (MS):

Matrix spikes were performed on sample: SB-25 4-8 (L1968-20AMS).

Percent recoveries were within the QC limits with the following exceptions:

SB-25 4-8 (L1968-20AMS), Spike sample recovery is above criteria for Nickel at 705% with criteria of (75-125), Spike sample recovery is below criteria for Antimony at 46% with criteria of (75-125), Arsenic at 56% with criteria of (75-125), Selenium at 0% with criteria of (75-125), Thallium at 0% with criteria of (75-125) and Zinc at 37% with criteria of (75-125).

### D. Post Digestion Spike (PDS):

Post-digestion spike analysis was performed on sample: SB-25 4-8 (L1968-20APDS).

SB-25 4-8 (L1968-20APDS) for Antimony, Arsenic, Selenium,

Thallium and Zinc due to recoveries of these elements outside of QC limits in the matrix spike. Selenium and Thallium were not recovered in the PDS as well as the MS. No problems were seen with these elements in the SD or DUP.

E. **Duplicate sample:**

Duplicate analyses were performed on sample: SB-25 4-8 (L1968-20ADUP).

Relative percent differences were within the QC limits with the following exceptions:

SB-25 4-8 (L1968-20ADUP), Duplicate analysis not within control limit for Aluminum, Barium, Chromium, Lead, Nickel, Potassium, Sodium, Vanadium and Zinc.

F. **Serial Dilution (SD):**

Serial Dilution analyses were performed on sample: SB-25 4-8 (L1968-20ASD).

Percent differences were within the QC limits with the exception of the following:

SB-25 4-8 (L1968-20ASD), Serial Dilution analysis not within control limit for Arsenic, Beryllium, Cadmium, Cobalt, Lead, Magnesium, Nickel, Potassium, Sodium, Vanadium and Zinc.

G. **Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed: 

Date: 10/11/12

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

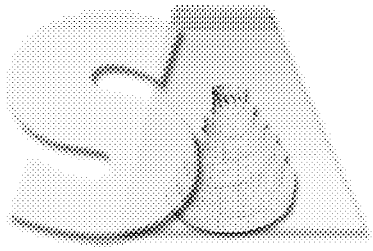
E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.



*SPECTRUM ANALYTICAL, INC.*
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# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

DUP 3

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-11

Level (low/med): MED Date Received: 09/20/2012

% Solids: 89.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 9010 | | * | P |
| 7440-36-0 | Antimony | 3.0 | | N | P |
| 7440-38-2 | Arsenic | 34.4 | | NE | P |
| 7440-39-3 | Barium | 127 | | * | P |
| 7440-41-7 | Beryllium | 1.5 | | E | P |
| 7440-43-9 | Cadmium | 11.4 | | E | P |
| 7440-70-2 | Calcium | 24100 | | | P |
| 7440-47-3 | Chromium | 76.5 | | * | P |
| 7440-48-4 | Cobalt | 8.8 | | E | P |
| 7440-50-8 | Copper | 104 | | | P |
| 7439-89-6 | Iron | 238000 | | | P |
| 7439-92-1 | Lead | 346 | | *E | P |
| 7439-95-4 | Magnesium | 5270 | | E | P |
| 7439-96-5 | Manganese | 8220 | | | P |
| 7440-02-0 | Nickel | 31.6 | | N*E | P |
| 7440-09-7 | Potassium | 5240 | | *E | P |
| 7782-49-2 | Selenium | 0.57 | U | N | P |
| 7440-22-4 | Silver | 0.059 | B | | P |
| 7440-23-5 | Sodium | 801 | | *E | P |
| 7440-28-0 | Thallium | 0.20 | U | N | P |
| 7440-62-2 | Vanadium | 9.5 | | *E | P |
| 7440-66-6 | Zinc | 442 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-16 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-01

Level (low/med): MED Date Received: 09/20/2012

% Solids: 85.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 7450 | | * | P |
| 7440-36-0 | Antimony | 3.4 | | N | P |
| 7440-38-2 | Arsenic | 39.2 | | NE | P |
| 7440-39-3 | Barium | 93.9 | | * | P |
| 7440-41-7 | Beryllium | 1.6 | | E | P |
| 7440-43-9 | Cadmium | 9.7 | | E | P |
| 7440-70-2 | Calcium | 34800 | | | P |
| 7440-47-3 | Chromium | 12.9 | | * | P |
| 7440-48-4 | Cobalt | 7.5 | | E | P |
| 7440-50-8 | Copper | 38.9 | | | P |
| 7439-89-6 | Iron | 233000 | | | P |
| 7439-92-1 | Lead | 114 | | *E | P |
| 7439-95-4 | Magnesium | 6400 | | E | P |
| 7439-96-5 | Manganese | 5440 | | | P |
| 7440-02-0 | Nickel | 10.5 | | N*E | P |
| 7440-09-7 | Potassium | 1920 | | *E | P |
| 7782-49-2 | Selenium | 0.74 | U | N | P |
| 7440-22-4 | Silver | 0.074 | U | | P |
| 7440-23-5 | Sodium | 187 | | *E | P |
| 7440-28-0 | Thallium | 0.26 | U | N | P |
| 7440-62-2 | Vanadium | 13.4 | | *E | P |
| 7440-66-6 | Zinc | 618 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-16 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-02

Level (low/med): MED Date Received: 09/20/2012

% Solids: 72.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 12700 | | * | P |
| 7440-36-0 | Antimony | 0.46 | U | N | P |
| 7440-38-2 | Arsenic | 10.2 | | NE | P |
| 7440-39-3 | Barium | 133 | | * | P |
| 7440-41-7 | Beryllium | 2.3 | | E | P |
| 7440-43-9 | Cadmium | 0.018 | U | E | P |
| 7440-70-2 | Calcium | 139000 | | | P |
| 7440-47-3 | Chromium | 6.8 | | * | P |
| 7440-48-4 | Cobalt | 3.4 | | E | P |
| 7440-50-8 | Copper | 7.5 | | | P |
| 7439-89-6 | Iron | 12900 | | | P |
| 7439-92-1 | Lead | 23.2 | | *E | P |
| 7439-95-4 | Magnesium | 13400 | | E | P |
| 7439-96-5 | Manganese | 1510 | | | P |
| 7440-02-0 | Nickel | 8.9 | | N*E | P |
| 7440-09-7 | Potassium | 1610 | | *E | P |
| 7782-49-2 | Selenium | 3.2 | | N | P |
| 7440-22-4 | Silver | 0.077 | U | | P |
| 7440-23-5 | Sodium | 591 | | *E | P |
| 7440-28-0 | Thallium | 2.6 | | N | P |
| 7440-62-2 | Vanadium | 8.9 | | *E | P |
| 7440-66-6 | Zinc | 41.2 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-17 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-03

Level (low/med): MED Date Received: 09/20/2012

% Solids: 74.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 17100 | | * | P |
| 7440-36-0 | Antimony | 2.1 | | N | P |
| 7440-38-2 | Arsenic | 24.0 | | NE | P |
| 7440-39-3 | Barium | 196 | | * | P |
| 7440-41-7 | Beryllium | 1.5 | | E | P |
| 7440-43-9 | Cadmium | 5.3 | | E | P |
| 7440-70-2 | Calcium | 111000 | | | P |
| 7440-47-3 | Chromium | 64.7 | | * | P |
| 7440-48-4 | Cobalt | 9.9 | | E | P |
| 7440-50-8 | Copper | 223 | | | P |
| 7439-89-6 | Iron | 140000 | | | P |
| 7439-92-1 | Lead | 188 | | *E | P |
| 7439-95-4 | Magnesium | 14900 | | E | P |
| 7439-96-5 | Manganese | 2420 | | | P |
| 7440-02-0 | Nickel | 48.5 | | N*E | P |
| 7440-09-7 | Potassium | 3220 | | *E | P |
| 7782-49-2 | Selenium | 2.6 | | N | P |
| 7440-22-4 | Silver | 0.42 | B | | P |
| 7440-23-5 | Sodium | 215 | | *E | P |
| 7440-28-0 | Thallium | 0.26 | U | N | P |
| 7440-62-2 | Vanadium | 27.6 | | *E | P |
| 7440-66-6 | Zinc | 605 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-17 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-04

Level (low/med): MED Date Received: 09/20/2012

% Solids: 49.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 28300 | | * | P |
| 7440-36-0 | Antimony | 0.74 | B | N | P |
| 7440-38-2 | Arsenic | 40.7 | | NE | P |
| 7440-39-3 | Barium | 459 | | * | P |
| 7440-41-7 | Beryllium | 2.1 | | E | P |
| 7440-43-9 | Cadmium | 2.0 | | E | P |
| 7440-70-2 | Calcium | 258000 | | | P |
| 7440-47-3 | Chromium | 50.5 | | * | P |
| 7440-48-4 | Cobalt | 9.6 | | E | P |
| 7440-50-8 | Copper | 49.2 | | | P |
| 7439-89-6 | Iron | 17200 | | | P |
| 7439-92-1 | Lead | 128 | | *E | P |
| 7439-95-4 | Magnesium | 4870 | | E | P |
| 7439-96-5 | Manganese | 208 | | | P |
| 7440-02-0 | Nickel | 29.5 | | N*E | P |
| 7440-09-7 | Potassium | 15100 | | *E | P |
| 7782-49-2 | Selenium | 8.7 | | N | P |
| 7440-22-4 | Silver | 1.6 | B | | P |
| 7440-23-5 | Sodium | 550 | | *E | P |
| 7440-28-0 | Thallium | 5.6 | | N | P |
| 7440-62-2 | Vanadium | 58.1 | | *E | P |
| 7440-66-6 | Zinc | 613 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-18 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-05

Level (low/med): MED Date Received: 09/20/2012

% Solids: 86.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 10500 | | * | P |
| 7440-36-0 | Antimony | 1.8 | | N | P |
| 7440-38-2 | Arsenic | 26.3 | | NE | P |
| 7440-39-3 | Barium | 125 | | * | P |
| 7440-41-7 | Beryllium | 1.9 | | E | P |
| 7440-43-9 | Cadmium | 9.1 | | E | P |
| 7440-70-2 | Calcium | 37700 | | | P |
| 7440-47-3 | Chromium | 56.0 | | * | P |
| 7440-48-4 | Cobalt | 6.4 | | E | P |
| 7440-50-8 | Copper | 153 | | | P |
| 7439-89-6 | Iron | 175000 | | | P |
| 7439-92-1 | Lead | 1060 | | *E | P |
| 7439-95-4 | Magnesium | 8330 | | E | P |
| 7439-96-5 | Manganese | 5820 | | | P |
| 7440-02-0 | Nickel | 33.0 | | N*E | P |
| 7440-09-7 | Potassium | 2770 | | *E | P |
| 7782-49-2 | Selenium | 0.66 | U | N | P |
| 7440-22-4 | Silver | 2.3 | | | P |
| 7440-23-5 | Sodium | 294 | | *E | P |
| 7440-28-0 | Thallium | 0.23 | U | N | P |
| 7440-62-2 | Vanadium | 9.2 | | *E | P |
| 7440-66-6 | Zinc | 1650 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-18 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-06

Level (low/med): MED Date Received: 09/20/2012

% Solids: 65.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 10900 | | * | P |
| 7440-36-0 | Antimony | 1.1 | | N | P |
| 7440-38-2 | Arsenic | 13.7 | | NE | P |
| 7440-39-3 | Barium | 160 | | * | P |
| 7440-41-7 | Beryllium | 0.39 | | E | P |
| 7440-43-9 | Cadmium | 0.58 | | E | P |
| 7440-70-2 | Calcium | 393000 | | | P |
| 7440-47-3 | Chromium | 56.2 | | * | P |
| 7440-48-4 | Cobalt | 4.9 | | E | P |
| 7440-50-8 | Copper | 239 | | | P |
| 7439-89-6 | Iron | 24000 | | | P |
| 7439-92-1 | Lead | 108 | | *E | P |
| 7439-95-4 | Magnesium | 5430 | | E | P |
| 7439-96-5 | Manganese | 401 | | | P |
| 7440-02-0 | Nickel | 17.9 | | N*E | P |
| 7440-09-7 | Potassium | 2800 | | *E | P |
| 7782-49-2 | Selenium | 5.3 | | N | P |
| 7440-22-4 | Silver | 0.34 | B | | P |
| 7440-23-5 | Sodium | 320 | | *E | P |
| 7440-28-0 | Thallium | 0.25 | U | N | P |
| 7440-62-2 | Vanadium | 23.1 | | *E | P |
| 7440-66-6 | Zinc | 239 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-19 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-07

Level (low/med): MED Date Received: 09/20/2012

% Solids: 76.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 10100 | | * | P |
| 7440-36-0 | Antimony | 3.1 | | N | P |
| 7440-38-2 | Arsenic | 16.6 | | NE | P |
| 7440-39-3 | Barium | 109 | | * | P |
| 7440-41-7 | Beryllium | 1.9 | | E | P |
| 7440-43-9 | Cadmium | 12.2 | | E | P |
| 7440-70-2 | Calcium | 41300 | | | P |
| 7440-47-3 | Chromium | 45.0 | | * | P |
| 7440-48-4 | Cobalt | 5.4 | | E | P |
| 7440-50-8 | Copper | 94.7 | | | P |
| 7439-89-6 | Iron | 205000 | | | P |
| 7439-92-1 | Lead | 1370 | | *E | P |
| 7439-95-4 | Magnesium | 12000 | | E | P |
| 7439-96-5 | Manganese | 4160 | | | P |
| 7440-02-0 | Nickel | 22.5 | | N*E | P |
| 7440-09-7 | Potassium | 4690 | | *E | P |
| 7782-49-2 | Selenium | 0.70 | U | N | P |
| 7440-22-4 | Silver | 1.0 | B | | P |
| 7440-23-5 | Sodium | 362 | | *E | P |
| 7440-28-0 | Thallium | 0.24 | U | N | P |
| 7440-62-2 | Vanadium | 15.8 | | *E | P |
| 7440-66-6 | Zinc | 3500 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-19 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-08

Level (low/med): MED Date Received: 09/20/2012

% Solids: 53.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 26800 | | * | P |
| 7440-36-0 | Antimony | 0.78 | B | N | P |
| 7440-38-2 | Arsenic | 15.5 | | NE | P |
| 7440-39-3 | Barium | 546 | | * | P |
| 7440-41-7 | Beryllium | 1.8 | | E | P |
| 7440-43-9 | Cadmium | 10.5 | | E | P |
| 7440-70-2 | Calcium | 224000 | | | P |
| 7440-47-3 | Chromium | 46.8 | | * | P |
| 7440-48-4 | Cobalt | 9.0 | | E | P |
| 7440-50-8 | Copper | 55.8 | | | P |
| 7439-89-6 | Iron | 17400 | | | P |
| 7439-92-1 | Lead | 163 | | *E | P |
| 7439-95-4 | Magnesium | 7680 | | E | P |
| 7439-96-5 | Manganese | 207 | | | P |
| 7440-02-0 | Nickel | 31.3 | | N*E | P |
| 7440-09-7 | Potassium | 12400 | | *E | P |
| 7782-49-2 | Selenium | 10.2 | | N | P |
| 7440-22-4 | Silver | 5.6 | | | P |
| 7440-23-5 | Sodium | 540 | | *E | P |
| 7440-28-0 | Thallium | 4.3 | | N | P |
| 7440-62-2 | Vanadium | 56.5 | | *E | P |
| 7440-66-6 | Zinc | 1220 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-20 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-09

Level (low/med): MED Date Received: 09/20/2012

% Solids: 86.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 9100 | | * | P |
| 7440-36-0 | Antimony | 2.6 | | N | P |
| 7440-38-2 | Arsenic | 31.9 | | NE | P |
| 7440-39-3 | Barium | 118 | | * | P |
| 7440-41-7 | Beryllium | 1.6 | | E | P |
| 7440-43-9 | Cadmium | 9.7 | | E | P |
| 7440-70-2 | Calcium | 25000 | | | P |
| 7440-47-3 | Chromium | 33.2 | | * | P |
| 7440-48-4 | Cobalt | 12.1 | | E | P |
| 7440-50-8 | Copper | 75.4 | | | P |
| 7439-89-6 | Iron | 214000 | | | P |
| 7439-92-1 | Lead | 624 | | *E | P |
| 7439-95-4 | Magnesium | 5540 | | E | P |
| 7439-96-5 | Manganese | 8340 | | | P |
| 7440-02-0 | Nickel | 34.6 | | N*E | P |
| 7440-09-7 | Potassium | 3860 | | *E | P |
| 7782-49-2 | Selenium | 0.66 | U | N | P |
| 7440-22-4 | Silver | 0.83 | B | | P |
| 7440-23-5 | Sodium | 546 | | *E | P |
| 7440-28-0 | Thallium | 0.23 | U | N | P |
| 7440-62-2 | Vanadium | 17.7 | | *E | P |
| 7440-66-6 | Zinc | 807 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-20 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-10

Level (low/med): MED Date Received: 09/20/2012

% Solids: 69.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 14400 | | * | P |
| 7440-36-0 | Antimony | 1.5 | | N | P |
| 7440-38-2 | Arsenic | 37.4 | | NE | P |
| 7440-39-3 | Barium | 195 | | * | P |
| 7440-41-7 | Beryllium | 1.6 | | E | P |
| 7440-43-9 | Cadmium | 6.8 | | E | P |
| 7440-70-2 | Calcium | 124000 | | | P |
| 7440-47-3 | Chromium | 47.4 | | * | P |
| 7440-48-4 | Cobalt | 9.0 | | E | P |
| 7440-50-8 | Copper | 114 | | | P |
| 7439-89-6 | Iron | 129000 | | | P |
| 7439-92-1 | Lead | 677 | | *E | P |
| 7439-95-4 | Magnesium | 4930 | | E | P |
| 7439-96-5 | Manganese | 4060 | | | P |
| 7440-02-0 | Nickel | 33.3 | | N*E | P |
| 7440-09-7 | Potassium | 2940 | | *E | P |
| 7782-49-2 | Selenium | 6.8 | | N | P |
| 7440-22-4 | Silver | 2.5 | | | P |
| 7440-23-5 | Sodium | 308 | | *E | P |
| 7440-28-0 | Thallium | 1.1 | B | N | P |
| 7440-62-2 | Vanadium | 32.2 | | *E | P |
| 7440-66-6 | Zinc | 1270 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-21 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-12

Level (low/med): MED Date Received: 09/20/2012

% Solids: 89.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 6450 | | * | P |
| 7440-36-0 | Antimony | 2.7 | | N | P |
| 7440-38-2 | Arsenic | 15.0 | | NE | P |
| 7440-39-3 | Barium | 71.5 | | * | P |
| 7440-41-7 | Beryllium | 1.2 | | E | P |
| 7440-43-9 | Cadmium | 8.9 | | E | P |
| 7440-70-2 | Calcium | 21300 | | | P |
| 7440-47-3 | Chromium | 45.1 | | * | P |
| 7440-48-4 | Cobalt | 4.8 | | E | P |
| 7440-50-8 | Copper | 159 | | | P |
| 7439-89-6 | Iron | 150000 | | | P |
| 7439-92-1 | Lead | 1820 | | *E | P |
| 7439-95-4 | Magnesium | 5450 | | E | P |
| 7439-96-5 | Manganese | 2480 | | | P |
| 7440-02-0 | Nickel | 32.8 | | N*E | P |
| 7440-09-7 | Potassium | 999 | | *E | P |
| 7782-49-2 | Selenium | 2.4 | | N | P |
| 7440-22-4 | Silver | 3.0 | | | P |
| 7440-23-5 | Sodium | 143 | | *E | P |
| 7440-28-0 | Thallium | 0.23 | U | N | P |
| 7440-62-2 | Vanadium | 8.1 | | *E | P |
| 7440-66-6 | Zinc | 2170 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-21 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-13

Level (low/med): MED Date Received: 09/20/2012

% Solids: 71.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 20700 | | * | P |
| 7440-36-0 | Antimony | 2.2 | | N | P |
| 7440-38-2 | Arsenic | 20.5 | | NE | P |
| 7440-39-3 | Barium | 700 | | * | P |
| 7440-41-7 | Beryllium | 2.2 | | E | P |
| 7440-43-9 | Cadmium | 5.3 | | E | P |
| 7440-70-2 | Calcium | 166000 | | | P |
| 7440-47-3 | Chromium | 41.2 | | * | P |
| 7440-48-4 | Cobalt | 9.4 | | E | P |
| 7440-50-8 | Copper | 59.2 | | | P |
| 7439-89-6 | Iron | 101000 | | | P |
| 7439-92-1 | Lead | 322 | | *E | P |
| 7439-95-4 | Magnesium | 9890 | | E | P |
| 7439-96-5 | Manganese | 4140 | | | P |
| 7440-02-0 | Nickel | 36.8 | | N*E | P |
| 7440-09-7 | Potassium | 7610 | | *E | P |
| 7782-49-2 | Selenium | 5.3 | | N | P |
| 7440-22-4 | Silver | 1.4 | B | | P |
| 7440-23-5 | Sodium | 410 | | *E | P |
| 7440-28-0 | Thallium | 3.5 | | N | P |
| 7440-62-2 | Vanadium | 46.5 | | *E | P |
| 7440-66-6 | Zinc | 1290 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-22 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-14

Level (low/med): MED Date Received: 09/20/2012

% Solids: 85.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 6860 | | * | P |
| 7440-36-0 | Antimony | 5.9 | | N | P |
| 7440-38-2 | Arsenic | 14.9 | | NE | P |
| 7440-39-3 | Barium | 77.7 | | * | P |
| 7440-41-7 | Beryllium | 1.6 | | E | P |
| 7440-43-9 | Cadmium | 16.7 | | E | P |
| 7440-70-2 | Calcium | 26700 | | | P |
| 7440-47-3 | Chromium | 125 | | * | P |
| 7440-48-4 | Cobalt | 8.6 | | E | P |
| 7440-50-8 | Copper | 284 | | | P |
| 7439-89-6 | Iron | 218000 | | | P |
| 7439-92-1 | Lead | 3760 | | *E | P |
| 7439-95-4 | Magnesium | 7140 | | E | P |
| 7439-96-5 | Manganese | 3670 | | | P |
| 7440-02-0 | Nickel | 59.9 | | N*E | P |
| 7440-09-7 | Potassium | 1300 | | *E | P |
| 7782-49-2 | Selenium | 0.73 | U | N | P |
| 7440-22-4 | Silver | 0.76 | B | | P |
| 7440-23-5 | Sodium | 139 | | *E | P |
| 7440-28-0 | Thallium | 0.25 | U | N | P |
| 7440-62-2 | Vanadium | 7.9 | | *E | P |
| 7440-66-6 | Zinc | 6880 | | N*E | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-22 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-15

Level (low/med): MED Date Received: 09/20/2012

% Solids: 87.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 5660 | | * | P |
| 7440-36-0 | Antimony | 3.2 | | N | P |
| 7440-38-2 | Arsenic | 66.1 | | NE | P |
| 7440-39-3 | Barium | 86.5 | | * | P |
| 7440-41-7 | Beryllium | 0.97 | | E | P |
| 7440-43-9 | Cadmium | 7.2 | | E | P |
| 7440-70-2 | Calcium | 40100 | | | P |
| 7440-47-3 | Chromium | 37.0 | | * | P |
| 7440-48-4 | Cobalt | 5.1 | | E | P |
| 7440-50-8 | Copper | 111 | | | P |
| 7439-89-6 | Iron | 149000 | | | P |
| 7439-92-1 | Lead | 2770 | | *E | P |
| 7439-95-4 | Magnesium | 6870 | | E | P |
| 7439-96-5 | Manganese | 5840 | | | P |
| 7440-02-0 | Nickel | 20.8 | | N*E | P |
| 7440-09-7 | Potassium | 1400 | | *E | P |
| 7782-49-2 | Selenium | 0.60 | U | N | P |
| 7440-22-4 | Silver | 1.8 | | | P |
| 7440-23-5 | Sodium | 158 | | *E | P |
| 7440-28-0 | Thallium | 1.6 | | N | P |
| 7440-62-2 | Vanadium | 12.8 | | *E | P |
| 7440-66-6 | Zinc | 2170 | | N*E | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-23 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-16

Level (low/med): MED Date Received: 09/20/2012

% Solids: 86.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 7250 | | * | P |
| 7440-36-0 | Antimony | 2.6 | | N | P |
| 7440-38-2 | Arsenic | 15.6 | | NE | P |
| 7440-39-3 | Barium | 91.9 | | * | P |
| 7440-41-7 | Beryllium | 1.9 | | E | P |
| 7440-43-9 | Cadmium | 7.6 | | E | P |
| 7440-70-2 | Calcium | 27100 | | | P |
| 7440-47-3 | Chromium | 57.4 | | * | P |
| 7440-48-4 | Cobalt | 2.8 | B | E | P |
| 7440-50-8 | Copper | 57.5 | | | P |
| 7439-89-6 | Iron | 138000 | | | P |
| 7439-92-1 | Lead | 2840 | | *E | P |
| 7439-95-4 | Magnesium | 9630 | | E | P |
| 7439-96-5 | Manganese | 1840 | | | P |
| 7440-02-0 | Nickel | 21.4 | | N*E | P |
| 7440-09-7 | Potassium | 4290 | | *E | P |
| 7782-49-2 | Selenium | 3.1 | | N | P |
| 7440-22-4 | Silver | 1.5 | B | | P |
| 7440-23-5 | Sodium | 482 | | *E | P |
| 7440-28-0 | Thallium | 1.5 | | N | P |
| 7440-62-2 | Vanadium | 14.2 | | *E | P |
| 7440-66-6 | Zinc | 2570 | | N*E | P |

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-23 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-17

Level (low/med): MED Date Received: 09/20/2012

% Solids: 81.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 8780 | | * | P |
| 7440-36-0 | Antimony | 3.3 | | N | P |
| 7440-38-2 | Arsenic | 20.3 | | NE | P |
| 7440-39-3 | Barium | 103 | | * | P |
| 7440-41-7 | Beryllium | 1.9 | | E | P |
| 7440-43-9 | Cadmium | 9.7 | | E | P |
| 7440-70-2 | Calcium | 1600 | | | P |
| 7440-47-3 | Chromium | 31.3 | | * | P |
| 7440-48-4 | Cobalt | 5.3 | | E | P |
| 7440-50-8 | Copper | 147 | | | P |
| 7439-89-6 | Iron | 9140 | | | P |
| 7439-92-1 | Lead | 1180 | | *E | P |
| 7439-95-4 | Magnesium | 6940 | | E | P |
| 7439-96-5 | Manganese | 257 | | | P |
| 7440-02-0 | Nickel | 20.4 | | N*E | P |
| 7440-09-7 | Potassium | 1860 | | *E | P |
| 7782-49-2 | Selenium | 0.66 | U | N | P |
| 7440-22-4 | Silver | 1.8 | | | P |
| 7440-23-5 | Sodium | 209 | | *E | P |
| 7440-28-0 | Thallium | 0.23 | U | N | P |
| 7440-62-2 | Vanadium | 6.4 | | *E | P |
| 7440-66-6 | Zinc | 2220 | | N*E | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET SB-23 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-18

Level (low/med): MED Date Received: 09/20/2012

% Solids: 79.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 13900 | | * | P |
| 7440-36-0 | Antimony | 0.98 | B | N | P |
| 7440-38-2 | Arsenic | 12.7 | | NE | P |
| 7440-39-3 | Barium | 67.2 | | * | P |
| 7440-41-7 | Beryllium | 1.3 | | E | P |
| 7440-43-9 | Cadmium | 3.9 | | E | P |
| 7440-70-2 | Calcium | 2840 | | | P |
| 7440-47-3 | Chromium | 41.5 | | * | P |
| 7440-48-4 | Cobalt | 12.6 | | E | P |
| 7440-50-8 | Copper | 64.3 | | | P |
| 7439-89-6 | Iron | 5900 | | | P |
| 7439-92-1 | Lead | 458 | | *E | P |
| 7439-95-4 | Magnesium | 8680 | | E | P |
| 7439-96-5 | Manganese | 2430 | | | P |
| 7440-02-0 | Nickel | 43.4 | | N*E | P |
| 7440-09-7 | Potassium | 2310 | | *E | P |
| 7782-49-2 | Selenium | 4.9 | | N | P |
| 7440-22-4 | Silver | 0.20 | B | | P |
| 7440-23-5 | Sodium | 265 | | *E | P |
| 7440-28-0 | Thallium | 0.25 | U | N | P |
| 7440-62-2 | Vanadium | 14.9 | | *E | P |
| 7440-66-6 | Zinc | 655 | | N*E | P |

Comments:

1 EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-25 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-19

Level (low/med): MED Date Received: 09/20/2012

% Solids: 91.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 6640 | | * | P |
| 7440-36-0 | Antimony | 1.3 | | N | P |
| 7440-38-2 | Arsenic | 8.0 | | NE | P |
| 7440-39-3 | Barium | 130 | | * | P |
| 7440-41-7 | Beryllium | 0.45 | | E | P |
| 7440-43-9 | Cadmium | 1.5 | | E | P |
| 7440-70-2 | Calcium | 4320 | | | P |
| 7440-47-3 | Chromium | 31.5 | | * | P |
| 7440-48-4 | Cobalt | 5.0 | | E | P |
| 7440-50-8 | Copper | 94.4 | | | P |
| 7439-89-6 | Iron | 2870 | | | P |
| 7439-92-1 | Lead | 276 | | *E | P |
| 7439-95-4 | Magnesium | 10700 | | E | P |
| 7439-96-5 | Manganese | 1040 | | | P |
| 7440-02-0 | Nickel | 35.1 | | N*E | P |
| 7440-09-7 | Potassium | 843 | | *E | P |
| 7782-49-2 | Selenium | 3.8 | | N | P |
| 7440-22-4 | Silver | 0.061 | U | | P |
| 7440-23-5 | Sodium | 214 | | *E | P |
| 7440-28-0 | Thallium | 0.21 | U | N | P |
| 7440-62-2 | Vanadium | 13.8 | | *E | P |
| 7440-66-6 | Zinc | 330 | | N*E | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-25 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Lab Sample ID: L1968-20

Level (low/med): MED Date Received: 09/20/2012

% Solids: 80.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 5190 | | * | P |
| 7440-36-0 | Antimony | 5.6 | | N | P |
| 7440-38-2 | Arsenic | 32.7 | | NE | P |
| 7440-39-3 | Barium | 67.4 | | * | P |
| 7440-41-7 | Beryllium | 1.0 | | E | P |
| 7440-43-9 | Cadmium | 16.9 | | E | P |
| 7440-70-2 | Calcium | 7.4 | U | | P |
| 7440-47-3 | Chromium | 528 | | * | P |
| 7440-48-4 | Cobalt | 26.1 | | E | P |
| 7440-50-8 | Copper | 1860 | | | P |
| 7439-89-6 | Iron | 363000 | | | P |
| 7439-92-1 | Lead | 359 | | *E | P |
| 7439-95-4 | Magnesium | 3840 | | E | P |
| 7439-96-5 | Manganese | 5230 | | | P |
| 7440-02-0 | Nickel | 336 | | N*E | P |
| 7440-09-7 | Potassium | 428 | | *E | P |
| 7782-49-2 | Selenium | 0.78 | U | N | P |
| 7440-22-4 | Silver | 0.078 | U | | P |
| 7440-23-5 | Sodium | 134 | | *E | P |
| 7440-28-0 | Thallium | 0.27 | U | N | P |
| 7440-62-2 | Vanadium | 14.1 | | *E | P |
| 7440-66-6 | Zinc | 384 | | N*E | P |

Comments:

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Solid LCS Source:

Aqueous LCS Source:

LCS(D) ID:
**LCS-68567**

| Analyte | Aqueous (ug/L) True | Found | %R | Solid (mg/Kg) True | Found | C | Limits | | %R |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 455.0 | 471.4 | | 364 | 546.0 | 103.6 |
| Antimony | | | | 22.8 | 24.5 | | 18.2 | 27.3 | 107.5 |
| Arsenic | | | | 22.8 | 23.8 | | 18.2 | 27.3 | 104.4 |
| Barium | | | | 455.0 | 491.5 | | 364 | 546.0 | 108.0 |
| Beryllium | | | | 11.4 | 12.0 | | 9.1 | 13.6 | 105.3 |
| Cadmium | | | | 11.4 | 11.7 | | 9.1 | 13.6 | 102.6 |
| Calcium | | | | 1135.0 | 1141.8 | | 908 | 1362.0 | 100.6 |
| Chromium | | | | 45.5 | 47.7 | | 36.4 | 54.6 | 104.8 |
| Cobalt | | | | 113.5 | 118.3 | | 90.8 | 136.2 | 104.2 |
| Copper | | | | 56.5 | 59.0 | | 45.2 | 67.8 | 104.4 |
| Iron | | | | 227.5 | 246.3 | | 182 | 273.0 | 108.3 |
| Lead | | | | 22.8 | 23.7 | | 18.2 | 27.3 | 103.9 |
| Magnesium | | | | 1135.0 | 1194.8 | | 908 | 1362.0 | 105.3 |
| Manganese | | | | 113.5 | 120.9 | | 90.8 | 136.2 | 106.5 |
| Nickel | | | | 113.5 | 118.8 | | 90.8 | 136.2 | 104.7 |
| Potassium | | | | 1135.0 | 1210.3 | | 908 | 1362.0 | 106.6 |
| Selenium | | | | 22.8 | 22.1 | | 18.2 | 27.3 | 96.9 |
| Silver | | | | 56.5 | 58.0 | | 42.4 | 67.8 | 102.7 |
| Sodium | | | | 1135.0 | 1220.8 | | 908 | 1362.0 | 107.6 |
| Thallium | | | | 22.8 | 21.3 | | 18.2 | 27.3 | 93.4 |
| Vanadium | | | | 113.5 | 118.6 | | 90.8 | 136.2 | 104.5 |
| Zinc | | | | 113.5 | 115.6 | | 90.8 | 136.2 | 101.9 |

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

SB-25 4-8S

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Level (low/med): MED

% Solids for Sample: 80.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | 75-125 | 18.5 | | 5.6 | | 27.7 | 47 | N | P |
| Arsenic | 75-125 | 48.2 | | 32.7 | | 27.7 | 56 | N | P |
| Barium | 75-125 | 571 | | 67.4 | | 554 | 91 | | P |
| Beryllium | 75-125 | 12.7 | | 1.0 | | 13.8 | 85 | | P |
| Cadmium | 75-125 | 27.6 | | 16.9 | | 13.8 | 77 | | P |
| Chromium | | 687 | | 528 | | 55.4 | 287 | | P |
| Cobalt | 75-125 | 144 | | 26.1 | | 138 | 85 | | P |
| Copper | | 1240 | | 1860 | | 68.8 | -896 | | P |
| Lead | | 308 | | 359 | | 27.7 | -185 | | P |
| Nickel | 75-125 | 1310 | | 336 | | 138 | 705 | N | P |
| Selenium | 75-125 | 0.78 | U | 0.78 | U | 27.7 | 0 | N | P |
| Silver | 75-125 | 66.5 | | 0.078 | U | 68.8 | 97 | | P |
| Thallium | 75-125 | 0.27 | U | 0.27 | U | 27.7 | 0 | N | P |
| Vanadium | 75-125 | 128 | | 14.1 | | 138 | 82 | | P |
| Zinc | 75-125 | 436 | | 384 | | 138 | 37 | N | P |

Comments:

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5B

EPA SAMPLE NO.

POST DIGEST SPIKE SAMPLE RECOVERY

SB-25 4-8A

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Level (low/med): MED

Concentration Units (ug/L or mg/kg dry weight): ug/L

| Analyte | Control Limit %R | Spike Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | | 523.09 | | 92.35 | | 455.0 | 95 | | P |
| Arsenic | | 898.52 | | 536.82 | | 455.0 | 80 | | P |
| Nickel | | 7359.34 | | 5517.60 | | 2270.0 | 81 | | P |
| Selenium | | 0.64 | U | 0.64 | U | 455.0 | 0 | | P |
| Thallium | | 0.22 | U | 0.22 | U | 455.0 | 0 | | P |
| Zinc | | 7982.91 | | 6310.72 | | 2270.0 | 74 | | P |

Comments:

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6

DUPLICATES

EPA SAMPLE NO.

SB-25 4-8D

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Matrix (soil/water): SOIL Level (low/med): MED

% Solids for Sample: 80.5 % Solids for Duplicate: 80.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit | Sample (S) | C | Duplicate (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 5191.9894 | | 4171.1568 | | 21.8 | * | P |
| Antimony | 1.2 | 5.6250 | | 4.5675 | | 20.8 | | P |
| Arsenic | | 32.6976 | | 28.5322 | | 13.6 | | P |
| Barium | 12.0 | 67.4114 | | 48.2299 | | 33.2 | * | P |
| Beryllium | 0.3 | 1.0201 | | 0.8668 | | 16.2 | | P |
| Cadmium | | 16.9277 | | 16.0827 | | 5.1 | | P |
| Calcium | | 7.4000 | U | 7.4000 | U | | | P |
| Chromium | | 527.8398 | | 660.4487 | | 22.3 | * | P |
| Cobalt | | 26.0521 | | 24.8744 | | 4.6 | | P |
| Copper | | 1855.1177 | | 1810.3305 | | 2.4 | | P |
| Iron | | 362904.7032 | | 367550.3745 | | 1.3 | | P |
| Lead | | 359.0561 | | 290.5767 | | 21.1 | * | P |
| Magnesium | | 3844.7392 | | 3250.2820 | | 16.8 | | P |
| Manganese | | 5227.8213 | | 4994.3591 | | 4.6 | | P |
| Nickel | | 336.0766 | | 615.7952 | | 58.8 | * | P |
| Potassium | | 427.7669 | | 1143.6135 | | 91.1 | * | P |
| Selenium | | 0.7800 | U | 0.7700 | U | | | P |
| Silver | | 0.0780 | U | 0.0770 | U | | | P |
| Sodium | 61.0 | 133.7478 | | 793.0001 | | 142.3 | * | P |
| Thallium | | 0.2700 | U | 0.2700 | U | | | P |
| Vanadium | 3.0 | 14.1035 | | 8.4155 | | 50.5 | * | P |
| Zinc | | 384.3857 | | 488.2483 | | 23.8 | * | P |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Preparation Blank Matrix (soil/water): SOIL

Method Blank ID: **MB-68567**

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

**OPTIMA3_121009A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/09/12 10:18 | C | 10/09/12 10:51 | C | 10/09/12 11:26 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 66.0 | U | 66.0 | U | 66.0 | U | 66.0 | U | 1.200 | U | P |
| Antimony | 9.3 | U | 9.3 | U | 9.3 | U | 9.3 | U | 0.380 | U | P |
| Arsenic | 4.3 | U | 4.3 | U | 4.3 | U | 4.7 | B | 0.410 | U | P |
| Barium | 1.1 | U | 1.1 | U | 1.7 | B | 1.7 | B | 0.031 | U | P |
| Beryllium | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U | 0.002 | U | P |
| Cadmium | 0.9 | U | 0.9 | U | 0.9 | U | 0.9 | U | 0.015 | U | P |
| Calcium | 110.0 | U | 110.0 | U | 110.0 | U | 110.0 | U | 6.100 | U | P |
| Chromium | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.019 | U | P |
| Cobalt | 0.7 | U | 0.7 | U | 0.7 | U | 0.7 | U | 0.044 | U | P |
| Copper | 3.6 | U | 3.6 | U | 3.6 | U | 3.6 | U | 0.110 | U | P |
| Iron | 31.0 | U | 31.0 | U | 31.0 | U | | | 2.599 | B | P |
| Lead | 4.2 | U | 4.2 | U | 4.2 | U | 4.2 | U | 0.170 | U | P |
| Magnesium | 76.0 | U | 76.0 | U | 76.0 | U | 76.0 | U | 0.630 | U | P |
| Manganese | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 0.131 | B | P |
| Nickel | 0.9 | U | 0.8 | U | 0.8 | U | 0.8 | U | 0.043 | U | P |
| Potassium | 85.6 | B | 76.0 | U | 106.2 | B | 76.0 | U | 3.400 | U | P |
| Selenium | 12.0 | U | 12.0 | U | 12.0 | U | 12.0 | U | 0.640 | U | P |
| Silver | 6.9 | U | 6.9 | U | 6.9 | U | 6.9 | U | 0.064 | U | P |
| Sodium | 29.0 | U | 29.0 | U | 29.0 | U | 29.0 | U | 1.100 | U | P |
| Thallium | 6.2 | U | 6.2 | U | 6.2 | U | 6.2 | U | 0.220 | U | P |
| Vanadium | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 0.060 | U | P |
| Zinc | 4.9 | U | 4.9 | U | 4.9 | U | 4.9 | U | 0.257 | B | P |

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121009A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/09/12 11:57 | C | 10/09/12 12:19 | C | 10/09/12 12:52 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 66.0 | U | 66.0 | U | 66.0 | U | | | P |
| Antimony | | | 9.3 | U | 9.3 | U | 9.3 | U | | | P |
| Arsenic | | | 4.3 | U | 4.3 | U | 4.3 | U | | | P |
| Barium | | | 1.8 | B | 1.4 | B | 1.8 | B | | | P |
| Beryllium | | | 0.3 | U | 0.3 | U | 0.3 | U | | | P |
| Cadmium | | | 0.9 | U | 0.9 | U | 0.9 | U | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | 110.0 | U | | | P |
| Chromium | | | 0.6 | U | 0.6 | U | 0.6 | U | | | P |
| Cobalt | | | 0.7 | U | 0.7 | U | 0.7 | U | | | P |
| Copper | | | 3.6 | U | 3.6 | U | 3.6 | U | | | P |
| Iron | | | 55.7 | B | 31.0 | U | 31.0 | U | | | P |
| Lead | | | 4.2 | U | 4.2 | U | 4.2 | U | | | P |
| Magnesium | | | 76.0 | U | 76.0 | U | 76.0 | U | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |
| Nickel | | | 0.8 | U | 0.8 | U | 0.8 | U | | | P |
| Potassium | | | 76.0 | U | 84.7 | B | 115.4 | B | | | P |
| Selenium | | | 12.0 | U | 12.0 | U | 12.0 | U | | | P |
| Silver | | | 6.9 | U | 6.9 | U | 6.9 | U | | | P |
| Sodium | | | 29.0 | U | 29.0 | U | 29.0 | U | | | P |
| Thallium | | | 6.2 | U | 6.2 | U | 6.2 | U | | | P |
| Vanadium | | | 1.1 | U | 1.1 | U | 1.1 | U | | | P |
| Zinc | | | 4.9 | U | 4.9 | U | 4.9 | U | | | P |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121009A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/09/12 13:37 | C | 10/09/12 14:16 | C | 10/09/12 15:00 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 66.0 | U | 66.0 | U | 66.0 | U | | | P |
| Antimony | | | 9.3 | U | 9.3 | U | 9.3 | U | | | P |
| Arsenic | | | 4.3 | U | 4.7 | B | 4.5 | B | | | P |
| Barium | | | 1.6 | B | 1.1 | U | 1.1 | U | | | P |
| Beryllium | | | 0.3 | U | 0.3 | U | 0.3 | U | | | P |
| Cadmium | | | 0.9 | U | 0.9 | U | 0.9 | U | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | 110.0 | U | | | P |
| Chromium | | | 0.6 | U | 0.6 | U | 0.6 | U | | | P |
| Cobalt | | | 0.7 | U | 0.7 | U | 0.7 | U | | | P |
| Copper | | | 3.6 | U | 3.6 | U | 3.6 | U | | | P |
| Iron | | | 33.8 | B | 31.0 | U | 31.0 | U | | | P |
| Lead | | | 4.2 | U | 5.6 | B | 9.0 | B | | | P |
| Magnesium | | | 76.0 | U | 76.0 | U | 76.0 | U | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |
| Nickel | | | 0.8 | U | 0.8 | U | 0.8 | U | | | P |
| Potassium | | | 189.4 | B | 81.2 | B | 76.0 | U | | | P |
| Selenium | | | 12.0 | U | 12.0 | U | 12.0 | U | | | P |
| Silver | | | 6.9 | U | 6.9 | U | 6.9 | U | | | P |
| Sodium | | | 29.0 | U | 29.0 | U | 29.0 | U | | | P |
| Thallium | | | 6.2 | U | 6.2 | U | 6.2 | U | | | P |
| Vanadium | | | 1.1 | U | 1.1 | U | 1.1 | U | | | P |
| Zinc | | | 8.7 | B | 8.9 | B | 10.6 | B | | | P |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121009A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 10/09/12 15:42 | C | 10/09/12 16:18 | C | | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 66.0 | U | 66.0 | U | | | | | P |
| Antimony | | | 9.3 | U | 9.3 | U | | | | | P |
| Arsenic | | | 4.3 | U | 5.0 | B | | | | | P |
| Barium | | | 1.1 | U | 1.1 | U | | | | | P |
| Beryllium | | | 0.3 | U | 0.3 | U | | | | | P |
| Cadmium | | | 0.9 | U | 0.9 | U | | | | | P |
| Calcium | | | 110.0 | U | 110.0 | U | 110.0 | U | | | P |
| Chromium | | | 0.6 | U | 0.6 | U | | | | | P |
| Cobalt | | | 0.7 | U | 0.7 | U | | | | | P |
| Copper | | | 3.6 | U | 3.6 | U | | | | | P |
| Iron | | | 31.0 | U | 31.0 | U | 31.0 | U | | | P |
| Lead | | | 4.7 | B | 4.9 | B | | | | | P |
| Magnesium | | | 76.0 | U | 76.0 | U | | | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | 10.0 | U | | | P |
| Nickel | | | 0.8 | U | 0.8 | U | | | | | P |
| Selenium | | | 12.0 | U | 12.0 | U | | | | | P |
| Silver | | | 6.9 | U | 6.9 | U | | | | | P |
| Sodium | | | 29.0 | U | | | | | | | P |
| Thallium | | | 6.2 | U | 6.2 | U | | | | | P |
| Vanadium | | | 1.1 | U | 1.1 | U | | | | | P |
| Zinc | | | 6.7 | B | 8.3 | B | | | | | P |

# BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1968

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_121009B**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 10/09/12 17:48 | C | 10/09/12 18:17 | C | | C | | C | M |
| Potassium | 76.0 | U | 76.0 | U | 76.0 | U | | | | | P |
| Sodium | -253.1 | B | -379.0 | B | -479.2 | B | | | | | P |

Report Date:
12-Oct-12 08:46

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

- [x] Final Report
- [ ] Re-Issued Report
- [ ] Revised Report

# *Laboratory Report*

CDM-Smith, Inc.
11 British American Blvd, Suite 200
Latham, NY 12110

Work Order: L1969
Project : BLCP Buffalo
Project #: D007621-1

Attn: John P. Blaum

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| L1969-01 | SB-25 8-12 | Soil | 18-Sep-12 15:45 | 20-Sep-12 08:40 |
| L1969-02 | SB-24 0-4 | Soil | 18-Sep-12 16:00 | 20-Sep-12 08:40 |
| L1969-03 | SB-24 4-8 | Soil | 18-Sep-12 16:00 | 20-Sep-12 08:40 |
| L1969-04 | SS-1 | Soil | 19-Sep-12 09:20 | 20-Sep-12 08:40 |
| L1969-05 | SS-2 | Soil | 19-Sep-12 09:25 | 20-Sep-12 08:40 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Florida | E87664 |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# * Data Summary Pack *

**175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499**
**www.spectrum-analytical.com**

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Identification and Analytical Requirements Summary

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1969

| Customer Sample ID | Laboratory Sample ID | Analytical Requirements | | | | |
|---|---|---|---|---|---|---|
| | | MSVOA Method # | MSSEMI Method # | GC* Method # | ME | Other |
| SB-25 8-12 | L1969-01 | | | | SW6010_S | |
| SB-24 0-4 | L1969-02 | | | | SW6010_S | |
| SB-24 4-8 | L1969-03 | | | | SW6010_S | |
| SS-1 | L1969-04 | | | | SW6010_S | |
| SS-2 | L1969-05 | | | | SW6010_S | |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Preparation and Analysis Summary ME

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1969

| Laboratory Sample ID | Matrix | Metals Requested | Date Received By Lab | Date Analyzed |
|---|---|---|---|---|
| SW6010_S | | | | |
| L1969-01A | SL | SW6010_S | 9/20/2012 | 9/29/2012 |
| L1969-02A | SL | SW6010_S | 9/20/2012 | 9/29/2012 |
| L1969-03A | SL | SW6010_S | 9/20/2012 | 9/29/2012 |
| L1969-04A | SL | SW6010_S | 9/20/2012 | 9/29/2012 |
| L1969-05A | SL | SW6010_S | 9/20/2012 | 9/29/2012 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1969**

**Client ID:** CDM_LATHAM
**Project:** BLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1969-01A | SB-25 8-12 | 09/18/2012 15:45 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1969-01A | SB-25 8-12 | 09/18/2012 15:45 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1969-02A | SB-24 0-4 | 09/18/2012 16:00 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1969-02A | SB-24 0-4 | 09/18/2012 16:00 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1969-03A | SB-24 4-8 | 09/18/2012 16:00 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1969-03A | SB-24 4-8 | 09/18/2012 16:00 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1969-04A | SS-1 | 09/19/2012 09:20 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1969-04A | SS-1 | 09/19/2012 09:20 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |
| L1969-05A | SS-2 | 09/19/2012 09:25 | 09/20/2012 | Soil | PMoist | / | | | | | A4 |
| L1969-05A | SS-2 | 09/19/2012 09:25 | 09/20/2012 | Soil | SW6010_S | / | | | | | A4 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# * Metals *

# REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM-Smith, Inc.

Project: BLCP Buffalo

Laboratory Workorder / SDG #: L1969

SW846 6010C

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 6010C.

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3050B.

## V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: OPTIMA3
Instrument Type: ICP
Description: Optima ICP-OES
Manufacturer: Perkin-Elmer
Model: 4300 DV

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

#### 2. Matrix spike (MS):

A matrix spike was not performed on any sample in this SDG.

### D. Post Digestion Spike (PDS):

A post-digestion spike was not performed on any sample in this SDG.

### E. Duplicate sample:

A duplicate analysis was not performed on any sample in this SDG.

### F. Serial Dilution (SD):

A serial dilution was not performed on any sample in this SDG.

### G. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed: 

Date: 10/11/12

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-24 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Matrix (soil/water): SOIL Lab Sample ID: L1969-02

Level (low/med): MED Date Received: 09/20/2012

% Solids: 82.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 8160 | | | P |
| 7440-36-0 | Antimony | 0.60 | B | | P |
| 7440-38-2 | Arsenic | 10.1 | | | P |
| 7440-39-3 | Barium | 229 | | | P |
| 7440-41-7 | Beryllium | 0.60 | | | P |
| 7440-43-9 | Cadmium | 1.1 | | | P |
| 7440-70-2 | Calcium | 86100 | | | P |
| 7440-47-3 | Chromium | 28.2 | | | P |
| 7440-48-4 | Cobalt | 4.1 | | | P |
| 7440-50-8 | Copper | 56.2 | | | P |
| 7439-89-6 | Iron | 45300 | | | P |
| 7439-92-1 | Lead | 438 | | | P |
| 7439-95-4 | Magnesium | 8030 | | | P |
| 7439-96-5 | Manganese | 1010 | | | P |
| 7440-02-0 | Nickel | 17.9 | | | P |
| 7440-09-7 | Potassium | 1150 | | | P |
| 7782-49-2 | Selenium | 3.8 | | | P |
| 7440-22-4 | Silver | 0.062 | U | | P |
| 7440-23-5 | Sodium | 388 | | | P |
| 7440-28-0 | Thallium | 1.5 | | | P |
| 7440-62-2 | Vanadium | 21.3 | | | P |
| 7440-66-6 | Zinc | 415 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-24 4-8

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Matrix (soil/water): SOIL Lab Sample ID: L1969-03

Level (low/med): MED Date Received: 09/20/2012

% Solids: 73.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 10500 | | | P |
| 7440-36-0 | Antimony | 0.40 | U | | P |
| 7440-38-2 | Arsenic | 6.4 | | | P |
| 7440-39-3 | Barium | 130 | | | P |
| 7440-41-7 | Beryllium | 0.24 | B | | P |
| 7440-43-9 | Cadmium | 0.22 | B | | P |
| 7440-70-2 | Calcium | 35900 | | | P |
| 7440-47-3 | Chromium | 47.6 | | | P |
| 7440-48-4 | Cobalt | 3.4 | | | P |
| 7440-50-8 | Copper | 21.9 | | | P |
| 7439-89-6 | Iron | 47300 | | | P |
| 7439-92-1 | Lead | 88.2 | | | P |
| 7439-95-4 | Magnesium | 8910 | | | P |
| 7439-96-5 | Manganese | 3440 | | | P |
| 7440-02-0 | Nickel | 10.3 | | | P |
| 7440-09-7 | Potassium | 922 | | | P |
| 7782-49-2 | Selenium | 4.4 | | | P |
| 7440-22-4 | Silver | 0.068 | U | | P |
| 7440-23-5 | Sodium | 911 | | | P |
| 7440-28-0 | Thallium | 6.4 | | | P |
| 7440-62-2 | Vanadium | 28.3 | | | P |
| 7440-66-6 | Zinc | 134 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-25 8-12

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Matrix (soil/water): SOIL Lab Sample ID: L1969-01

Level (low/med): MED Date Received: 09/20/2012

% Solids: 68.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 11000 | | | P |
| 7440-36-0 | Antimony | 1.3 | | | P |
| 7440-38-2 | Arsenic | 14.1 | | | P |
| 7440-39-3 | Barium | 166 | | | P |
| 7440-41-7 | Beryllium | 2.0 | | | P |
| 7440-43-9 | Cadmium | 6.0 | | | P |
| 7440-70-2 | Calcium | 52200 | | | P |
| 7440-47-3 | Chromium | 28.0 | | | P |
| 7440-48-4 | Cobalt | 7.3 | | | P |
| 7440-50-8 | Copper | 39.8 | | | P |
| 7439-89-6 | Iron | 198000 | | | P |
| 7439-92-1 | Lead | 357 | | | P |
| 7439-95-4 | Magnesium | 9850 | | | P |
| 7439-96-5 | Manganese | 0.16 | U | | P |
| 7440-02-0 | Nickel | 17.0 | | | P |
| 7440-09-7 | Potassium | 5740 | | | P |
| 7782-49-2 | Selenium | 0.79 | U | | P |
| 7440-22-4 | Silver | 0.95 | B | | P |
| 7440-23-5 | Sodium | 616 | | | P |
| 7440-28-0 | Thallium | 5.2 | | | P |
| 7440-62-2 | Vanadium | 16.9 | | | P |
| 7440-66-6 | Zinc | 1280 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SS-1

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Matrix (soil/water): SOIL Lab Sample ID: L1969-04

Level (low/med): MED Date Received: 09/20/2012

% Solids: 87.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 10300 | | | P |
| 7440-36-0 | Antimony | 2.2 | | | P |
| 7440-38-2 | Arsenic | 11.2 | | | P |
| 7440-39-3 | Barium | 140 | | | P |
| 7440-41-7 | Beryllium | 2.1 | | | P |
| 7440-43-9 | Cadmium | 7.1 | | | P |
| 7440-70-2 | Calcium | 83000 | | | P |
| 7440-47-3 | Chromium | 81.2 | | | P |
| 7440-48-4 | Cobalt | 5.2 | | | P |
| 7440-50-8 | Copper | 148 | | | P |
| 7439-89-6 | Iron | 122000 | | | P |
| 7439-92-1 | Lead | 1600 | | | P |
| 7439-95-4 | Magnesium | 12400 | | | P |
| 7439-96-5 | Manganese | 2530 | | | P |
| 7440-02-0 | Nickel | 40.0 | | | P |
| 7440-09-7 | Potassium | 1850 | | | P |
| 7782-49-2 | Selenium | 0.67 | U | | P |
| 7440-22-4 | Silver | 1.0 | B | | P |
| 7440-23-5 | Sodium | 578 | | | P |
| 7440-28-0 | Thallium | 6.1 | | | P |
| 7440-62-2 | Vanadium | 17.6 | | | P |
| 7440-66-6 | Zinc | 2020 | | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SS-2

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Matrix (soil/water): SOIL Lab Sample ID: L1969-05

Level (low/med): MED Date Received: 09/20/2012

% Solids: 85.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 8250 | | | P |
| 7440-36-0 | Antimony | 3.3 | | | P |
| 7440-38-2 | Arsenic | 12.0 | | | P |
| 7440-39-3 | Barium | 99.2 | | | P |
| 7440-41-7 | Beryllium | 1.8 | | | P |
| 7440-43-9 | Cadmium | 6.5 | | | P |
| 7440-70-2 | Calcium | 49000 | | | P |
| 7440-47-3 | Chromium | 53.6 | | | P |
| 7440-48-4 | Cobalt | 4.7 | | | P |
| 7440-50-8 | Copper | 102 | | | P |
| 7439-89-6 | Iron | 97200 | | | P |
| 7439-92-1 | Lead | 1700 | | | P |
| 7439-95-4 | Magnesium | 8240 | | | P |
| 7439-96-5 | Manganese | 2130 | | | P |
| 7440-02-0 | Nickel | 29.9 | | | P |
| 7440-09-7 | Potassium | 1670 | | | P |
| 7782-49-2 | Selenium | 3.3 | | | P |
| 7440-22-4 | Silver | 2.2 | | | P |
| 7440-23-5 | Sodium | 313 | | | P |
| 7440-28-0 | Thallium | 5.6 | | | P |
| 7440-62-2 | Vanadium | 19.9 | | | P |
| 7440-66-6 | Zinc | 1810 | | | P |

Comments:

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Solid LCS Source: LCS(D) ID:

Aqueous LCS Source: **LCS-68404**

| Analyte | Aqueous (ug/L) True | Found | %R | Solid (mg/Kg) True | Found | C | Limits | | %R |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 455.0 | 456.0 | | 364 | 546.0 | 100.2 |
| Antimony | | | | 22.8 | 24.3 | | 18.2 | 27.3 | 106.6 |
| Arsenic | | | | 22.8 | 23.5 | | 18.2 | 27.3 | 103.1 |
| Barium | | | | 455.0 | 473.0 | | 364 | 546.0 | 104.0 |
| Beryllium | | | | 11.4 | 11.5 | | 9.1 | 13.6 | 100.9 |
| Cadmium | | | | 11.4 | 11.7 | | 9.1 | 13.6 | 102.6 |
| Calcium | | | | 1135.0 | 1110.8 | | 908 | 1362.0 | 97.9 |
| Chromium | | | | 45.5 | 46.8 | | 36.4 | 54.6 | 102.9 |
| Cobalt | | | | 113.5 | 116.9 | | 90.8 | 136.2 | 103.0 |
| Copper | | | | 56.5 | 57.1 | | 45.2 | 67.8 | 101.1 |
| Iron | | | | 227.5 | 238.0 | | 182 | 273.0 | 104.6 |
| Lead | | | | 22.8 | 23.8 | | 18.2 | 27.3 | 104.4 |
| Magnesium | | | | 1135.0 | 1158.0 | | 908 | 1362.0 | 102.0 |
| Manganese | | | | 113.5 | 116.7 | | 90.8 | 136.2 | 102.8 |
| Nickel | | | | 113.5 | 117.2 | | 90.8 | 136.2 | 103.3 |
| Potassium | | | | 1135.0 | 1162.8 | | 908 | 1362.0 | 102.4 |
| Selenium | | | | 22.8 | 22.1 | | 18.2 | 27.3 | 96.9 |
| Silver | | | | 56.5 | 57.7 | | 42.4 | 67.8 | 102.1 |
| Sodium | | | | 1135.0 | 1138.0 | | 908 | 1362.0 | 100.3 |
| Thallium | | | | 22.8 | 21.5 | | 18.2 | 27.3 | 94.3 |
| Vanadium | | | | 113.5 | 116.0 | | 90.8 | 136.2 | 102.2 |
| Zinc | | | | 113.5 | 115.0 | | 90.8 | 136.2 | 101.3 |

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Preparation Blank Matrix (soil/water): SOIL

Method Blank ID: **MB-68404**

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

**OPTIMA3_120929A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 09/29/12 11:03 | C | 09/29/12 11:38 | C | | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 66.0 | U | 66.0 | U | 66.0 | U | | | 1.200 | U | P |
| Antimony | 9.3 | U | 9.3 | U | 9.3 | U | | | 0.782 | B | P |
| Arsenic | 4.3 | U | 4.3 | U | 4.3 | U | | | 0.410 | U | P |
| Barium | 1.1 | U | 1.1 | U | 1.1 | U | | | 0.031 | U | P |
| Beryllium | 0.3 | U | 0.3 | U | 0.3 | U | | | 0.002 | U | P |
| Cadmium | 0.9 | U | 0.9 | U | 0.9 | U | | | 0.015 | U | P |
| Calcium | 110.0 | U | 128.9 | B | 115.0 | B | 110.0 | U | 6.287 | B | P |
| Chromium | 0.6 | U | 0.6 | U | 0.6 | U | | | 0.019 | U | P |
| Cobalt | 0.7 | U | 0.7 | U | 0.7 | U | | | 0.044 | U | P |
| Copper | 3.6 | U | 3.6 | U | 3.6 | U | | | 0.163 | B | P |
| Iron | 31.0 | U | 31.0 | U | 34.8 | B | 31.0 | U | 1.500 | U | P |
| Lead | 4.2 | U | 4.2 | U | 7.9 | B | | | 0.170 | U | P |
| Magnesium | 76.0 | U | 76.0 | U | 76.0 | U | | | 0.630 | U | P |
| Manganese | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 0.130 | U | P |
| Nickel | 0.9 | U | 0.8 | U | 0.8 | U | | | 0.043 | U | P |
| Selenium | 12.0 | U | 12.0 | U | 12.0 | U | | | 0.640 | U | P |
| Silver | 6.9 | U | 6.9 | U | 6.9 | U | | | 0.086 | B | P |
| Thallium | 6.2 | U | 6.2 | U | 6.2 | U | | | 0.220 | U | P |
| Vanadium | 1.1 | U | 1.1 | U | 1.1 | U | | | 0.060 | U | P |
| Zinc | 4.9 | U | 4.9 | U | 11.8 | B | | | 0.180 | U | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**OPTIMA3_120929A**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 09/29/12 12:36 | C | 09/29/12 13:12 | C | | C | | C | M |
| Calcium | | | 163.5 | B | 110.0 | U | | | | | P |
| Iron | | | 31.0 | U | 31.0 | U | | | | | P |
| Manganese | | | 10.0 | U | 10.0 | U | | | | | P |

U.S. EPA - CLP

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1969

Preparation Blank Matrix (soil/water): SOIL

Method Blank ID: **MB-68404**

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

**OPTIMA3_120929B**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 09/29/12 14:10 | C | 09/29/12 14:34 | C | | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Potassium | 76.0 | U | 138.3 | B | 76.0 | U | | | 4.871 | B | P |
| Sodium | 29.0 | U | 30.3 | B | 38.2 | B | | | 1.100 | U | P |

Report Date:
10-Oct-12 12:40

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

# *Laboratory Report*

CDM-Smith, Inc.
11 British American Blvd, Suite 200
Latham, NY 12110

Work Order: L1970
Project : BLCP Buffalo
Project #: D007621-1

Attn: John P. Blaum

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| L1970-01 | TCLP-1 | Soil | 18-Sep-12 09:20 | 20-Sep-12 08:40 |
| L1970-02 | SB-15 0-4 | Soil | 18-Sep-12 11:50 | 20-Sep-12 08:40 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Florida | E87664 |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
DoD ELAP
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# * Data Summary Pack *

**175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499**
**www.spectrum-analytical.com**

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Identification and Analytical Requirements Summary

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1970

| Customer Sample ID | Laboratory Sample ID | Analytical Requirements | | | | |
|---|---|---|---|---|---|---|
| | | MSVOA Method # | MSSEMI Method # | GC* Method # | ME | Other |
| TCLP-1 | L1970-01 | | | | SW6010_W | |
| TCLP-1 | L1970-01 | | | | SW7470 | |
| SB-15 0-4 | L1970-02 | | | | SW6010_W | |
| SB-15 0-4 | L1970-02 | | | | SW7470 | |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation
## Sample Preparation and Analysis Summary ME

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1970

| Laboratory Sample ID | Matrix | Metals Requested | Date Received By Lab | Date Analyzed |
|---|---|---|---|---|
| SW6010_W | | | | |
| L1970-01A | SL | SW6010_W | 9/20/2012 | 9/27/2012 |
| L1970-02A | SL | SW6010_W | 9/20/2012 | 9/27/2012 |
| SW7470 | | | | |
| L1970-01A | SL | SW7470 | 9/20/2012 | 9/27/2012 |
| L1970-02A | SL | SW7470 | 9/20/2012 | 9/27/2012 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

## New York State Department of Environmental Conservation

## Sample Preparation and Analysis Summary Toxicity Characteristic Leaching Procedure

**Project Name :** BLCP Buffalo -- D007621-1 **SDG :** L1970

| Laboratory Sample ID | Matrix | Analytical Protocol | Date Collected | Date Received By Lab | Date Extracted |
|---|---|---|---|---|---|
| SW1311 | | | | | |
| L1970-01A | SL | SW1311 | 9/18/2012 | 9/20/2012 | 9/26/2012 |
| L1970-02A | SL | SW1311 | 9/18/2012 | 9/20/2012 | 9/26/2012 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: L1970**

**Client ID:** CDM_LATHAM
**Project:** BLCP Buffalo
**WO Name:** BLCP Buffalo
**Location:** CDM_BLCP, D007621-1
**Comments:** N/A

**Case:**
**SDG:**
**PO:** 0897-91667

**HC Due:** 10/09/12
**Fax Due:**
**Fax Report:** ☐

**Report Level:** ASP-B
**Special Program:**
**EDD:** EQUIIS_4_NYSDEC

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1970-01A | TCLP-1 | 09/18/2012 09:20 | 09/20/2012 | Soil | SW6010_W | / TCLP_METALS | | | | Y | A2 |
| L1970-01A | TCLP-1 | 09/18/2012 09:20 | 09/20/2012 | Soil | SW7470 | / TCLP_METALS | | | | | A2 |
| L1970-02A | SB-15 0-4 | 09/18/2012 11:50 | 09/20/2012 | Soil | SW6010_W | / TCLP_METALS | | | | Y | A2 |
| L1970-02A | SB-15 0-4 | 09/18/2012 11:50 | 09/20/2012 | Soil | SW7470 | / TCLP_METALS | | | | | A2 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# * Metals *

# REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM-Smith, Inc.

Project: BLCP Buffalo

Laboratory Workorder / SDG #: L1970

SW846 6010C, SW846 7470A

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 6010C, SW846 7470A

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3005A
Aqueous Samples were prepared following procedures in laboratory test code: SW7470A

## V. INSTRUMENTATION

The following instrumentation was used to perform analysis:

Instrument Code: FIMS2
Instrument Type: CVAA
Description: FIMS
Manufacturer: Perkin-Elmer
Model: FIMS100

Instrument Code: OPTIMA3
Instrument Type: ICP
Description: Optima ICP-OES
Manufacturer: Perkin-Elmer
Model: 4300 DV

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

#### 2. Matrix spike (MS):

A matrix spike was not performed on any sample in this SDG.

### D. Post Digestion Spike (PDS):

A post-digestion spike was not performed on any sample in this SDG.

### E. Duplicate sample:

A duplicate analysis was not performed on any sample in this SDG.

## F. Serial Dilution (SD):

A serial dilution was not performed on any sample in this SDG.

## G. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed: 

Date: 10/10/12

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SB-15 0-4

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Matrix (soil/water): WATER Lab Sample ID: L1970-02

Level (low/med): MED Date Received: 09/20/2012

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.3 | U | | P |
| 7440-39-3 | Barium | 326 | | | P |
| 7440-43-9 | Cadmium | 42.8 | | | P |
| 7440-47-3 | Chromium | 7.8 | B | | P |
| 7439-92-1 | Lead | 441 | | | P |
| 7439-97-6 | Mercury | 0.044 | B | | CV |
| 7782-49-2 | Selenium | 22.7 | B | | P |
| 7440-22-4 | Silver | 6.9 | U | | P |

Comments:

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

TCLP-1

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Matrix (soil/water): WATER Lab Sample ID: L1970-01

Level (low/med): MED Date Received: 09/20/2012

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): ug/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 4.3 | U | | P |
| 7440-39-3 | Barium | 294 | | | P |
| 7440-43-9 | Cadmium | 51.3 | | | P |
| 7440-47-3 | Chromium | 16.9 | B | | P |
| 7439-92-1 | Lead | 215 | | | P |
| 7439-97-6 | Mercury | 0.052 | B | | CV |
| 7782-49-2 | Selenium | 13.8 | B | | P |
| 7440-22-4 | Silver | 6.9 | U | | P |

Comments:

LABORATORY CONTROL SAMPLE

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Solid LCS Source:

Aqueous LCS Source:

LCS(D) ID:
**LCS-68344**

| Analyte | Aqueous (ug/L) True | Found | %R | Solid (mg/Kg) True | Found | C | Limits | | %R |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | 4.6 | 4.95 | 107.6 | | | | | | |

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LABORATORY CONTROL SAMPLE

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Solid LCS Source:

Aqueous LCS Source:

LCS(D) ID:
**LCS-68350**

| Analyte | Aqueous (ug/L) True | Found | %R | Solid (mg/Kg) True | Found | C | Limits | | %R |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 455.0 | 472.94 | 103.9 | | | | | | |
| Barium | 9100.0 | 9327.88 | 102.5 | | | | | | |
| Cadmium | 227.0 | 232.70 | 102.5 | | | | | | |
| Chromium | 910.0 | 908.75 | 99.9 | | | | | | |
| Lead | 455.0 | 469.59 | 103.2 | | | | | | |
| Selenium | 455.0 | 459.86 | 101.1 | | | | | | |
| Silver | 1130.0 | 1164.29 | 103.0 | | | | | | |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Preparation Blank Matrix (soil/water): WATER

Method Blank ID: **MB-68344**

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

**FIMS2_120927B**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 09/27/12 13:02 | C | 09/27/12 13:21 | C | 09/27/12 13:39 | C | | C | M |
| Mercury | 0.028 | U | 0.028 | U | 0.028 | U | 0.028 | U | 0.028 | U | CV |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Preparation Blank Matrix (soil/water): WATER

Method Blank ID: **MB-68309**

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

**FIMS2_120927B**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 09/27/12 13:58 | C | 09/27/12 14:16 | C | 09/27/12 14:26 | C | | C | M |
| Mercury | | | 0.028 | U | 0.028 | U | 0.028 | U | 0.028 | U | CV |

U.S. EPA - CLP

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg):

**FIMS2_120927B**

| | Initial Calibration Blank (ug/L) | | Continuing Calibration Blank (ug/L) | | | | | | Preparation Blank | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | C | 09/27/12 14:56 | C | 09/27/12 15:04 | C | | C | | C | M |
| Mercury | | | 0.028 | U | 0.028 | U | | | | | CV |

U.S. EPA - CLP

3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Preparation Blank Matrix (soil/water): WATER

Method Blank ID: **MB-68350**

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

**OPTIMA3_120927A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 09/27/12 9:57 | C | 09/27/12 10:38 | C | 09/27/12 11:17 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 4.3 | U | 4.3 | U | 4.3 | U | 4.3 | U | 4.300 | U | P |
| Barium | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.100 | U | P |
| Cadmium | 0.9 | U | 0.9 | U | 0.9 | U | 0.9 | U | 0.890 | U | P |
| Chromium | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.640 | U | P |
| Lead | 4.2 | U | 4.2 | U | 4.2 | U | 4.2 | U | 4.200 | U | P |
| Selenium | 12.0 | U | 12.0 | U | 12.0 | U | 12.0 | U | 12.000 | U | P |
| Silver | 6.9 | U | 6.9 | U | 6.9 | U | 6.9 | U | 6.900 | U | P |

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3

BLANKS

Lab Name: Spectrum Analytical, Inc. Contract: 0897-91667

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SL1970

Preparation Blank Matrix (soil/water): WATER

Method Blank ID: **MB-68309**

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

**OPTIMA3_120927A**

| Analyte | Initial Calibration Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 09/27/12 11:50 | C | 09/27/12 12:20 | C | | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | | 4.3 | U | 4.3 | U | | | 4.300 | U | P |
| Barium | | | 1.2 | B | 1.1 | U | | | 1.100 | U | P |
| Cadmium | | | 0.9 | U | 0.9 | U | | | 0.890 | U | P |
| Chromium | | | 0.6 | U | 0.6 | U | | | 0.669 | B | P |
| Lead | | | 4.2 | U | 4.2 | U | | | 4.200 | U | P |
| Selenium | | | 12.0 | U | 12.0 | U | | | 12.000 | U | P |
| Silver | | | 6.9 | U | 6.9 | U | | | 6.900 | U | P |




**TP-1 on top of pile**



**TP-1 –Concrete pieces in top 3 feet fill material**



**TP-1; 3-6’ of fill material changing to ash at 6’**



**TP-1 – fill to ash at 6 feet**



**TP-1 location looking north**



**TP-1**




**TP-2; Top of dirt road from parking area**



**TP-2; Concrete Debris & Black Fly Ash**



**TP-2; Black fly ash and some concrete**



**TP-2; Black fly ash to 8’ with concrete mixed in**



**TP-2’; 1’ fill material before fly ash**



**TP-2; Fill to fly ash**



**TP-2; excavated material – all black**



**TP-3; Near NW corner ~100’ from pile of concrete**



**TP-3; Concrete chunk in top 3’**



**TP-3; Top 3’ fill material with concrete**



**TP-3; Black fly at 3’ to ~8’ then gray slag**



**TP-3; Fill to 3’ then black ash**



**TP-3**



**TP-3; Gray Slag at ~ 8-9’**




**TP-4; West from TP-3 toward Furham Rd**




**TP-4 Location looking South**



**TP-4; 0-3’ fly ash fill mix w/ petroleum odor**



**TP-4; Concrete top 3’**



**TP-4; Black Fly ash – hard digging to 6’**




**TP-5; NW corner Furham/Susquehanna**




**TP-5; Looking North**



**TP-5; Slag Material from 5 to 6’**



**TP-5; Bottom w/slag; Petroleum Odor**



**TP-5; Slag at bottom – very hard layer**



**TP-5; Brown/Black Fly ash mix to ~5’**




**TP-6 - ~70E of TP-5; 0-3’ brown/black fly ash**



**TP-6; ~2.5-3’ slag material**



**TP-6; Gray slag from Excavation**



**TP-6; ~6’ gray to black slag but still hard**



**TP-7; East side of large hill ~60E of from TP-3**




**TP-7; Brownish/Black Ash with wood timbers**



**TP-7; Hard digging to ~5’ then broke through**



**TP-7; Black Soft Fly ash ~ 5-8’ then slag**



**TP-8; 75’N of South Property line in side of slope**



**TP-8; Side slope of fly ash**



**TP-8; More compact Fly ash 0-3’**



**TP-8; Gray slag/brown and gray ash**



**TP-8; Wood timber at slag/ash interface ~5’**



**TP-8; Blue/gray clay below slag ~6’**



**TP-8; Silty/Sandy Clay with gravel**



**TP-8; Chunk of material showing layers**



**TP-8 looking south from top of Ash pile**



**TP-9; ~55’ north of TP-8**




**TP-9; 0-3’ Black Ash w/ wood timber**



**TP-9; More compact ash – hard digging**



**TP-9; Broke through hard layer around 4’**



**TP-9; Softer Black Ash around 5’-8’ then slag ~11’**



**TP-10; Close to center of site near SB-20**




**TP-10 into small fill pile/debris**



**TP-10; 0-3’ Rock/fill material**



**TP-10; Black fly ash 3-6’ compact**



**C&D Debris Near TP-11 and SB-18; shingles**



**C&D Debris – roof shingles near TP-11**



**TP-11 – Slag at ~6-7’**



**TP-11; Black Dense Fly ash**



**TP-11 material**



**TP-11 location**



**Concrete C&D debris at Grade**



**Concrete C&D Debris At Grade**



**TP-12; C&D pile in Northeast Corner**




**TP-12; C&D pile ~ 7’ high**



**TP-12; Pipe material and brick**



**TP-12; Pipe, Brick and Concrete**



**TP-12; Conduit, pipe, brick C&D**



**TP-12; Large concrete with rebar**



**TP-12; C&D with Fly Ash mixed in**




**TP-12;**



**TP-12; Slag layer reached ~4’ below grade**



**TP-12**




**TP-13 at South PL to slope of Ash ~70’ long**



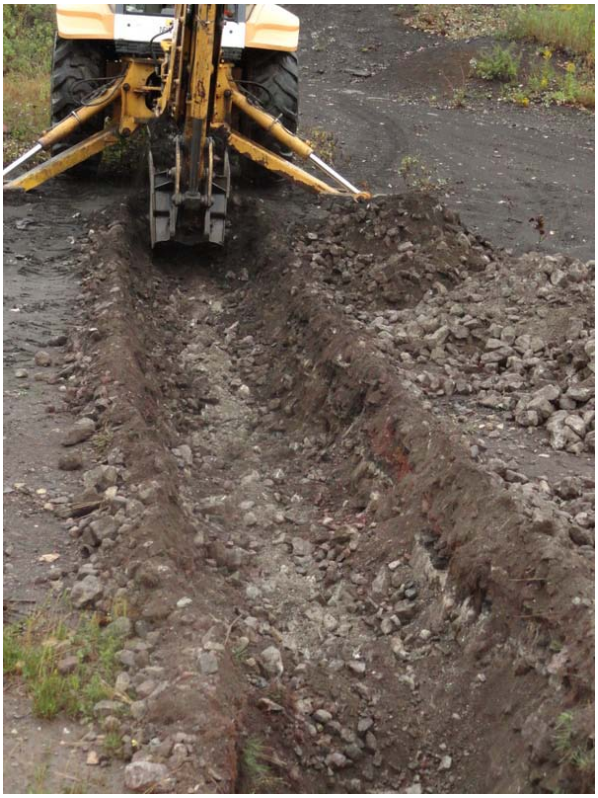
**TP-13; 3”minus stone from 0-1.5’**



**TP-13; 3”minues then gray crushed stone then clay**



**TP-13; Sidewall**



**TP-13; Running north towards fly ash**



**TP-13: Black fly ash top layer gets thicker towards pile**



**TP-13; 3” minus ends about 70’ from PL then black/brown ash 1.5’**



**TP-14; Haz Area within Fence**



**TP-14; Brown Fly Ash – 0-2’; dense**



**TP-15; 75’ from East PL 0-1’ black fly ash**



**TP-15; 1-3.5’ C&D material**



**TP-15; C&D to ~4 feet then gray hard slag**




**TP-15; Extend towards Haz area extent of C&D**



**TP-15; C&D Stops near gate to Haz Area**



**TP-16; 25’ from East PL**



**TP-16; C&D material to 6 feet**



**TP-16; C&D brick, pipe material**



**TP-16; Fiberglass material**



**TP_16; Fiberglass removed from TP**



**TP-16; C&D material to 6’ then slag layer**



**TP-17; Start near PL then move west**



**DSC00490**



**TP-17; Looking East**



**TP-17; Limit of C&D meets Black Ash**



**TP-18; Near NE corner ~ 60’ from North PL**



**TP-18; Looking North; Ash 0-1’**



**TP-18; C&D  to ~5’ then slag layer**

**SUMMARY OF THE ANALYTICAL DATA VALIDATION**
**Buffalo Lakeside**

**Soil Inorganic Analyses**
**Samples Collected: September 17th & 18th, 2012**
**Samples Received: September 20, 2012**
**Sample Delivery Group: L1966**

| Laboratory Reference Numbers | Client Sample Number | Date Collected |
|---|---|---|
| L1966-01 | SB-01 0-4 | 17-Sep-12 |
| L1966-02 | SB-01 4-8 | 17-Sep-12 |
| L1966-03 | SB-02 0-4 | 17-Sep-12 |
| L1966-04 | SB-02 4-8 | 17-Sep-12 |
| L1966-05 | SB-02 8-12 | 17-Sep-12 |
| L1966-06 | SB-03 0-4 | 17-Sep-12 |
| L1966-07 | SB-03 4-8 | 17-Sep-12 |
| L1966-08 | SB-04 0-4 | 17-Sep-12 |
| L1966-09 | SB-04 4-8 | 17-Sep-12 |
| L1966-10 | SB-04 8-12 | 17-Sep-12 |
| L1966-11 | SB-05 0-4 | 17-Sep-12 |
| L1966-12 | SB-05 4-8 | 17-Sep-12 |
| L1966-13 | SB-06 0-4 | 17-Sep-12 |
| L1966-14 | SB-06 4-8 | 17-Sep-12 |
| L1966-15 | SB-07 0-4 | 17-Sep-12 |
| L1966-16 | SB-07 4-8 | 17-Sep-12 |
| L1966-17 | SB-08 0-4 | 17-Sep-12 |
| L1966-18 | SB-08 4-8 | 17-Sep-12 |
| L1966-19 | SB-09 0-4 | 17-Sep-12 |
| L1966-20 | DUP 1 | 18-Sep-12 |
| L1966-20 MS | DUP 1 MS | 18-Sep-12 |
| L1966-20 MD | DUP 1 MD | 18-Sep-12 |

Soil samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* * - Data Completeness
* * - Holding Times
* * - Calibration Verification
  - CRDL Standards
* * - Laboratory Control Sample
  - Serial Dilutions
* * - Calibration Blanks
  - Field Blanks
  - Preparation Blanks
  - Matrix Spike
  - Duplicate Analyses
* * - ICP Interference Check Sample
* * - Detection Limit Results
* * - Linear Range
* * - Sample Results

* - Indicates that all criteria were met for this parameter.

## Data Validation Summary

The problems with the matrix spike, matrix duplicate and serial dilution should be noted.

These are described in detail below

No other problems were detected with the analyses.

## Holding Times

All samples were analyzed within the required holding times.

## CRDL Standards

CRDL standards were not analyzed.

## Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

## Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

## Calibration Blanks

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

## Field Blank

A field blank was not analyzed with this sample delivery group.

## ICP Interference Check Sample

All ICP check samples recoveries were within the 80% - 120% limits.

**Matrix Spike Recovery**

Percent recoveries were within the QC limits with the following exceptions: DUP 1 (L1966-20AMS), Spike sample recovery is below criteria for Antimony at 39% with criteria of (75-125).

The data for antimony were flagged with the “J” qualifier and are estimated values.

**Duplicate Analysis**

Duplicate analyses were performed on sample: DUP 1 (L1966-20ADUP).

Relative percent differences were within the 20% QC limit with the exceptions of

Aluminum (34%), Barium (43%), Beryllium (59%), Cadmium (44%), Calcium (57%), Cobalt (59%), Lead (54%), Magnesium (46%), Manganese (37%), Nickel (51%), Potassium (28%), Selenium (44%), Sodium (49%),Thallium (66%), Vanadium (29%) and Zinc (47%).

The data for these compounds were flagged with the “J” qualifier and are estimated values.

**Laboratory Control Sample**

All laboratory control samples were within the required limits.

**Serial Dilutions**

Serial Dilution analyses were performed on sample DUP 1 (L1966-20ASD).

Percent differences were within the QC limits with the exception of the following: DUP 1 (L1966-20ASD).

The serial dilution analysis was not within control limit for Cobalt (16%), Nickel (10%) and Zinc (13%).

The data for these compounds were flagged with the J qualifier and are estimated values.

**Instrument Detection Limit**

No problems were found with the instrument detection limits.

**ICP Linear Ranges**

No problems were detected with the linear ranges.

## Sample Results

Note: The laboratory used the “B” qualifier to denote sample concentrations between the instrument detection limit and CRDL. This was changed to the “J” qualifier in the interpreted qualifiers column of the EDD.

No other problems were detected with any of these samples.

**SUMMARY OF THE ANALYTICAL DATA VALIDATION**
**Buffalo Lakeside**

**Soil Inorganic Analyses**
**Samples Collected: September 18, 2012**
**Samples Received: September 20, 2012**
**Sample Delivery Group: L1967**

| Laboratory Reference Numbers | Client Sample Number |
|---|---|
| L1967-01 | SB-10 0-4 |
| L1967-02 | SB-10 4-8 |
| L1967-03 | SB-10 8-12 |
| L1967-04 | SB-11 0-4 |
| L1967-05 | SB-11 4-8 |
| L1967-06 | SB-11 8-12 |
| L1967-07 | DUP 2 |
| L1967-08 | SB-12 0-4 |
| L1967-09 | SB-12 4-8 |
| L1967-10 | SB-12 8-12 |
| L1967-11 | SB-13 0-4 |
| L1967-12 | SB-13 4-8 |
| L1967-13 | SB-13 8-12 |
| L1967-14 | SB-14 0-4 |
| L1967-15 | SB-14 4-8 |
| L1967-16 | SB-14 8-12 |
| L1967-17 | SB-14 12-16 |
| L1967-18 | SB-14 16-20 |
| L1967-19 | SB-15 0-4 |
| L1967-20 | SB-16 0-4 |
| L1967-20 MS | SB-16 0-4 MS |
| L1967-20 MD | SB-16 0-4 MD |

Soil samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* * - Data Completeness
* * - Holding Times
* * - Calibration Verification
  - CRDL Standards
* * - Laboratory Control Sample
  - Serial Dilutions
  - Calibration Blanks
  - Field Blanks
  - Preparation Blanks
  - Matrix Spike
  - Duplicate Analyses
* * - ICP Interference Check Sample
* * - Detection Limit Results
* * - Linear Range
* * - Sample Results

* - Indicates that all criteria were met for this parameter.

## Data Validation Summary

The problems with the matrix spike, matrix duplicate and serial dilution should be noted.

These are described in detail below

No other problems were detected with the analyses.

## Holding Times

All samples were analyzed within the required holding times.

## CRDL Standards

CRDL standards were not analyzed.

## Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

## Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

## Calibration Blanks

Lead was detected in the 10/02/12 17:09 continuing calibration blank at a concentration of 11 ug/l.

All of the lead concentrations in the samples were too high to be affected by the low level blank contamination.

Several analytes were found in the other continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

## Field Blank

A field blank was not analyzed with this sample delivery group.

**ICP Interference Check Sample**

All ICP check samples recoveries were within the 80% - 120% limits.

**Matrix Spike Recovery**

Sample SB-16 0-4 (L1967-20AMS) was used for the matrix spike.

All percent recoveries were within the 75% - 125% QC limits with the exceptions of antimony (38%), nickel (73%), selenium (0%) and thallium (22%).

The data for selenium were flagged with the “R” qualifier and technically rejected when it was not detected in a sample.

The selenium data were flagged with the “J” qualifier when they were detected in a sample.

The data for the remaining compounds were flagged with the “J” qualifier and are estimated values.

**Duplicate Analysis**

The duplicate analyses was performed on sample SB-16 0-4 (L1967-20ADUP).

Relative percent differences were within the 20% QC limit with the exceptions of antimony (31%) and copper (89%).

The data for these compounds were flagged with the “J” qualifier and are estimated values.

**Laboratory Control Sample**

All laboratory control samples were within the required limits.

**Serial Dilutions**

The Serial Dilution analysis were performed on sample SB-16 0-4 (L1967-20ADUP).

All percent differences were less than 10% QC limits with the exceptions of arsenic (29%), cadmium (31%), cobalt (19%), lead (16%), magnesium (14%), nickel (13%) and vanadium (18%).

The data for these compounds were flagged with the J qualifier and are estimated values.

**Instrument Detection Limit**

No problems were found with the instrument detection limits.

## ICP Linear Ranges

No problems were detected with the linear ranges.

## Sample Results

Note: The laboratory used the “B” qualifier to denote sample concentrations between the instrument detection limit and CRDL. This was changed to the “J” qualifier in the interpreted qualifiers column of the EDD.

No other problems were detected with any of these samples.

**SUMMARY OF THE ANALYTICAL DATA VALIDATION**
**Buffalo Lakeside**

**Soil Inorganic Analyses**
**Samples Collected: September 18, 2012**
**Samples Received: September 20, 2012**
**Sample Delivery Group: L1968**

| Laboratory Reference Numbers | Client Sample Number |
|---|---|
| L1968-01 | SB-16 4-8 |
| L1968-02 | SB-16 8-12 |
| L1968-03 | SB-17 0-4 |
| L1968-04 | SB-17 4-8 |
| L1968-05 | SB-18 0-4 |
| L1968-06 | SB-18 4-8 |
| L1968-07 | SB-19 0-4 |
| L1968-08 | SB-19 4-8 |
| L1968-09 | SB-20 0-4 |
| L1968-10 | SB-20 4-8 |
| L1968-11 | DUP 3 |
| L1968-12 | SB-21 0-4 |
| L1968-13 | SB-21 4-8 |
| L1968-14 | SB-22 0-4 |
| L1968-15 | SB-22 4-8 |
| L1968-16 | SB-23 0-4 |
| L1968-17 | SB-23 4-8 |
| L1968-18 | SB-23 8-12 |
| L1968-19 | SB-25 0-4 |
| L1968-20 | SB-25 4-8 |
| L1968-20 MS | SB-25 4-8 MS |
| L1968-20 MD | SB-25 4-8 MD |

Soil samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* * - Data Completeness
* * - Holding Times
* * - Calibration Verification
  - CRDL Standards
* * - Laboratory Control Sample
  - Serial Dilutions
  - Calibration Blanks
  - Field Blanks
  - Preparation Blanks
  - Matrix Spike
  - Duplicate Analyses
* * - ICP Interference Check Sample
* * - Detection Limit Results
* * - Linear Range
* * - Sample Results

* - Indicates that all criteria were met for this parameter.

## Data Validation Summary

The problems with the matrix spike, matrix duplicate and serial dilution should be noted.

These are described in detail below

No other problems were detected with the analyses.

## Holding Times

All samples were analyzed within the required holding times.

## CRDL Standards

CRDL standards were not analyzed.

## Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

## Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

## Calibration Blanks

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

## Field Blank

A field blank was not analyzed with this sample delivery group.

## ICP Interference Check Sample

All ICP check samples recoveries were within the 80% - 120% limits.

## Matrix Spike Recovery

Sample SB-25 4-8 (L1968-20AMS) was used for the matrix spike.

All percent recoveries were within the 75% - 125% QC limits with the exceptions of antimony (46%), arsenic (56%), nickel (705%), selenium (0%), thallium (0%) and zinc (37%).

The data for selenium and thallium were flagged with the “R” qualifier and technically rejected when they were not detected in a sample.

The selenium and thallium data were flagged with the “J” qualifier when they were detected in a sample.

The data for the remaining compounds were flagged with the “J” qualifier and are estimated values.

**Duplicate Analysis**

The duplicate analyses was performed on sample SB-25 4-8 (L1968-20ADUP).

Relative percent differences were within the 20% QC limit with the exceptions of aluminum (22%), barium (33%), chromium (22%), lead (22%), nickel (59%), potassium (91%), sodium (142%), vanadium (50%) and zinc (24%).

The data for these compounds were flagged with the “J” qualifier and are estimated values.

**Laboratory Control Sample**

All laboratory control samples were within the required limits.

**Serial Dilutions**

The serial dilution analysis was performed on sample SB-25 4-8 (L1968-20ASD).

All percent differences were less than 10% QC limits with the exceptions of arsenic (29%), beryllium (12%), cadmium (64%), cobalt (17%), lead (19%), magnesium (16%), nickel (17%), potassium (10%), sodium (76%), vanadium (36%) and zinc (23%).

The data for these compounds were flagged with the J qualifier and are estimated values.

**Instrument Detection Limit**

No problems were found with the instrument detection limits.

**ICP Linear Ranges**

No problems were detected with the linear ranges.

**Sample Results**

Note: The laboratory used the “B” qualifier to denote sample concentrations between the instrument detection limit and CRDL. This was changed to the “J” qualifier in the interpreted qualifiers column of the EDD.

No other problems were detected with any of these samples.

**SUMMARY OF THE ANALYTICAL DATA VALIDATION**
**Buffalo Lakeside**

**Soil Inorganic Analyses**
**Samples Collected: September 18th & 19th, 2012**
**Samples Received: September 20, 2012**
**Sample Delivery Group: L1969**

| Laboratory Reference Numbers | Client Sample Number |
|---|---|
| L1969-01 | SB-25 8-12 |
| L1969-02 | SB-24 0-4 |
| L1969-03 | SB-24 4-8 |
| L1969-04 | SS-1 |
| L1969-05 | SS-2 |

Soil samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* * - Data Completeness
* * - Holding Times
* * - Calibration Verification
  - CRDL Standards
* * - Laboratory Control Sample
  - Serial Dilutions
  - Calibration Blanks
  - Field Blanks
  - Preparation Blanks
  - Matrix Spike
  - Duplicate Analyses
* * - ICP Interference Check Sample
* * - Detection Limit Results
* * - Linear Range
* * - Sample Results

* - Indicates that all criteria were met for this parameter.

**Data Validation Summary**

No problems were detected with the analyses.

**Holding Times**

All samples were analyzed within the required holding times.

**CRDL Standards**

CRDL standards were not analyzed.

**Initial and Continuing Calibrations**

No problems were detected with any of the calibrations associated with this sample delivery group.

**Preparation Blank**

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

**Calibration Blanks**

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

**Field Blank**

A field blank was not analyzed with this sample delivery group.

**ICP Interference Check Sample**

All ICP check samples recoveries were within the 80% - 120% limits.

**Matrix Spike Recovery**

A matrix spike was not analyzed.

**Duplicate Analysis**

The duplicate sample was not analyzed.

**Laboratory Control Sample**

All laboratory control samples were within the required limits.

**Serial Dilutions**

A serial dilution was not analyzed.

**Instrument Detection Limit**

No problems were found with the instrument detection limits.

**ICP Linear Ranges**

No problems were detected with the linear ranges.

## Sample Results

Note: The laboratory used the “B” qualifier to denote sample concentrations between the instrument detection limit and CRDL. This was changed to the “J” qualifier in the interpreted qualifiers column of the EDD.

No other problems were detected with any of these samples.

**SUMMARY OF THE ANALYTICAL DATA VALIDATION**
**Buffalo Lakeside**

**Soil Inorganic Analyses**
**Samples Collected: September 18th, 2012**
**Samples Received: September 20, 2012**
**Sample Delivery Group: L1970**

| Laboratory Reference Numbers | Client Sample Number |
|---|---|
| L1970-01 | TCLP-1 |
| L1970-02 | SB-15 0-4 |

Soil samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - Holding Times
* - Calibration Verification
- CRDL Standards
* - Laboratory Control Sample
- Serial Dilutions
- Calibration Blanks
- Field Blanks
- Preparation Blanks
- Matrix Spike
- Duplicate Analyses
* - ICP Interference Check Sample
* - Detection Limit Results
* - Linear Range
* - Sample Results

* - Indicates that all criteria were met for this parameter.

**Data Validation Summary**

No problems were detected with the analyses.

**Holding Times**

All samples were analyzed within the required holding times.

**CRDL Standards**

CRDL standards were not analyzed.

**Initial and Continuing Calibrations**

No problems were detected with any of the calibrations associated with this sample delivery group.

**Preparation Blank**

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

**Calibration Blanks**

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

**Field Blank**

A field blank was not analyzed with this sample delivery group.

**ICP Interference Check Sample**

All ICP check samples recoveries were within the 80% - 120% limits.

**Matrix Spike Recovery**

A matrix spike was not analyzed.

**Duplicate Analysis**

The duplicate sample was not analyzed.

**Laboratory Control Sample**

All laboratory control samples were within the required limits.

**Serial Dilutions**

A serial dilution was not analyzed.

**Instrument Detection Limit**

No problems were found with the instrument detection limits.

**ICP Linear Ranges**

No problems were detected with the linear ranges.

**Sample Results**

Note: The laboratory used the “B” qualifier to denote sample concentrations between the instrument detection limit and CRDL. This was changed to the “J” qualifier in the interpreted qualifiers column of the EDD.

No other problems were detected with any of these samples.