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April 10, 2015

Reference No. 080987-30

Mr. Daniel J. Eaton
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7015

Dear Sir:

Re: Pre-Design Investigation Report
OU-3 Sediments
Friedrichsohn Cooperage Site, 153-155 Saratoga Avenue, Waterford, New York

On behalf of SI Group Inc. and the General Electric Company (Companies), we have enclosed the Pre-Design Investigation Report for OU-3 Sediments for New York State Department of Environmental Conservation (NYSDEC) review and approval. The Pre-Design Investigation Report presents the results of the pre-design investigation work that was conducted in accordance with the NYSDEC approved RD/RA Work Plan.

The Pre-Design Investigation Report is being submitted in electronic (PDF) format and hard copies.

Should you have any questions or require additional information or clarification, please do not hesitate to contact the undersigned.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

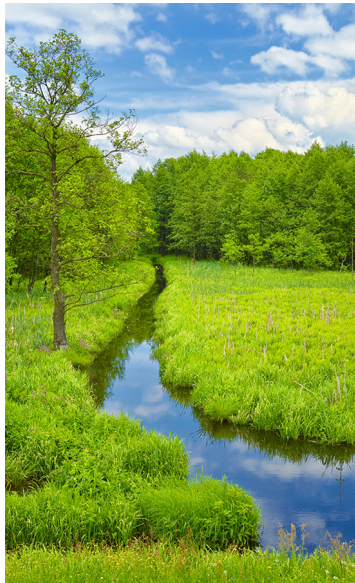
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Pre-Design Investigation Report OU-3 Sediments

Friedrichsohn Cooperage Site
153-155 Saratoga Avenue
Town of Waterford, New York

Prepared for: General Electric Company and SI Group, Inc.

Conestoga-Rovers & Associates

651 Colby Drive
Waterloo, Ontario N2V 1C2

April 10, 2015 • 080987 • Report No. 8

Certification

I certify that I am currently an NYS registered professional engineer and that this Pre-Design Investigation Report for OU-3 Sediments for the Friedrichsohn Cooperage Site was prepared in accordance with applicable statutes and regulations and in substantial conformance with the New York State Department of Environmental conservation (NYSDEC) DER Technical Guidance for Site Investigation and Remediation (DER-10)



Robert G. Adams, P.E.
CRA Infrastructure & Engineering, Inc.
Registration No. 064918



Date

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Section 1.0 Introduction

The Friedrichsohn Cooperage inactive hazardous waste site (the Site) is located at 153-155 Saratoga Avenue in the Town of Waterford, New York (see Figure 1.1 for the Site location). The Site is comprised of three Operable Units (OUs). OU-1 is comprised of the on-Site and off-Site contaminated soils associated with the former cooperage operation. OU-2 is comprised of the on-Site and off-Site groundwater. OU-3 is comprised primarily of the sediments in the Old Champlain Canal between O'Connor Drive and Burton Avenue, and also includes on-Site source area soils.

On behalf of General Electric Company and SI Group, Inc. (the Companies), Conestoga-Rovers & Associates (CRA) prepared and submitted to New York State Department of Environmental Conservation (NYSDEC) a Remedial Design/Remedial Action Work Plan (Work Plan) dated July 22, 2014 for OU-3 Sediments. The Work Plan provides for the development and implementation of final plans and specifications for implementing the remedial alternative for OU-3 Sediments. The Work Plan also presented a pre-design investigation program aimed at collecting the additional data necessary to complete the remedial design. This Pre-Design Investigation (PDI) Report presents the pre-design data collected in accordance with the NYSDEC approved Work Plan.

This PDI Report has been prepared by CRA in accordance with the NYSDEC approved Work Plan and the Order on Consent (Consent Order) between the NYSDEC and the Companies, which became effective February 7, 2013 (Index No. A5-0784-1202). A separate PDI report was submitted for OU-1 on-Site soils and the upland source soils in OU-3 on January 27, 2015.

The PDI Report is organized as follows:

- Section 1.0 – Introduction
- Section 2.0 – Background Information
- Section 3.0 – Pre-Design Investigation Objectives
- Section 4.0 – Historical Data
- Section 5.0 – Pre-Design Data Collection and Results
- Section 6.0 – Overview

Section 2.0 Background Information

2.1 Site Location and Description

The Site is located at 153-155 Saratoga Avenue, Waterford, Saratoga County, New York. A Site location map is presented as Figure 1.1. The Site is approximately 0.45 acres in size and has

approximately 315 feet of frontage on Saratoga Avenue (Route 32). The Old Champlain Canal borders the Site on the side opposite the road. Residential properties are adjacent to the Site on Saratoga Avenue; residential and commercial properties are also located across from the Site on Saratoga Avenue. The Site is currently a vacant lot. OU-3 is comprised of the section of Old Champlain Canal between O'Connor Drive and Burton Avenue. The approximate boundaries of the Site including OU-3 are shown on Figure 2.1.

Access to the Site is limited by an eight-foot tall, lockable, chain-link fence that has been installed around the former Friedrichsohn Cooperage property. Warning signs have been installed on the fencing.

The Site is currently zoned as residential (R-75) and is served by the public water supply system and the public storm water and sanitary systems. The commercial properties across from the Site are located on property formerly known as the Friedrichsohn Cooperage Lot, which was used to store drums.

2.2 Old Champlain Canal

The Champlain Canal was first considered in 1792 as a means of creating a waterway between Lake Champlain and the Hudson River. Construction of the Canal commenced in 1817 at the northern end and progressed southward with the southern section at Waterford being completed in 1822.

2.3 Site History

A cooperage operated at this location from 1817 to 1991. During the early operations the cooperage made and refurbished wooden kegs and barrels. When the cooperage closed in 1991 the primary business had been cleaning and refurbishing metal drums. Industrial facilities in the area used materials shipped in drums in their industrial processes. Drums would be sent to the cooperage to be cleaned, repainted, and resold. The drum cleaning and refurbishing operations are alleged to be the source of the contamination that was identified at the Site.

During its most recent history, the cooperage operated out of five buildings at the Site. Three of the five buildings were constructed as slab-on-grade. Two of the buildings contained structures below grade. One of the buildings had a basement area, below grade, where sumps were located. One of the buildings on the southwest end of the Site is labeled as a garage on historical drawings, and had an automobile service trench associated with it. The service trench is below grade and provided access to the undercarriage of vehicles.

Inspection and examination of the abandoned business in 1994 revealed many metal drums, and the buildings to be unstable and in poor condition. The U.S. EPA conducted an emergency

removal action between 1994 and 1996. The cooperage buildings were demolished, and clean fill was imported to replace contaminated soil that was removed. In the spring of 2008, NYSDEC collected samples of soil, groundwater, and surface water and sediment in the canal. The analytical results formed the basis for the listing of the Site in December 2008 as a Class 2 Site on the NYS Registry of Inactive Hazardous Waste Disposal Sites.

The contaminants of concern (COCs) at the Site include polychlorinated biphenyls (PCBs), chlorinated volatile organic compounds (VOCs) (tetrachloroethane, trichloroethane, dichloroethene, vinyl chloride, and chlorobenzene), benzene, toluene, ethylbenzene, xylenes (BTEX), phenolic compounds (phenol and dimethylphenol), hexachlorobenzene, and metals (arsenic, barium, chrome, and lead).

NYSDEC issued a ROD for OU-1 in December 2012 and a ROD for OU-3 in March 2011. In the OU-1 ROD, NYSDEC selected the Site Cover remedy to achieve restricted residential soil cleanup objective (SCOs). In addition to the Site cover component, the remedy also included Institutional Controls. In the OU-3 ROD, the remedy pertinent to the on-Site source area included excavating the source soil down to bedrock and transporting it off-Site for disposal. The components of the remedy for OU-1 and OU-3 soils are discussed in the Work Plan for OU-1 and Upland Source Soils in OU-3, previously submitted. In January 2013, the Companies and NYSDEC entered into a Consent Order to conduct and implement a Work Plan. The objective of the Work Plan was to provide for the development and implementation of final plans and specifications for implementing the remedial alternative set forth in the NYSDEC RODs, dated March 2011 and December 2012. The Work Plan for OU-1 and Upland Source Soils in OU-3 was previously submitted on July 9, 2013. A separate PDI report was submitted for OU-1 on-Site soils and the upland source soils in OU-3 on January 27, 2015.

In the OU-3 ROD, the remedy pertinent to OU-3 sediment, as specified in the ROD is as follows:

- Address contamination of sediment of the Old Champlain Canal from O'Connor Drive in the south to Burton Avenue north of the site, with the horizontal and vertical extent to be refined by sampling during the design.
- PCBs have been identified by NYSDEC as the marker compound for the canal sediments. The remedial objective is removal of sediment within OU-3 for off-site disposal to achieve a cleanup goal of 1 ppm, consistent with verification sampling procedures established as part of the remedial design process.
- Excavation of an estimated 12,500 cubic yards of sediment from the canal within the boundary of OU-3 to a depth of approximately two feet below the existing top of sediment. Where necessary, excavated sediments in the canal will be replaced with clean fill to establish the original design water depth of six feet in the canal.

- Off-Site transport and disposal of excavated sediments (including sediments with PCBs above 50 ppm) will be shipped to a permitted disposal facility.
- Restored canal bed will meet NYS Canal Corporation requirements.
- Design will contain elements to stabilize excavations, control water within the excavation, control odors, and dewater the excavated materials. In areas where the excavation does not end in bedrock, the design will also require confirmation sediment/soil sampling to verify the extent of contamination has been removed.

Section 3.0 Pre-Design Investigation Objectives

The OU-3 sediment remediation activities involve removal of sediment from OU-3 which exceeds the Standards, Criteria, and Guidance (SCG) concentration of 1 milligram per kilogram (mg/kg) total PCBs. Sediments with total PCB concentrations over 50 mg/kg will be removed and disposed as Toxic Substances Control Act (TSCA)-regulated waste. Removal of TSCA-regulated material may involve deeper excavation of sediments and soils adjacent to the OU-3 upland soil source area. This upland area is discussed in detail in the Work Plan for OU-1 and Upland Source Soils in OU-3 (CRA, July 9, 2013). Information obtained as part of the OU-3 upland soil source area pre-design investigation is presented in the Pre-Design Investigation Report, OU-1 and Upland Source Soils in OU-3 (CRA, January 27, 2015). This information will be utilized in conjunction with data collected for OU-3 sediment to support detailed design activities for the OU-3 sediment exceeding 50 mg/kg PCBs.

Additional pre-design data were necessary in order to complete the remedial design for OU-3 sediments. Specific pre-design data collection tasks include:

- Collection of additional sediment samples to further define the vertical extent of PCB concentrations exceeding 50 mg/kg PCBs
- Collection of additional sediment samples to further define the horizontal and vertical extent of sediment which is below 50 mg/kg PCBs but exceeds the SCG concentration of 1 mg/kg PCBs
- Characterization of sediment for disposal
- Provide additional sediment physical data to evaluate dewatering characteristics
- Characterization of wastewater anticipated to be generated during sediment removal and dewatering in order to evaluate pre-treatment requirements
- Identification of utilities, access points, haul routes, and nearby receptors

This report presents the pre-design data collected in accordance with the Work Plan for OU-3 Sediments.

Section 4.0 Historical Data

The available historic sediment data for OU-3 was reviewed as part of preparation of the Work Plan. Sediment data was included in the following reports that were available during the preparation of the Work Plan:

- Summary Report for a Preliminary Site Assessment, Friedrichsohn Cooperage Site (5-46-045), EA Engineering, October 2008
- Focused Remedial Investigation/Feasibility Study, Malcolm Pirnie, April 2010
- Proposed Remedial Action Plan, Operable Unit Number 03, NYSDEC, February 2011
- Record of Decision, Operable Unit Number 03, NYSDEC, March 2011
- Post RI Pre-Design Sediment Sampling Data Tables and Sample Location Figures, Malcolm Pirnie, December 2011
- Fact Sheet, Operable Unit Number 01, NYSDEC, October 2012
- Record of Decision, Operable Unit Number 01, NYSDEC, December 2012
- Order on Consent and Administrative Settlement, Index A5-074-1202 Friedrichsohn Cooperage Site #564045

Of the eight documents listed above, four included tabulated data for sediment. The remaining documents include summary statistics for the data but not the parent data. The parent data for the sediment data summaries presented in OU-3 ROD and PRAPs were provided by the NYSDEC in electronic Equis file format.

A summary of the number of sediment samples collected within OU-3 and the associated sampling events are as follows:

- **April 2008** – A total of eight sediment samples were collected from four Canal locations (SD-01 to SD-04) collected using a slide hammer with a stainless steel sample collection bucket.
- **August 2009** – A total of 36 sediment samples were collected from 31 Canal locations (FC-SD-01 to FC-SD-31) and two sediment samples were collected from west of Garret Field (FC-SD-32 and FC-SD-33). Sediment samples were collected by advancing Macrocore sleeves manually or with a Geoprobe direct-push drill rig. Borings in the Canal center

channel were collected using a floating barge. Borings drilled inside of the fence were advanced from shore.

- **April 2010** – A total of five sediment samples were collected from five Canal locations (FC-SED01 to FC-SED05).
- **January to March 2011** – A total of 288 sediment samples from collected from 108 Canal locations (SD-01 to SD-70, SD-73 to SD-75, SD-77 to SD-81, SD-84 to SD-85, SD-89 to SD-94, SD-103 to SD-124).

Data obtained from sediment samples collected as part of two sampling events (April 2008 and August 2009) were utilized to support development of the FS. These data as well as data generated from a sampling event in February 2011 were utilized to support development of the OU-3 ROD. The 2008 and 2009 sampling events focused on surficial sampling and did not include any discrete samples located entirely below the anticipated average sediment removal depth of two-feet identified in the OU-3 ROD (page 22). Data collected in the February 2011 sampling event included deeper sample intervals.

4.1 Sediment Delineation

Based on review of the available data, a number of uncertainties were identified and utilized to define the scope of additional delineation presented in the Work Plan as described below.

- Delineation of TSCA Regulated Sediment:** Significant effort has been made to delineate the extent of sediment with total PCB concentrations >50 mg/kg which will be subject to disposal in a TSCA approved disposal facility (TSCA material). A total of 22 sample locations were identified where total PCB concentrations exceeded 50 mg/kg. The limits of TSCA material against the northern bank of the canal have been well defined horizontally. Additional sampling was proposed in the Work Plan to provide additional data to refine the limits of TSCA material.
- Delineation of <50 mg/kg PCB Sediment:** Limited delineation of the horizontal extent of sediment exceeding the total PCB SCG of 1 mg/kg was determined to be beneficial to ensure areas not requiring removal are fully defined. Additional vertical delineation throughout most of the canal between O'Connor Drive and Burton Avenue was proposed in the Work Plan to support development of cut lines for sediment removal as part of the Remedial Design.

A total of 43 sediment core sampling locations were proposed in the Work Plan.

Section 5.0 Pre-Design Data Collection and Results

Pre-design data collection activities included the following tasks.

- Sediment Volume Delineation
- Dewatering/Stabilization of Dredged Sediment
- Wastewater Characterization
- Utility Locates and Other Pre-Design Activities

A description of each of the pre-design investigation activities are presented in the following subsections.

Sampling activities were completed in accordance with a Canal Work Permit issued by the NYS Canal Corporation, included as Appendix A.

5.1 Sediment Volume Delineation

Additional sediment delineation was completed to meet the following objectives:

1. Further delineate vertical extent of material exceeding 50 mg/kg PCBs in OU-3 sediment
2. Further delineate vertical and horizontal extent of material exceeding 1 mg/kg PCBs in OU-3 sediment
3. Confirm and refine the limits of areas of sediment which do not exceed the PCB SCGs and which may remain in place
4. Identify any significant layers of non-TSCA regulated sediment overlying TSCA regulated sediment which may be effectively segregated from TSCA material
5. Identify layers of sediment with PCBs at concentrations below the SCGs which overly sediment exceeding SCGs and which may be effectively segregated and remain in the canal
6. Identify the depth to the canal liner and possibly bedrock in the canal

5.1.1 Field Investigation Summary

A total of 120 sediment samples (including six duplicates) were collected from 43 locations (SD-200 through SD-242) by CRA in November 2014. Sediment sampling locations from the current investigation are presented along sediment sampling locations from the historic investigation on Figure 2.1.

Consistent with the Work Plan and Field Sampling Plan (FSP), sediment cores were sub-sectioned into one foot increments from the specified starting elevation to bedrock (or to a maximum depth of eight- feet). Cores were advanced by Normandeau Associates, Inc. using a boat mounted Vibracore sampler equipped with a Differential Global Positioning System (DGPS). The water depth was recorded at each location. Cores were advanced to the target depth or until refusal was encountered. Cores with less than 60 percent recovery were resampled. At each core location, the uppermost interval designated for sampling in the Work Plan was submitted for chemical analysis. All deeper core sample intervals were extracted and the extract placed on hold pending review of the results for the shallower sample. Samples were analyzed moving downward from the starting sample interval until a sample with PCB concentration below the SCG of 1 mg/kg PCBs was identified. Table 5.1 presents a summary of sediment coring activities. Stratigraphic information was recorded by a CRA field geologist and core logs are provided in Appendix B. Core collection field forms are presented in Appendix C.

All sediment samples were submitted to Spectrum Analytical, Inc. for PCB analysis consistent with the procedures defined in the Quality Assurance Project Plan (QAPP). Samples collected for PCB analysis were also evaluated to obtain physical data (grain size and moisture content) and Total Organic Carbon (TOC) data. Grain size and TOC samples were selected in the field to be representative of differing sediment deposits based on visual classification. Six samples were submitted for TOC analysis. In accordance with the Work Plan, some samples for PCB analysis were held in the laboratory pending receipt of sediment samples collected from shallower depths. The laboratory was directed to analyze the held samples if delineation of greater than 1 mg/kg PCBs was not achieved. In total, 100 of 120 samples collected were analyzed as presented in Table 5.1. All samples were analyzed within the sample hold times in the QAPP. Sediment analytical data reports from Spectrum Analytical, Inc. are provided in Appendix D and the results are summarized in Table 5.2. Table 5.3 presents the sediment sample key. All 2014 sediment data has been validated and a validation memorandum is provided in Appendix E of this report. The 2014 sediment sampling results are presented on Figure 5.1.

5.1.2 PCB Sediment Sampling Results

Sediment results from the current investigation were reviewed and compared with the historical sampling results for sampling locations within Old Champlain Canal. The 2014 sediment sampling results are presented in Table 5.2 and on Figure 5.1.

The limits of TSCA material against the northern bank of the canal had been well defined previously. The areas of uncertainty in the limits of TSCA material previously identified in the Work Plan have been sufficiently delineated with the new data to support the Remedial Design.

The vertical extent of sediment with concentrations of PCBs >50 mg/kg has been defined vertically and is consistently within the top four- feet of sediment within the Canal.

Based on historical data and completion of sampling activities identified in the Work Plan, the presence of PCBs exceeding the total PCB SCG of 1 mg/kg has been sufficiently delineated using the new data to support the Remedial Design.

5.2 Dewatering/Stabilization of Dredged Sediment

5.2.1 Field Investigation Summary

Consistent with the Work Plan, during the November 2014 sediment investigation, additional sediment from the upper four- feet of sediment was collected and homogenized into a bulk sediment sample for treatability testing. Core locations for the bulk sediment sample were selected in the field in order to provide representative coverage of areas of potential sediment removal from the canal.

5.2.2 Dewatering/Stabilization of Dredged Sediment Results

Appendix F presents a technical memorandum that summarizes sample collection and handling, characterization, and testing procedures and results for the bench scale stabilization tests. The treatability study identified that mechanical dewatering, gravity dewatering and stabilization with the addition of stabilization reagents were potentially applicable methods to meet landfill acceptance criteria for the sediment following excavation. This evaluation provides the Design Team with the necessary information to develop an appropriate and cost-effective approach to material handling.

5.3 Wastewater Characterization

Dewatering filtrate from the dewatering treatability testing was collected and characterized to support development of wastewater treatment requirements as part of the Remedial Design.

Appendix F presents a technical memorandum that summarizes sample collection, handling, characterization, and testing procedures and results. These data provide the Design Team with the necessary information to support development of the wastewater treatment design requirements.

5.4 Utility Locates and other Pre-Design Activities

Local utilities were contacted prior to initiation of the field investigation to identify the availability of utilities which may be needed to support remedy implementation and utilities which exist within areas to be remediated. A call made to Dig Safe New York in November 2014

returned a response of "Clear, No facilities within 15 feet of the excavator defined work area" for area utilities. Stormwater entering the work areas from overland flow or point discharges into the canal will be temporarily diverted during sediment removal activities. This information will be incorporated into the design plans during the Remedial Design.

Section 6.0 Overview

Sediment Volume Delineation

Sufficient information has been obtained through the completion of the Pre-Design Sampling to provide vertical and horizontal delineation of TSCA material and material with concentrations of PCBs above the SCG for total PCBs. The location of TSCA material with PCBs greater than 50 mg/kg was confirmed to be confined to the area adjacent to the Site. With the additional sample density, cut lines for the removal of TSCA material with PCBs greater than 50 mg/kg will be defined during the Remedial Design and excavation volumes will be developed.

The areas of uncertainty in the delineation of material exceeding the total PCB SCG that were identified in the Work Plan were addressed by the Pre-Design Sampling. One area of uncertainty, investigated by core SD-201, was confirmed to contain PCBs at concentrations slightly exceeding the SCG. The area of uncertainty investigated by cores SD-226 and SD-228 was confirmed to be below the total PCB SCG. In other areas of uncertainty, located to the east and west of the Site, sufficient data was obtained to classify these areas as being above, or below the total PCB SCG.

Dewatering/Stabilization of Dredged Sediment

The treatability study identified that mechanical dewatering, gravity dewatering and stabilization were potentially applicable methods to meet landfill acceptance criteria for the sediment following excavation. Sediment removal is anticipated to be completed while the canal is dewatered, further reducing the initial water content of the sediments. CRA anticipates that mechanical dewatering will not be required. Much of the sediment will likely meet disposal facility criteria without dewatering. For the material which does require dewatering, gravity dewatering will be employed. The Remedial Contractor will be required to maintain a small quantity of stabilization reagent on site to be used to augment gravity dewatering if necessary.

Wastewater Characterization

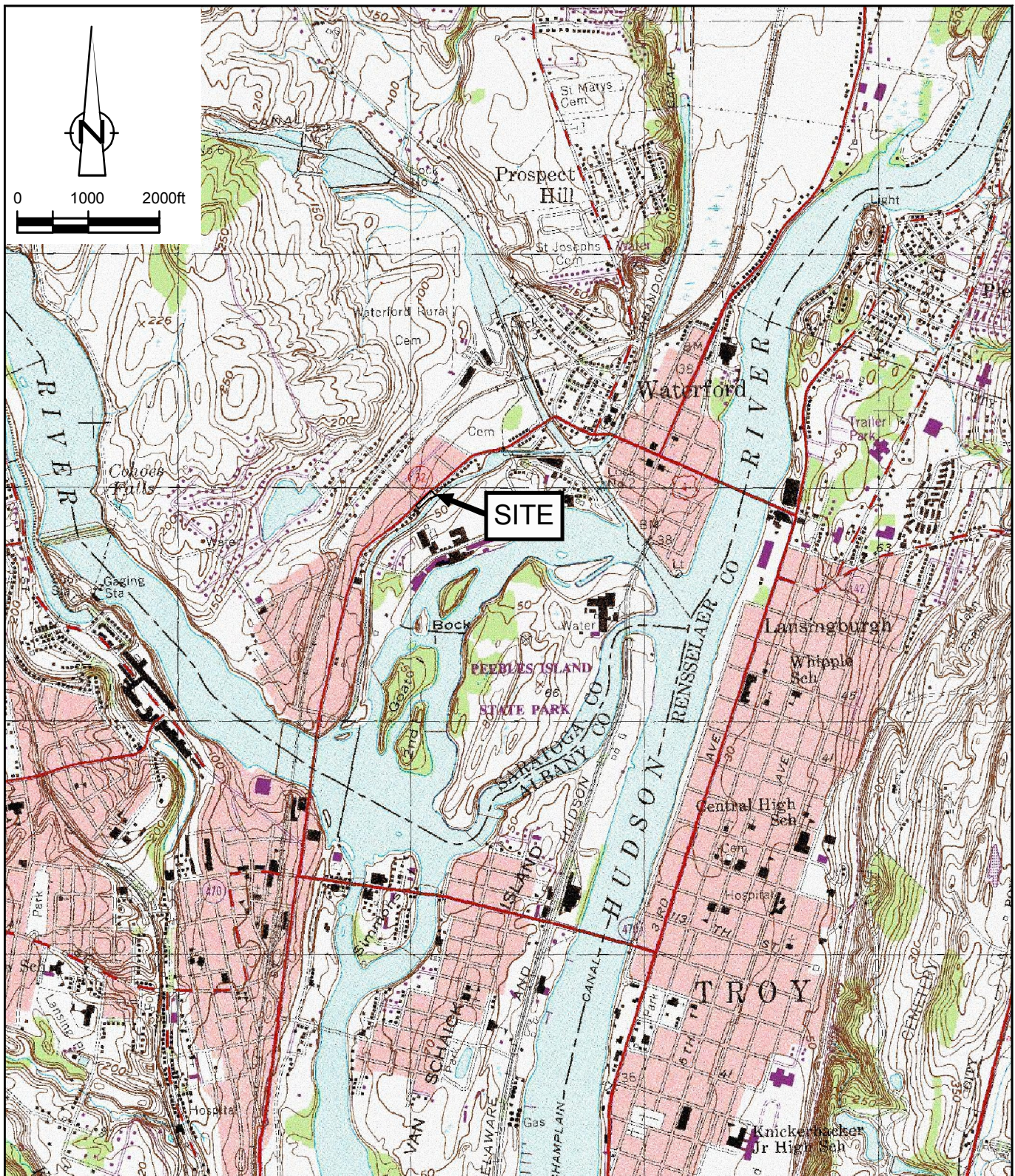
This data will be utilized along with estimated groundwater and precipitation volumes and characteristics to determine the necessary wastewater treatment system components and storage volume requirements.

Utility Locates and other Pre-Design Activities

The information obtained on utilities, access points, haul routes, and nearby receptors will be incorporated into the Remedial Design process. The owners of utilities which are needed to support the remedy implementation, or which will be temporarily diverted to facilitate sediment removal, will be contacted during the Remedial Design to confirm the acceptability of proposed activities.

Section 7.0 Conclusions

The pre-design sample collection data set is complete and no additional data collection is necessary to support the OU-3 Sediments Remedial Design.

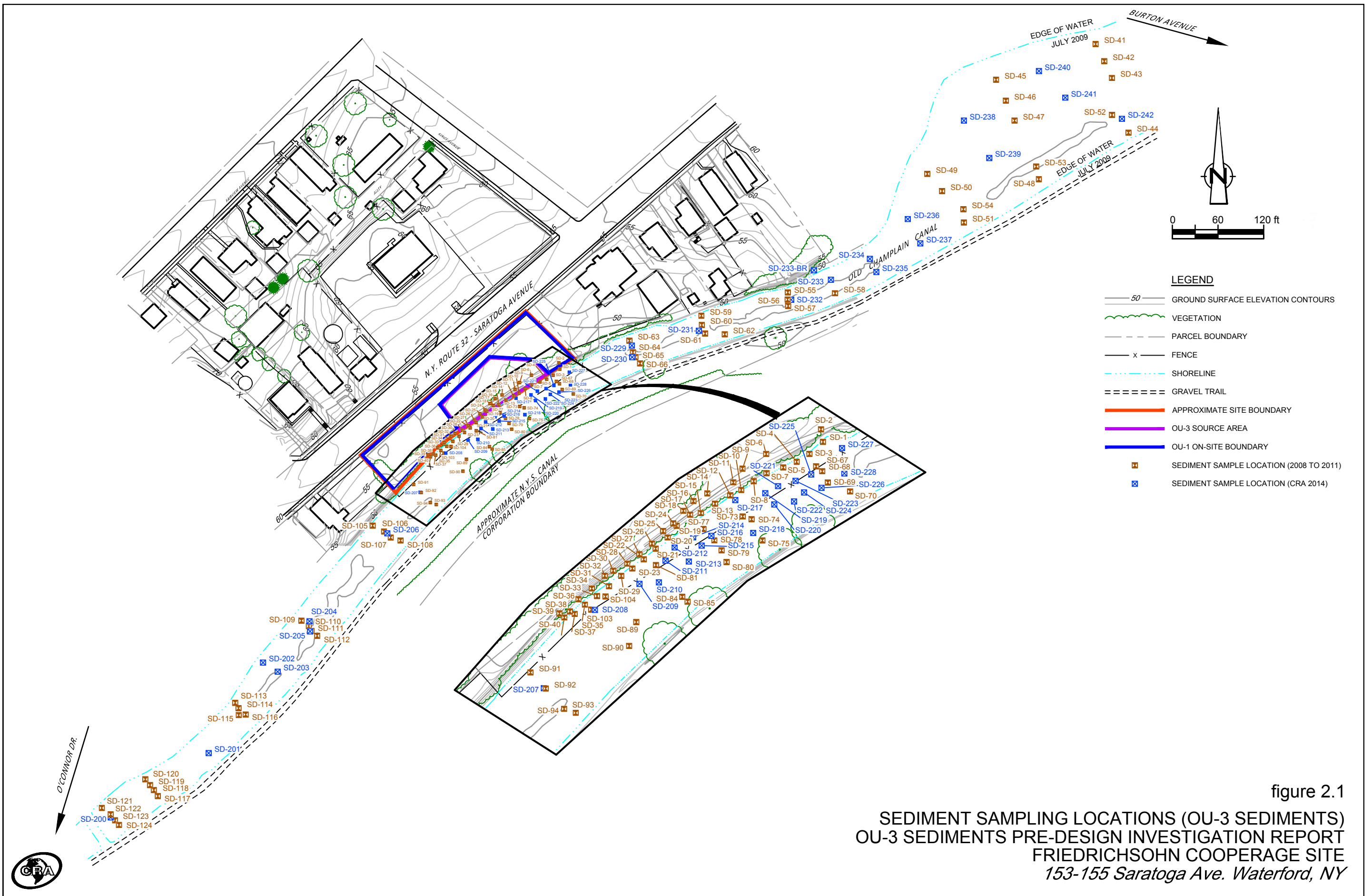


USGS QUADRANGLE MAP
NORTH TROY, NEW YORK

figure 1.1

SITE LOCATION
OU-3 SEDIMENTS PRE-DESIGN INVESTIGATION REPORT
FRIEDRICHSOHN COOPERAGE SITE
153-155 Saratoga Ave., Waterford, N.Y.





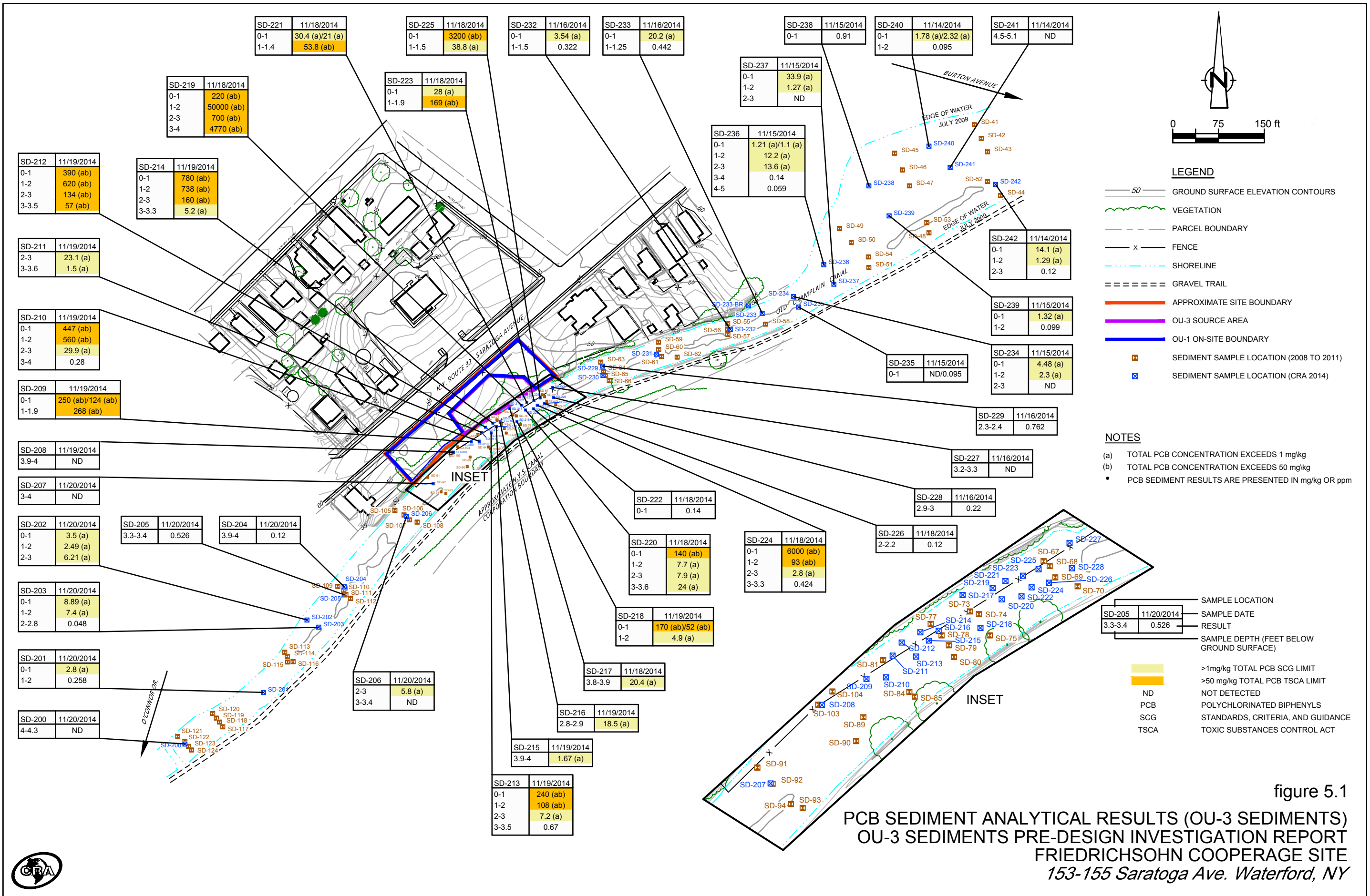


TABLE 5.1

SUMMARY OF SEDIMENT CORING ACTIVITIES
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Station ID	Sampling Reason (TSCA/Aerial/ Vertical)	Sample Date	Sample ID	Proposed Start Depth of Sampling (ft)	Actual Sample Interval (ft)	Water Depth (ft)	Penetration (ft)	Recovery (ft)	% Recovery	Number of Attempts	QA/QC	Analysis	Total PCBs (mg/kg)	Comments
SD-200	V	11/20/2014	126	4.5	4.0 to 4.3	2.7	4.8	4.3	90%	2	-	PCB/MC	ND	Sample collected at refusal and placed on hold.
SD-201	A/V	11/20/2014	123	0	0 to 1	4.8	3.0	2.4	79%	2	-	PCB/MC	2.8	--
SD-201	A/V	11/20/2014	124	0	1 to 2	4.8	3.0	2.4	79%	2	-	PCB/MC	0.258	--
SD-201	A/V	11/20/2014	125	0	2 to 2.4	4.8	3.0	2.4	79%	2	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-202	A/V	11/20/2014	117	0	0 to 1	2.1	3.2	3.2	100%	1	-	PCB/MC	3.5	--
SD-202	A/V	11/20/2014	118	0	1 to 2	2.1	3.2	3.2	100%	1	-	PCB/MC	2.49	--
SD-202	A/V	11/20/2014	119	0	2 to 3	2.1	3.2	3.2	100%	1	-	PCB/MC	6.21	--
SD-203	A/V	11/20/2014	120	0	0 to 1	4.2	2.8	2.8	100%	1	-	PCB/MC	8.89	--
SD-203	A/V	11/20/2014	121	0	1 to 2	4.2	2.8	2.8	100%	1	-	PCB/MC	7.4	--
SD-203	A/V	11/20/2014	122	0	2 to 2.8	4.2	2.8	2.8	100%	1	-	PCB/MC	0.048	--
SD-204	V	11/20/2014	113	4.5	3.9 to 4.0	3.4	4.0	4.0	100%	2	-	PCB/MC	0.12	Sample collected at refusal and placed on hold.
SD-205	V	11/20/2014	114	4.5	3.3 to 3.4	3.6	3.4	3.4	100%	2	-	PCB/MC	0.526	--
SD-205	V	11/20/2014	115	4.5	3 to 4	3.6	3.4	3.4	100%	2	-	GS/TOC	-	--
SD-206	V	11/20/2014	111	2.5	2 to 3	3.4	3.4	3.4	100%	1	-	PCB/MC	5.8	--
SD-206	V	11/20/2014	112	2.5	3 to 3.4	3.4	3.4	3.4	100%	1	-	PCB/MC	ND	--
SD-207	V	11/20/2014	109	3.5	3 to 4	3.3	4.3	4.3	100%	1	MS/MSD	PCB/MC	ND	--
SD-207	V	11/20/2014	110	3.5	4 to 4.3	3.3	4.3	4.3	100%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-208	V	11/19/2014	108	5.0	3.9 to 4.0	3.4	4.0	4.0	100%	3	-	PCB/MC	ND	Sample collected at refusal and placed on hold.
SD-209	T/A/V	11/19/2014	101	TBD	0 to 1	3.7	1.8	1.8	100%	3	-	PCB/MC	250	--
SD-209	T/A/V	11/19/2014	102	TBD	0 to 1	3.7	1.8	1.8	100%	3	FD	PCB/MC	124	--
SD-209	T/A/V	11/19/2014	103	TBD	1.0 to 1.9	3.7	1.8	1.8	100%	3	-	PCB/MC	268	--
SD-210	T/A/V	11/19/2014	104	TBD	0 to 1	4.1	4.2	4.2	100%	1	-	PCB/MC	447	--
SD-210	T/A/V	11/19/2014	105	TBD	1 to 2	4.1	4.2	4.2	100%	1	-	PCB/MC	560	--
SD-210	T/A/V	11/19/2014	106	TBD	2 to 3	4.1	4.2	4.2	100%	1	-	PCB/MC	29.9	--
SD-210	T/A/V	11/19/2014	107	TBD	3 to 4	4.1	4.2	4.2	100%	1	-	PCB/MC	0.28	--
SD-211	T/A/V	11/19/2014	098	2.5	2 to 3	4.2	3.7	3.7	100%	1	-	PCB/MC	23.1	--
SD-211	T/A/V	11/19/2014	099	2.5	3.0 to 3.6	4.2	3.7	3.7	100%	1	-	PCB/MC	1.5	--
SD-212	T/A/V	11/19/2014	090	TBD	0 to 1	3.0	3.4	3.4	100%	1	MS/MSD	PCB/MC	390	--
SD-212	T/A/V	11/19/2014	091	TBD	1 to 2	3.0	3.4	3.4	100%	1	-	PCB/MC	620	--
SD-212	T/A/V	11/19/2014	092	TBD	2 to 3	3.0	3.4	3.4	100%	1	-	PCB/MC	134	--
SD-212	T/A/V	11/19/2014	093	TBD	3 to 3.5	3.0	3.4	3.4	100%	1	-	PCB/MC	57	--
SD-213	T/A/V	11/19/2014	094	TBD	0 to 1	3.9	3.4	3.4	100%	2	-	PCB/MC	240	--
SD-213	T/A/V	11/19/2014	095	TBD	1 to 2	3.9	3.4	3.4	100%	2	-	PCB/MC	108	--
SD-213	T/A/V	11/19/2014	096	TBD	2 to 3	3.9	3.4	3.4	100%	2	-	PCB/MC	7.2	--
SD-213	T/A/V	11/19/2014	097	TBD	3 to 3.5	3.9	3.4	3.4	100%	2	-	PCB/MC	0.67	--
SD-214	T/A/V	11/19/2014	085	TBD	0 to 1	3.4	3.3	3.3	100%	1	-	PCB/MC	780	--
SD-214	T/A/V	11/19/2014	086	TBD	1 to 2	3.4	3.3	3.3	100%	1	-	PCB/MC	738	--
SD-214	T/A/V	11/19/2014	087	TBD	2 to 3	3.4	3.3	3.3	100%	1	-	PCB/MC	160	--
SD-214	T/A/V	11/19/2014	088	TBD	3 to 3.3	3.4	3.3	3.3	100%	1	-	PCB/MC	4.5	--
SD-215	T/V	11/19/2014	089	5	3.9 to 4.0	3.8	4.0	4.0	100%	1	-	PCB/MC	1.67	Sample collected at refusal and placed on hold.
SD-216	T/V	11/19/2014	084	4.5	2.8 to 2.9	4.0	2.8	2.8	100%	3	-	PCB/MC	18.5	Sample collected at refusal and placed on hold.
SD-217	A/V	11/18/2014	079	4.5	3.8 to 3.9	3.4	3.9	3.9	100%	2	-	PCB/MC	20.4	Sampled collected at refusal and placed on hold.
SD-218	T	11/19/2014	081	TBD	0 to 1.0	3.8	2.0	2.0	100%	2	-	PCB/MC	170	--
SD-218	T	11/19/2014	082	TBD	0 to 1.0	3.8	2.0	2.0	100%	2	FD	PCB/MC	52	--
SD-218	T	11/19/2014	083	TBD	1.0 to 2.0	3.8	2.0	2.0	100%	2	-	PCB/MC	4.9	--
SD-219	T	11/18/2014	070	TBD	0 to 1	3.2	4.1	4.1	100%	2	MS/MSD	PCB/MC	220	--
SD-219	T	11/18/2014	071	TBD	1 to 2	3.2	4.1	4.1	100%	2	-	PCB/MC	50000	--
SD-219	T	11/18/2014	072	TBD	2 to 3	3.2	4.1	4.1	100%	2	-	PCB/MC	700	--

TABLE 5.1

**SUMMARY OF SEDIMENT CORING ACTIVITIES
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK**

Station ID	Sampling Reason (TSCA/Aerial/Vertical)	Sample Date	Sample ID	Proposed Start Depth of Sampling (ft)	Actual Sample Interval (ft)	Water Depth (ft)	Penetration (ft)	Recovery (ft)	% Recovery	Number of Attempts	QA/QC	Analysis	Total PCBs (mg/kg)	Comments
SD-219	T	11/18/2014	073	TBD	3 to 4	3.2	4.1	4.1	100%	2	-	PCB/MC	4770	--
SD-220	T	11/18/2014	074	TBD	0 to 1	3.7	3.5	3.5	100%	2	-	PCB/MC	140	--
SD-220	T	11/18/2014	075	TBD	1 to 2	3.7	3.5	3.5	100%	2	-	PCB/MC	7.7	--
SD-220	T	11/18/2014	076	TBD	2 to 3	3.7	3.5	3.5	100%	2	-	PCB/MC	7.9	--
SD-220	T	11/18/2014	077	TBD	3 to 3.6	3.7	3.5	3.5	100%	2	-	PCB/MC	24	--
SD-220	T	11/18/2014	078	TBD	2.3 to 3.4	3.7	3.5	3.5	100%	2	-	GS/TOC	-	--
SD-221	T	11/18/2014	061	TBD	0 to 1	3.1	1.3	1.3	100%	3	-	PCB/MC	30.4	--
SD-221	T	11/18/2014	062	TBD	0 to 1	3.1	1.3	1.3	100%	3	FD	PCB/MC	21	--
SD-221	T	11/18/2014	063	TBD	1 to 1.4	3.1	1.3	1.3	100%	3	-	PCB/MC	53.8	--
SD-221	T	11/18/2014	064	TBD	0 to 1.4	3.1	1.3	1.3	100%	3	-	GS/TOC	-	--
SD-222	T	11/18/2014	066	TBD	0 to 1	4.3	3.4	3.4	100%	1	-	PCB/MC	0.14	--
SD-222	T	11/18/2014	067	TBD	1 to 2	4.3	3.4	3.4	100%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-222	T	11/18/2014	068	TBD	2 to 3	4.3	3.4	3.4	100%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-222	T	11/18/2014	069	TBD	3 to 3.5	4.3	3.4	3.4	100%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-223	T	11/18/2014	055	TBD	0 to 1.0	3.3	1.9	1.9	100%	1	MS/MSD	PCB/MC	28	--
SD-223	T	11/18/2014	056	TBD	1.0 to 1.9	3.3	1.9	1.9	100%	1	--	PCB/MC	169	--
SD-224	T	11/18/2014	057	TBD	0 to 1.0	4.2	3.3	3.3	100%	1	-	PCB/MC	6000	--
SD-224	T	11/18/2014	058	TBD	1.0 to 2.0	4.2	3.3	3.3	100%	1	-	PCB/MC	93	--
SD-224	T	11/18/2014	059	TBD	2.0 to 3.0	4.2	3.3	3.3	100%	1	-	PCB/MC	2.8	--
SD-224	T	11/18/2014	060	TBD	3.0 to 3.3	4.2	3.3	3.3	100%	1	-	PCB/MC	0.424	--
SD-225	T	11/18/2014	052	TBD	0 to 1.0	--	1.4	1.4	100%	2	-	PCB/MC	3200	--
SD-225	T	11/18/2014	053	TBD	1.0 to 1.5	4.7	1.4	1.4	100%	2	-	PCB/MC	38.8	--
SD-226	T/V	11/18/2014	054	6.5	2 to 2.2	4.2	2.2	2.2	100%	2	-	PCB/MC	0.12	Sampled collected at refusal and placed on hold.
SD-227	V	11/16/2014	049	3.5	3.2 to 3.3	4.6	4.0	3.3	81%	2	-	PCB/MC	ND	Sampled collected at refusal and placed on hold.
SD-228	T/V	11/16/2014	050	4.5	2.9 to 3.0	5.1	3.5	3.0	86%	4	-	PCB/MC	0.22 P	Sampled collected at refusal and placed on hold.
SD-229	V	11/16/2014	048	2.5	2.3 to 2.4	5.0	3.0	2.4	81%	2	-	PCB/MC	0.762	Sampled collected at refusal and placed on hold.
														Sample not collected for PCBs due to shallow core refusal.
SD-230	T/V	11/16/2014	051	3.5	2.4 to 2.5	4.2	3.3	3.0	90%	2	-	GS/TOC	-	Sample collected for grain size/TOC only.
SD-231	V	11/16/2014	REFUSAL	2.5	REFUSAL	4.8	2.8	2.2	76%	3	-	-	-	Sample not collected due to shallow core refusal.
SD-232	A	11/16/2014	046	0	0 to 1	5.5	1.8	1.4	81%	3	-	PCB/MC	3.54	--
SD-232	A	11/16/2014	047	0	1 to 1.5	5.5	1.8	1.4	81%	3	-	PCB/MC	0.322	--
SD-233	A	11/16/2014	044	0	0 to 1	5.2	1.8	1.3	68%	4	-	PCB/MC	20.2	--
SD-233	A	11/16/2014	045	0	1 to 1.25	5.2	1.8	1.3	68%	4	-	PCB/MC	0.442	--
SD-234	A	11/15/2014	036	0	2.8 to 3	4.9	3.0	3.0	100%	2	-	GS/TOC	-	--
SD-234	A	11/15/2014	037	0	0 to 1	4.9	3.0	3.0	100%	2	-	PCB/MC	4.48	--
SD-234	A	11/15/2014	038	0	1 to 2	4.9	3.0	3.0	100%	2	-	PCB/MC	2.3	--
SD-234	A	11/15/2014	039	0	2 to 3	4.9	3.0	3.0	100%	2	-	PCB/MC	ND	--
SD-235	A	11/15/2014	040	0	0 to 1	2.9	2.0	2.0	100%	2	-	PCB/MC	ND	--
SD-235	A	11/15/2014	041	0	0 to 1	2.9	2.0	2.0	100%	2	FD	PCB/MC	0.095 P	--
SD-235	A	11/15/2014	042	0	1 to 2	2.9	2.0	2.0	100%	2	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-236	A	11/15/2014	023	0	0 to 1.0	2.9	6.9	5.8	84%	1	-	PCB/MC	1.21	--
SD-236	A	11/15/2014	024	0	0 to 1.0	2.9	6.9	5.8	84%	1	FD	PCB/MC	1.1	--
SD-236	A	11/15/2014	025	0	1.0 to 2.0	2.9	6.9	5.8	84%	1	-	PCB/MC	12.2	--
SD-236	A	11/15/2014	026	0	2.0 to 3.0	2.9	6.9	5.8	84%	1	-	PCB/MC	13.6	--
SD-236	A	11/15/2014	027	0	3.0 to 4.0	2.9	6.9	5.8	84%	1	-	PCB/MC	0.14	--
SD-236	A	11/15/2014	028	0	4.0 to 5.0	2.9	6.9	5.8	84%	1	-	PCB/MC	0.059	--
SD-236	A	11/15/2014	029	0	5.0 to 5.9	2.9	6.9	5.8	84%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-237	A	11/15/2014	030	0	0 to 1	3.6	5.3	3.6	67%	3	-	PCB/MC	33.9	--

TABLE 5.1

SUMMARY OF SEDIMENT CORING ACTIVITIES
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Station ID	Sampling Reason (TSCA/Aerial/ Vertical)	Sample Date	Sample ID	Proposed Start Depth of Sampling (ft)	Actual Sample Interval (ft)	Water Depth (ft)	Penetration (ft)	Recovery (ft)	% Recovery	Number of Attempts	QA/QC	Analysis	Total PCBs (mg/kg)	Comments
SD-237	A	11/15/2014	031	0	1 to 2	3.6	5.3	3.6	67%	3	-	PCB/MC	1.27	--
SD-237	A	11/15/2014	032	0	2 to 3	3.6	5.3	3.6	67%	3	-	PCB/MC	ND	--
SD-237	A	11/15/2014	033	0	3 to 4	3.6	5.3	3.6	67%	3	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-237	A	11/15/2014	034	0	0 to 1	3.6	5.3	3.6	67%	3	-	GS/TOC	-	--
SD-238	A	11/15/2014	012	0	0 to 1	1.4	5.7	5.0	88%	1	MS/MSD	PCB/MC	0.91	--
SD-238	A	11/15/2014	013	0	1 to 2	1.4	5.7	5.0	88%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-238	A	11/15/2014	014	0	2 to 3	1.4	5.7	5.0	88%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-238	A	11/15/2014	015	0	3 to 4	1.4	5.7	5.0	88%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-238	A	11/15/2014	016	0	4 to 5	1.4	5.7	5.0	88%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-239	A	11/15/2014	017	0	0 to 1.0	1.6	6.1	5.6	92%	1	-	PCB/MC	1.32	--
SD-239	A	11/15/2014	018	0	1.0 to 2.0	1.6	6.1	5.6	92%	1	-	PCB/MC	0.099	--
SD-239	A	11/15/2014	019	0	2.0 to 3.0	1.6	6.1	5.6	92%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-239	A	11/15/2014	020	0	3.0 to 4.0	1.6	6.1	5.6	92%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-239	A	11/15/2014	021	0	4.0 to 5.0	1.6	6.1	5.6	92%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-239	A	11/15/2014	022	0	5.0 to 5.6	1.6	6.1	5.6	92%	1	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-240	A	11/14/2014	001	0	0 to 1	1.5	4.3	4.3	100%	3	-	PCB/MC	1.78	--
SD-240	A	11/14/2014	002	0	0 to 1	1.5	4.3	4.3	100%	3	FD	PCB/MC	2.32	--
SD-240	A	11/14/2014	003	0	1 to 2	1.5	4.3	4.3	100%	3	-	PCB/MC	0.095	--
SD-240	A	11/14/2014	004	0	2 to 3	1.5	4.3	4.3	100%	3	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-240	A	11/14/2014	005	0	3 to 4	1.5	4.3	4.3	100%	3	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-241	V	11/14/2014	011	4.5	4.5 to 5.1	1.8	5.3	5.3	100%	2	-	PCB/MC	ND	--
SD-242	-	11/14/2014	006	0	0 to 1	3.7	5.1	5.1	100%	2	-	PCB/MC	14.1	--
SD-242	-	11/14/2014	007	0	1 to 2	3.7	5.1	5.1	100%	2	-	PCB/MC	1.29	--
SD-242	-	11/14/2014	008	0	2 to 3	3.7	5.1	5.1	100%	2	-	PCB/MC	0.12	--
SD-242	-	11/14/2014	009	0	3 to 4	3.7	5.1	5.1	100%	2	-	PCB/MC	-	Extract placed on hold; however, analysis not required.
SD-242	-	11/14/2014	010	0	4 to 5	3.7	5.1	5.1	100%	2	-	PCB/MC	-	Extract placed on hold; however, analysis not required.

Analysis:

PCB/MC - PCBs; Moisture Content

GS/TOC - Grain Size; Total Organic Carbon

Notes:

ft - feet

EB - Equipment Blank

FD - Field Duplicate

MS/MSD- Matrix Spike/ Matrix Spike Duplicate

PCB- Polychlorinated Biphenyl

TBD - To be determined

TOC- Total Organic Carbon

TSCA - Toxic Substances Control Act

1.35 Result exceeds SCG of 1 mg/kg total PCBs

53.8 Result exceeds 50 mg/kg total PCBs

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

<i>Sample Location:</i>	<i>SD-200</i>	<i>SD-201</i>	<i>SD-201</i>	<i>SD-202</i>	<i>SD-202</i>	<i>SD-202</i>	<i>SD-203</i>	<i>SD-203</i>
<i>Sample ID:</i>	<i>SD-80987-112014-DD-126</i>	<i>SD-80987-112014-DD-123</i>	<i>SD-80987-112014-DD-124</i>	<i>SD-80987-112014-DD-117</i>	<i>SD-80987-112014-DD-118</i>	<i>SD-80987-112014-DD-119</i>	<i>SD-80987-112014-DD-120</i>	<i>SD-80987-112014-DD-121</i>
<i>Sample Date:</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>
<i>Sample Depth:</i>	<i>4-4.3 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-2 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-2 ft BGS</i>	<i>2-3 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-2 ft BGS</i>

<i>Parameters</i>	<i>Units</i>	<i>Criteria 1</i>	<i>Criteria 2</i>								
		a	b								
<i>PCBs</i>											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.044 U	0.39 U	0.041 U	0.36 U	0.36 U	0.67 U	0.7 U	0.63 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.044 U	0.39 U	0.041 U	0.36 U	0.36 U	0.67 U	0.7 U	0.63 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.044 U	0.39 U	0.041 U	0.36 U	0.36 U	0.67 U	0.7 U	0.63 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	0.044 U	2.4	0.19	2.9	1.9 J	5.4	7.9 J	5.6
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.044 U	0.39 U	0.041 U	0.36 U	0.36 U	0.67 U	0.7 U	0.63 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.044 U	0.4 J	0.068	0.6 J	0.59	0.81 J	0.99 J	1.8
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.044 U	0.39 U	0.041 U	0.36 U	0.36 U	0.67 U	0.7 U	0.63 U
Total PCBs (calculated)	mg/kg	1	50	0.044 U	2.8 ^a	0.258	3.5 ^a	2.49 ^a	6.21 ^a	8.89 ^a	7.4 ^a
<i>General Chemistry</i>											
Percent moisture	%	-	-	26	58	20	54	54	51	53	48
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-

- Notes:
- BGS Below Ground Surface
 - ft feet
 - PCBs Polychlorinated Biphenyls
 - U Not detected at the associated reporting limit.
 - J Estimated concentration.
 - UJ Not detected; associated reporting limit is estimated.
 - NJ Tentatively identified compound, estimated concentration.
 - NA Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:	SD-203	SD-204	SD-205	SD-205	SD-206	SD-206	SD-207	SD-208
Sample ID:	SD-80987-112014-DD-122	SD-80987-112014-DD-113	SD-80987-112014-DD-114	SD-80987-112014-DD-115	SD-80987-112014-DD-111	SD-80987-112014-DD-112	SD-80987-112014-DD-109	SD-80987-111914-DD-108
Sample Date:	11/20/2014	11/20/2014	11/20/2014	11/20/2014	11/20/2014	11/20/2014	11/20/2014	11/19/2014
Sample Depth:	2-2.8 ft BGS	3.9-4 ft BGS	3.3-3.4 ft BGS	3-4 ft BGS	2-3 ft BGS	3-3.4 ft BGS	3-4 ft BGS	3.9-4 ft BGS

Parameters	Units	Criteria 1	Criteria 2								
		a	b								
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.043 U	0.052 U	0.039 U	-	0.59 U	0.041 U	0.056 U	0.048 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.043 U	0.052 U	0.039 U	-	0.59 U	0.041 U	0.056 U	0.048 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.043 U	0.052 U	0.039 U	-	0.59 U	0.041 U	0.056 U	0.048 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	0.048	0.12	0.46	-	4.4	0.041 U	0.056 U	0.048 U
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.043 U	0.052 U	0.039 U	-	0.59 U	0.041 U	0.056 U	0.048 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.043 U	0.052 U	0.066 J	-	1.4	0.041 U	0.056 U	0.048 U
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.043 U	0.052 U	0.039 U	-	0.59 U	0.041 U	0.056 U	0.048 U
Total PCBs (calculated)	mg/kg	1	50	0.048	0.12	0.526	N/A	5.8 ^a	0.041 U	0.056 U	0.048 U
General Chemistry											
Percent moisture	%	-	-	23	37	17	-	44	21	41	33
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	24500	-	-	-	-

- Notes:
- BGS Below Ground Surface
 - ft feet
 - PCBs Polychlorinated Biphenyls
 - U Not detected at the associated reporting limit.
 - J Estimated concentration.
 - UJ Not detected; associated reporting limit is estimated.
 - NJ Tentatively identified compound, estimated concentration
 - NA Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

<i>Sample Location:</i>				<i>SD-209</i>	<i>SD-209</i>	<i>SD-209</i>	<i>SD-210</i>	<i>SD-210</i>	<i>SD-210</i>	<i>SD-210</i>	<i>SD-211</i>
<i>Sample ID:</i>				<i>SD-80987-111914-DD-101</i>	<i>SD-80987-111914-DD-102</i>	<i>SD-80987-111914-DD-103</i>	<i>SD-80987-111914-DD-104</i>	<i>SD-80987-111914-DD-105</i>	<i>SD-80987-111914-DD-106</i>	<i>SD-80987-111914-DD-107</i>	<i>SD-80987-111914-DD-098</i>
<i>Sample Date:</i>				<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>
<i>Sample Depth:</i>				<i>0-1 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-1.9 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-2 ft BGS</i>	<i>2-3 ft BGS</i>	<i>3-4 ft BGS</i>	<i>2-3 ft BGS</i>
				<i>Duplicate</i>							
<i>Parameters</i>	<i>Units</i>	<i>Criteria 1</i>	<i>Criteria 2</i>								
		a	b								
<i>PCBs</i>											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	17 U	14 U	23 U	59 U	65 U	2.8 U	0.11 U	1.5 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	17 U	14 U	23 U	59 U	65 U	2.8 U	0.11 U	1.5 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	17 U	14 U	23 U	59 U	65 U	2.8 U	0.11 U	1.5 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	220	110 J	230 J	380 J	430 J	25 J	0.28 J	17
Aroclor-1248 (PCB-1248)	mg/kg	-	-	17 U	14 U	23 U	59 U	65 U	2.8 U	0.11 U	1.5 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	30 J	14 J	38 J	67 J	130 J	4.9 J	0.11 U	6.1
Aroclor-1260 (PCB-1260)	mg/kg	-	-	17 U	14 U	23 U	59 U	65 U	2.8 U	0.11 U	1.5 U
Total PCBs (calculated)	mg/kg	1	50	250 ^{ab}	124 ^{ab}	268 ^{ab}	447 ^{ab}	560 ^{ab}	29.9 ^a	0.28	23.1 ^a
<i>General Chemistry</i>											
Percent moisture	%	-	-	52	52	44	45	50	41	38	45
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-

Notes:

- BGS
- Below Ground Surface
- ft
- feet
- PCBs
- Polychlorinated Biphenyls
- U
- Not detected at the associated reporting limit.
- J
- Estimated concentration.
- UJ
- Not detected; associated reporting limit is estimated.
- NJ
- Tentatively identified compound, estimated concentration
- NA
- Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:	SD-211	SD-212	SD-212	SD-212	SD-212	SD-213	SD-213	SD-213
Sample ID:	SD-80987-111914-DD-099	SD-80987-111914-DD-090	SD-80987-111914-DD-091	SD-80987-111914-DD-092	SD-80987-111914-DD-093	SD-80987-111914-DD-094	SD-80987-111914-DD-095	SD-80987-111914-DD-096
Sample Date:	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/19/2014
Sample Depth:	3-3.6 ft BGS	0-1 ft BGS	1-2 ft BGS	2-3 ft BGS	3-3.5 ft BGS	0-1 ft BGS	1-2 ft BGS	2-3 ft BGS

Parameters	Units	Criteria 1	Criteria 2								
		a	b								
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.44 U	59 U	64 U	13 U	5.3 U	46 U	13 U	1 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.44 U	59 U	64 U	13 U	5.3 U	46 U	13 U	1 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.44 U	59 U	64 U	13 U	5.3 U	46 U	13 U	1 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	1.5	390	490	110	57	240	90	7.2
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.44 U	59 U	64 U	13 U	5.3 U	46 U	13 U	1 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.44 U	59 U	130	24 J	5.3 U	46 U	18 J	1 U
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.44 U	59 U	64 U	13 U	5.3 U	46 U	13 U	1 U
Total PCBs (calculated)	mg/kg	1	50	1.5 ^a	390 ^{ab}	620 ^{ab}	134 ^{ab}	57 ^{ab}	240 ^{ab}	108 ^{ab}	7.2 ^a
General Chemistry											
Percent moisture	%	-	-	25	45	49	50	38	30	48	36
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-

- Notes:
- BGS Below Ground Surface
 - ft feet
 - PCBs Polychlorinated Biphenyls
 - U Not detected at the associated reporting limit.
 - J Estimated concentration.
 - UJ Not detected; associated reporting limit is estimated.
 - NJ Tentatively identified compound, estimated concentration
 - NA Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:	SD-213	SD-214	SD-214	SD-214	SD-214	SD-215	SD-216	SD-217
Sample ID:	SD-80987-111914-DD-097	SD-80987-111914-DD-085	SD-80987-111914-DD-086	SD-80987-111914-DD-087	SD-80987-111914-DD-088	SD-80987-111914-DD-089	SD-80987-111914-DD-084	SD-80987-111814-DD-079
Sample Date:	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/19/2014	11/18/2014
Sample Depth:	3-3.5 ft BGS	0-1 ft BGS	1-2 ft BGS	2-3 ft BGS	3-3.3 ft BGS	3.9-4 ft BGS	2.8-2.9 ft BGS	3.8-3.9 ft BGS

Parameters	Units	Criteria 1	Criteria 2								
		a	b								
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.44 U	53 U	50 U	32 U	0.65 U	0.13 U	2.2 U	1.4 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.44 U	53 U	50 U	32 U	0.65 U	0.13 U	2.2 U	1.4 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.44 U	53 U	50 U	32 U	0.65 U	0.13 U	2.2 U	1.4 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	0.67	690	650	160	3.4	1.4	14	1.4 U
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.44 U	53 U	50 U	32 U	0.65 U	0.13 U	2.2 U	1.4 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.44 U	90 J	88 J	32 U	1.8	0.27	4.5	14
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.44 U	53 U	50 U	32 U	0.65 U	0.13 U	2.2 U	6.4
Total PCBs (calculated)	mg/kg	1	50	0.67	780 ^{ab}	738 ^{ab}	160 ^{ab}	5.2 ^a	1.67 ^a	18.5 ^a	20.4 ^a
General Chemistry											
Percent moisture	%	-	-	27	38	35	48	49	48	25	43
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-

Notes:

- BGS
- Below Ground Surface
- ft
- feet
- PCBs
- Polychlorinated Biphenyls
- U
- Not detected at the associated reporting limit.
- J
- Estimated concentration.
- UJ
- Not detected; associated reporting limit is estimated.
- NJ
- Tentatively identified compound, estimated concentration
- NA
- Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:				SD-218	SD-218	SD-218	SD-219	SD-219	SD-219	SD-219	SD-220
Sample ID:				SD-80987-111914-DD-081	SD-80987-111914-DD-082	SD-80987-111914-DD-083	SD-80987-111814-DD-070	SD-80987-111814-DD-071	SD-80987-111814-DD-072	SD-80987-111814-DD-073	SD-80987-111814-DD-074
Sample Date:				11/19/2014	11/19/2014	11/19/2014	11/18/2014	11/18/2014	11/18/2014	11/18/2014	11/18/2014
Sample Depth:				0-1 ft BGS	0-1 ft BGS	1-2 ft BGS	0-1 ft BGS	1-2 ft BGS	2-3 ft BGS	3-4 ft BGS	0-1 ft BGS
				Duplicate							
Parameters	Units	Criteria 1	Criteria 2								
				a	b						
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	23 U	8.9 U	0.92 U	24 U	9900 U	52 U	460 U	43 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	23 U	8.9 U	0.92 U	24 U	9900 U	52 U	460 U	43 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	23 U	8.9 U	0.92 U	24 U	9900 U	52 U	460 U	43 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	170 J	52 J	4.9	220 J	50000	580	4300	140 J
Aroclor-1248 (PCB-1248)	mg/kg	-	-	23 U	8.9 U	0.92 U	24 U	9900 U	52 U	460 U	43 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	23 U	8.9 U	0.92 U	24 U	9900 U	120 J	470	43 U
Aroclor-1260 (PCB-1260)	mg/kg	-	-	23 U	8.9 U	0.92 U	24 U	9900 U	52 U	460 U	43 U
Total PCBs (calculated)	mg/kg	1	50	170 ^{ab}	52 ^{ab}	4.9 ^a	220 ^{ab}	50000 ^{ab}	700 ^{ab}	4770 ^{ab}	140 ^{ab}
General Chemistry											
Percent moisture	%	-	-	28	27	29	31	34	37	28	25
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-

Notes:

- BGS
- Below Ground Surface
- ft
- feet
- PCBs
- Polychlorinated Biphenyls
- U
- Not detected at the associated reporting limit.
- J
- Estimated concentration.
- UJ
- Not detected; associated reporting limit is estimated.
- NJ
- Tentatively identified compound, estimated concentration
- NA
- Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

<i>Sample Location:</i>				<i>SD-220</i>	<i>SD-220</i>	<i>SD-220</i>	<i>SD-220</i>	<i>SD-221</i>	<i>SD-221</i>	<i>SD-221</i>	<i>SD-221</i>				
<i>Sample ID:</i>				<i>SD-80987-111814-DD-075</i>	<i>SD-80987-111814-DD-076</i>	<i>SD-80987-111814-DD-077</i>	<i>SD-80987-111814-DD-078</i>	<i>SD-80987-111814-DD-061</i>	<i>SD-80987-111814-DD-062</i>	<i>SD-80987-111814-DD-063</i>	<i>SD-80987-111814-DD-064</i>				
<i>Sample Date:</i>				<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>				
<i>Sample Depth:</i>				<i>1-2 ft BGS</i>	<i>2-3 ft BGS</i>	<i>3-3.6 ft BGS</i>	<i>2.3-3.4 ft BGS</i>	<i>0-1 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-1.4 ft BGS</i>	<i>0-1.4 ft BGS</i>				
								<i>Duplicate</i>							
<i>Parameters</i>	<i>Units</i>	<i>Criteria 1</i>	<i>Criteria 2</i>												
				a	b										
<i>PCBs</i>															
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.95 U	0.82 U	4.1 U	-	4.4 U	4.1 U	4.2 U	-				
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.95 U	0.82 U	4.1 U	-	4.4 U	4.1 U	4.2 U	-				
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.95 U	0.82 U	4.1 U	-	4.4 U	4.1 U	4.2 U	-				
Aroclor-1242 (PCB-1242)	mg/kg	-	-	7.7	7.9	24	-	25 J	21 J	44 J	-				
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.95 U	0.82 U	4.1 U	-	4.4 U	4.1 U	4.2 U	-				
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.95 U	0.82 U	4.1 U	-	5.4	4.1 U	9.8	-				
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.95 U	0.82 U	4.1 U	-	4.4 U	4.1 U	4.2 U	-				
Total PCBs (calculated)	mg/kg	1	50	7.7 ^a	7.9 ^a	24 ^a	N/A	30.4 ^a	21 ^a	53.8 ^{ab}	N/A				
<i>General Chemistry</i>															
Percent moisture	%	-	-	31	21	20	-	26	21	21	-				
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	1650	-	-	-	18100				

Notes:

- BGS
- Below Ground Surface
- ft
- feet
- PCBs
- Polychlorinated Biphenyls
- U
- Not detected at the associated reporting limit.
- J
- Estimated concentration.
- UJ
- Not detected; associated reporting limit is estimated.
- NJ
- Tentatively identified compound, estimated concentration
- NA
- Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:	SD-222	SD-223	SD-223	SD-224	SD-224	SD-224	SD-224	SD-225
Sample ID:	SD-80987-111814-DD-066	SD-80987-111814-DD-055	SD-80987-111814-DD-056	SD-80987-111814-DD-057	SD-80987-111814-DD-058	SD-80987-111814-DD-059	SD-80987-111814-DD-060	SD-80987-111814-DD-052
Sample Date:	11/18/2014	11/18/2014	11/18/2014	11/18/2014	11/18/2014	11/18/2014	11/18/2014	11/18/2014
Sample Depth:	0-1 ft BGS	0-1 ft BGS	1-1.9 ft BGS	0-1 ft BGS	1-2 ft BGS	2-3 ft BGS	3-3.3 ft BGS	0-1 ft BGS

Parameters	Units	Criteria 1	Criteria 2							
		a	b							
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.043 U	8 U	22 U	460 U	9.5 U	0.45 U	0.039 U 300 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.043 U	8 U	22 U	460 U	9.5 U	0.45 U	0.039 U 300 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.043 U	8 U	22 U	460 U	9.5 U	0.45 U	0.039 U 300 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	0.14 J	28 J	140	5500	79 J	2.8 J	0.38 3200 J
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.043 U	8 U	22 U	460 U	9.5 U	0.45 U	0.039 U 300 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.043 U	8 U	29	500 NJ	14	0.45 U	0.044 300 U
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.043 U	8 U	22 U	460 U	9.5 U	0.45 U	0.039 U 300 U
Total PCBs (calculated)	mg/kg	1	50	0.14	28 ^a	169 ^{ab}	6000 ^{ab}	93 ^{ab}	2.8 ^a	0.424 3200 ^{ab}
General Chemistry										
Percent moisture	%	-	-	25	19	25	29	32	26	17 46
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	- -

- Notes:
- BGS Below Ground Surface
 - ft feet
 - PCBs Polychlorinated Biphenyls
 - U Not detected at the associated reporting limit.
 - J Estimated concentration.
 - UJ Not detected; associated reporting limit is estimated.
 - NJ Tentatively identified compound, estimated concentration
 - NA Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:	SD-225	SD-226	SD-227	SD-228	SD-229	SD-230	SD-232	SD-232
Sample ID:	SD-80987-111814-DD-053	SD-80987-111814-DD-054	SD-80987-111614-DD-049	SD-80987-111614-DD-050	SD-80987-111614-DD-048	SD-80987-111614-DD-051	SD-80987-111614-DD-046	SD-80987-111614-DD-047
Sample Date:	11/18/2014	11/18/2014	11/16/2014	11/16/2014	11/16/2014	11/16/2014	11/16/2014	11/16/2014
Sample Depth:	1-1.5 ft BGS	2-2.2 ft BGS	3.2-3.3 ft BGS	2.9-3 ft BGS	2.3-2.4 ft BGS	2.4-2.5 ft BGS	0-1 ft BGS	1-1.5 ft BGS

Parameters	Units	Criteria 1	Criteria 2								
		a	b								
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	4.5 U	0.04 U	0.038 U	0.04 U	0.08 U	-	0.31 U	0.042 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	4.5 U	0.04 U	0.038 U	0.04 U	0.08 U	-	0.31 U	0.042 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	4.5 U	0.04 U	0.038 U	0.04 U	0.08 U	-	0.31 U	0.042 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	32 J	0.12	0.038 U	0.22	0.67 J	-	3	0.27
Aroclor-1248 (PCB-1248)	mg/kg	-	-	4.5 U	0.04 U	0.038 U	0.04 U	0.08 U	-	0.31 U	0.042 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	6.8 J	0.04 U	0.038 U	0.04 U	0.092 J	-	0.54 J	0.052 J
Aroclor-1260 (PCB-1260)	mg/kg	-	-	4.5 U	0.04 U	0.038 U	0.04 U	0.08 U	-	0.31 U	0.042 U
Total PCBs (calculated)	mg/kg	1	50	38.8 ^a	0.12	0.038 U	0.22	0.762	N/A	3.54 ^a	0.322
General Chemistry											
Percent moisture	%	-	-	27	19	15	19	18	-	47	22
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	3170	-	-

Notes:

- BGS
- Below Ground Surface
- ft
- feet
- PCBs
- Polychlorinated Biphenyls
- U
- Not detected at the associated reporting limit.
- J
- Estimated concentration.
- UJ
- Not detected; associated reporting limit is estimated.
- NJ
- Tentatively identified compound, estimated concentration
- NA
- Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSOHN COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

SD-233

SD-233

SD-234

SD-234

SD-234

SD-234

SD-235

SD-235

SD-80987-111614-DD-044

SD-80987-111614-DD-045

SD-80987-111514-DD-036

SD-80987-111514-DD-037

SD-80987-111514-DD-038

SD-80987-111514-DD-039

SD-80987-111514-DD-040

SD-80987-111514-DD-041

11/16/2014

11/16/2014

11/15/2014

11/15/2014

11/15/2014

11/15/2014

11/15/2014

11/15/2014

0-1 ft BGS

1-1.25 ft BGS

2.8-3 ft BGS

0-1 ft BGS

1-2 ft BGS

2-3 ft BGS

0-1 ft BGS

0-1 ft BGS Duplicate

Parameters	Units	Criteria 1	Criteria 2								
		a	b								
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	2.8 U	0.046 U	-	0.42 U	0.51 U	0.039 U	0.045 U	0.046 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	2.8 U	0.046 U	-	0.42 U	0.51 U	0.039 U	0.045 U	0.046 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	2.8 U	0.046 U	-	0.42 U	0.51 U	0.039 U	0.045 U	0.046 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	17	0.37 J	-	3.8 J	2.3	0.039 U	0.045 U	0.095 J
Aroclor-1248 (PCB-1248)	mg/kg	-	-	2.8 U	0.046 U	-	0.42 U	0.51 U	0.039 U	0.045 U	0.046 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	3.2 J	0.072	-	0.68 J	0.51 U	0.039 U	0.045 U	0.046 U
Aroclor-1260 (PCB-1260)	mg/kg	-	-	2.8 U	0.046 U	-	0.42 U	0.51 U	0.039 U	0.045 U	0.046 U
Total PCBs (calculated)	mg/kg	1	50	20.2 ^a	0.442	N/A	4.48 ^a	2.3 ^a	0.039 U	0.045 U	0.095
General Chemistry											
Percent moisture	%	-	-	53	29	-	60	35	16	28	29
Total organic carbon (TOC)	mg/kg	-	-	-	-	16100	-	-	-	-	-

- Notes:
- BGS

ft

PCBs

U

J

UJ

NJ

NA
- Below Ground Surface

feet

Polychlorinated Biphenyls

Not detected at the associated reporting limit.

Estimated concentration.

Not detected; associated reporting limit is estimated.

Tentatively identified compound, estimated concentration

Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:				SD-236	SD-236	SD-236	SD-236	SD-236	SD-236	SD-237	SD-237
Sample ID:				SD-80987-111514-DD-023	SD-80987-111514-DD-024	SD-80987-111514-DD-025	SD-80987-111514-DD-026	SD-80987-111514-DD-027	SD-80987-111514-DD-028	SD-80987-111514-DD-030	SD-80987-111514-DD-031
Sample Date:				11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014
Sample Depth:				0-1 ft BGS	0-1 ft BGS	1-2 ft BGS	2-3 ft BGS	3-4 ft BGS	4-5 ft BGS	0-1 ft BGS	1-2 ft BGS
				Duplicate							
Parameters	Units	Criteria 1	Criteria 2								
				a	b						
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.15 U	0.15 U	1.3 U	1.3 U	0.049 U	0.052 U	3.3 U	0.1 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.15 U	0.15 U	1.3 U	1.3 U	0.049 U	0.052 U	3.3 U	0.1 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.15 U	0.15 U	1.3 U	1.3 U	0.049 U	0.052 U	3.3 U	0.1 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	1	0.89	11	11	0.14 J	0.059	29	1.1
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.15 U	0.15 U	1.3 U	1.3 U	0.049 UJ	0.052 U	3.3 U	0.1 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.21	0.21	1.2 J	2.6	0.049 UJ	0.052 U	4.9 J	0.17 J
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.15 U	0.15 U	1.3 U	1.3 U	0.049 UJ	0.052 U	3.3 U	0.1 U
Total PCBs (calculated)	mg/kg	1	50	1.21 ^a	1.1 ^a	12.2 ^a	13.6 ^a	0.14	0.059	33.9 ^a	1.27 ^a
General Chemistry											
Percent moisture	%	-	-	56	57	49	47	34	37	51	36
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-

- Notes:
- BGS Below Ground Surface
 - ft feet
 - PCBs Polychlorinated Biphenyls
 - U Not detected at the associated reporting limit.
 - J Estimated concentration.
 - UJ Not detected; associated reporting limit is estimated.
 - NJ Tentatively identified compound, estimated concentration
 - NA Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

<i>Sample Location:</i>				<i>SD-237</i>	<i>SD-237</i>	<i>SD-238</i>	<i>SD-239</i>	<i>SD-239</i>	<i>SD-240</i>	<i>SD-240</i>	<i>SD-240</i>
<i>Sample ID:</i>				<i>SD-80987-111514-DD-032</i>	<i>SD-80987-111514-DD-034</i>	<i>SD-80987-111514-DD-012</i>	<i>SD-80987-111514-DD-017</i>	<i>SD-80987-111514-DD-018</i>	<i>SD-80987-111414-DD-001</i>	<i>SD-80987-111414-DD-002</i>	<i>SD-80987-111414-DD-003</i>
<i>Sample Date:</i>				<i>11/15/2014</i>	<i>11/15/2014</i>	<i>11/15/2014</i>	<i>11/15/2014</i>	<i>11/15/2014</i>	<i>11/14/2014</i>	<i>11/14/2014</i>	<i>11/14/2014</i>
<i>Sample Depth:</i>				<i>2-3 ft BGS</i>	<i>0-1 ft BGS</i>	<i>0-1 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-2 ft BGS</i>	<i>0-1 ft BGS</i>	<i>0-1 ft BGS</i>	<i>1-2 ft BGS</i>
										<i>Duplicate</i>	
<i>Parameters</i>	<i>Units</i>	<i>Criteria 1</i>	<i>Criteria 2</i>								
		a	b								
<i>PCBs</i>											
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.043 U	-	0.058 U	0.13 U	0.051 U	0.3 U	0.3 U	0.055 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.043 U	-	0.058 U	0.13 U	0.051 U	0.3 U	0.3 U	0.055 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.043 U	-	0.058 U	0.13 U	0.051 U	0.3 U	0.3 U	0.055 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	0.043 U	-	0.67	1.1	0.099	1.3	1.7	0.055 UJ
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.043 U	-	0.058 U	0.13 U	0.051 U	0.3 U	0.3 U	0.055 UJ
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.043 U	-	0.24	0.22 J	0.051 U	0.48	0.62	0.095 J
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.043 U	-	0.058 U	0.13 U	0.051 U	0.3 U	0.3 U	0.055 UJ
Total PCBs (calculated)	mg/kg	1	50	0.043 U	N/A	0.91	1.32 ^a	0.099	1.78 ^a	2.32 ^a	0.095
<i>General Chemistry</i>											
Percent moisture	%	-	-	25	-	44	48	37	45	46	40
Total organic carbon (TOC)	mg/kg	-	-	-	86700	-	-	-	-	-	-

Notes:

- BGS
- Below Ground Surface
- ft
- feet
- PCBs
- Polychlorinated Biphenyls
- U
- Not detected at the associated reporting limit.
- J
- Estimated concentration.
- UJ
- Not detected; associated reporting limit is estimated.
- NJ
- Tentatively identified compound, estimated concentration
- NA
- Not Applicable

TABLE 5.2

PCB SEDIMENT ANALYTICAL RESULTS (OU-3 SEDIMENTS)
FRIEDRICHSOHN COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location:	SD-241	SD-242	SD-242	SD-242
Sample ID:	SD-80987-111414-DD-011	SD-80987-111414-DD-006	SD-80987-111414-DD-007	SD-80987-111414-DD-008
Sample Date:	11/14/2014	11/14/2014	11/14/2014	11/14/2014
Sample Depth:	4.5-5.1 ft BGS	0-1 ft BGS	1-2 ft BGS	2-3 ft BGS

Parameters	Units	Criteria 1	Criteria 2				
		a	b				
PCBs							
Aroclor-1016 (PCB-1016)	mg/kg	-	-	0.05 U	1.2 U	0.12 U	0.052 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	0.05 U	1.2 U	0.12 U	0.052 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	0.05 U	1.2 U	0.12 U	0.052 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	0.05 U	12	0.8	0.12 J
Aroclor-1248 (PCB-1248)	mg/kg	-	-	0.05 U	1.2 U	0.12 U	0.052 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	0.05 U	2.1 J	0.32	0.052 U
Aroclor-1260 (PCB-1260)	mg/kg	-	-	0.05 U	1.2 U	0.17	0.052 U
Total PCBs (calculated)	mg/kg	1	50	0.05 U	14.1 ^a	1.29 ^a	0.12
General Chemistry							
Percent moisture	%	-	-	34	47	45	38
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-

- Notes:
- BGS Below Ground Surface
 - ft feet
 - PCBs Polychlorinated Biphenyls
 - U Not detected at the associated reporting limit.
 - J Estimated concentration.
 - UJ Not detected; associated reporting limit is estimated.
 - NJ Tentatively identified compound, estimated concentration
 - NA Not Applicable

TABLE 5.3

2014 PCB SOIL SAMPLE KEY
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location	Sample ID	Sample Date	Sample Depth	Parameter:	Aroclor-1016 (PCB-1016)	Aroclor-1221 (PCB-1221)	Aroclor-1232 (PCB-1232)	Aroclor-1242 (PCB-1242)	Aroclor-1248 (PCB-1248)	Aroclor-1254 (PCB-1254)	Aroclor-1260 (PCB-1260)	Total PCBs (calculated)	Percent moisture	Total organic carbon (TOC)
				Unit:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg
				Criteria 1 ^a :	-	-	-	-	-	-	-	1	-	-
				Criteria 2 ^b :	-	-	-	-	-	-	-	50	-	-
SD-200	SD-80987-112014-DD-126	11/20/2014	4-4.3 ft BGS		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	26	-
SD-201	SD-80987-112014-DD-123	11/20/2014	0-1 ft BGS		0.39 U	0.39 U	0.39 U	2.4	0.39 U	0.4 J	0.39 U	2.8 ^a	58	-
SD-201	SD-80987-112014-DD-124	11/20/2014	1-2 ft BGS		0.041 U	0.041 U	0.041 U	0.19	0.041 U	0.068	0.041 U	0.258	20	-
SD-202	SD-80987-112014-DD-117	11/20/2014	0-1 ft BGS		0.36 U	0.36 U	0.36 U	2.9	0.36 U	0.6 J	0.36 U	3.5 ^a	54	-
SD-202	SD-80987-112014-DD-118	11/20/2014	1-2 ft BGS		0.36 U	0.36 U	0.36 U	1.9 J	0.36 U	0.59	0.36 U	2.49 ^a	54	-
SD-202	SD-80987-112014-DD-119	11/20/2014	2-3 ft BGS		0.67 U	0.67 U	0.67 U	5.4	0.67 U	0.81 J	0.67 U	6.21 ^a	51	-
SD-203	SD-80987-112014-DD-120	11/20/2014	0-1 ft BGS		0.7 U	0.7 U	0.7 U	7.9 J	0.7 U	0.99 J	0.7 U	8.89 ^a	53	-
SD-203	SD-80987-112014-DD-121	11/20/2014	1-2 ft BGS		0.63 U	0.63 U	0.63 U	5.6	0.63 U	1.8	0.63 U	7.4 ^a	48	-
SD-203	SD-80987-112014-DD-122	11/20/2014	2-2.8 ft BGS		0.043 U	0.043 U	0.043 U	0.048	0.043 U	0.043 U	0.043 U	0.048	23	-
SD-204	SD-80987-112014-DD-113	11/20/2014	3.9-4 ft BGS		0.052 U	0.052 U	0.052 U	0.12	0.052 U	0.052 U	0.052 U	0.12	37	-
SD-205	SD-80987-112014-DD-115	11/20/2014	3-4 ft BGS		-	-	-	-	-	-	-	N/A	-	24500
SD-205	SD-80987-112014-DD-114	11/20/2014	3.3-3.4 ft BGS		0.039 U	0.039 U	0.039 U	0.46	0.039 U	0.066 J	0.039 U	0.526	17	-
SD-206	SD-80987-112014-DD-111	11/20/2014	2-3 ft BGS		0.59 U	0.59 U	0.59 U	4.4	0.59 U	1.4	0.59 U	5.8 ^a	44	-
SD-206	SD-80987-112014-DD-112	11/20/2014	3-3.4 ft BGS		0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	21	-
SD-207	SD-80987-112014-DD-109	11/20/2014	3-4 ft BGS		0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	41	-
SD-208	SD-80987-111914-DD-108	11/19/2014	3.9-4 ft BGS		0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	33	-
SD-209	SD-80987-111914-DD-101	11/19/2014	0-1 ft BGS		17 U	17 U	17 U	220	17 U	30 J	17 U	250 ^{ab}	52	-
SD-209	SD-80987-111914-DD-102	11/19/2014	0-1 ft BGS	Duplicate	14 U	14 U	14 U	110 J	14 U	14 J	14 U	124 ^{ab}	52	-
SD-209	SD-80987-111914-DD-103	11/19/2014	1-1.9 ft BGS		23 U	23 U	23 U	230 J	23 U	38 J	23 U	268 ^{ab}	44	-
SD-210	SD-80987-111914-DD-104	11/19/2014	0-1 ft BGS		59 U	59 U	59 U	380 J	59 U	67 J	59 U	447 ^{ab}	45	-
SD-210	SD-80987-111914-DD-105	11/19/2014	1-2 ft BGS		65 U	65 U	65 U	430 J	65 U	130 J	65 U	560 ^{ab}	50	-
SD-210	SD-80987-111914-DD-106	11/19/2014	2-3 ft BGS		2.8 U	2.8 U	2.8 U	25 J	2.8 U	4.9 J	2.8 U	29.9 ^a	41	-
SD-210	SD-80987-111914-DD-107	11/19/2014	3-4 ft BGS		0.11 U	0.11 U	0.11 U	0.28 J	0.11 U	0.11 U	0.11 U	0.28	38	-
SD-211	SD-80987-111914-DD-098	11/19/2014	2-3 ft BGS		1.5 U	1.5 U	1.5 U	17	1.5 U	6.1	1.5 U	23.1 ^a	45	-
SD-211	SD-80987-111914-DD-099	11/19/2014	3-3.6 ft BGS		0.44 U	0.44 U	0.44 U	1.5	0.44 U	0.44 U	0.44 U	1.5 ^a	25	-
SD-212	SD-80987-111914-DD-090	11/19/2014	0-1 ft BGS		59 U	59 U	59 U	390	59 U	59 U	59 U	390 ^{ab}	45	-
SD-212	SD-80987-111914-DD-091	11/19/2014	1-2 ft BGS		64 U	64 U	64 U	490	64 U	130	64 U	620 ^{ab}	49	-
SD-212	SD-80987-111914-DD-092	11/19/2014	2-3 ft BGS		13 U	13 U	13 U	110	13 U	24 J	13 U	134 ^{ab}	50	-
SD-212	SD-80987-111914-DD-093	11/19/2014	3-3.5 ft BGS		5.3 U	5.3 U	5.3 U	57	5.3 U	5.3 U	5.3 U	57 ^{ab}	38	-
SD-213	SD-80987-111914-DD-094	11/19/2014	0-1 ft BGS		46 U	46 U	46 U	240	46 U	46 U	46 U	240 ^{ab}	30	-
SD-213	SD-80987-111914-DD-095	11/19/2014	1-2 ft BGS		13 U	13 U	13 U	90	13 U	18 J	13 U	108 ^{ab}	48	-
SD-213	SD-80987-111914-DD-096	11/19/2014	2-3 ft BGS		1 U	1 U	1 U	7.2	1 U	1 U	1 U	7.2 ^a	36	-
SD-213	SD-80987-111914-DD-097	11/19/2014	3-3.5 ft BGS		0.44 U	0.44 U	0.44 U	0.67	0.44 U	0.44 U	0.44 U	0.67	27	-
SD-214	SD-80987-111914-DD-085	11/19/2014	0-1 ft BGS		53 U	53 U	53 U	690	53 U	90 J	53 U	780 ^{ab}	38	-
SD-214	SD-80987-111914-DD-086	11/19/2014	1-2 ft BGS		50 U	50 U	50 U	650	50 U	88 J	50 U	738 ^{ab}	35	-
SD-214	SD-80987-111914-DD-087	11/19/2014	2-3 ft BGS		32 U	32 U	32 U	160	32 U	32 U	32 U	160 ^{ab}	48	-
SD-214	SD-80987-111914-DD-088	11/19/2014	3-3.3 ft BGS		0.65 U	0.65 U	0.65 U	3.4	0.65 U	1.8	0.65 U	5.2 ^a	49	-

TABLE 5.3

2014 PCB SOIL SAMPLE KEY
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location	Sample ID	Sample Date	Sample Depth	Parameter:	Aroclor-1016 (PCB-1016)	Aroclor-1221 (PCB-1221)	Aroclor-1232 (PCB-1232)	Aroclor-1242 (PCB-1242)	Aroclor-1248 (PCB-1248)	Aroclor-1254 (PCB-1254)	Aroclor-1260 (PCB-1260)	Total PCBs (calculated)	Percent moisture	Total organic carbon (TOC)
				Unit:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg
				Criteria 1 ^a :	-	-	-	-	-	-	-	1	-	-
				Criteria 2 ^b :	-	-	-	-	-	-	-	50	-	-
SD-215	SD-80987-111914-DD-089	11/19/2014	3.9-4 ft BGS		0.13 U	0.13 U	0.13 U	1.4	0.13 U	0.27	0.13 U	1.67 ^a	48	-
SD-216	SD-80987-111914-DD-084	11/19/2014	2.8-2.9 ft BGS		2.2 U	2.2 U	2.2 U	14	2.2 U	4.5	2.2 U	18.5 ^a	25	-
SD-217	SD-80987-111814-DD-079	11/18/2014	3.8-3.9 ft BGS		1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	14	6.4	20.4 ^a	43	-
SD-218	SD-80987-111914-DD-081	11/19/2014	0-1 ft BGS		23 U	23 U	23 U	170 J	23 U	23 U	23 U	170 ^{ab}	28	-
SD-218	SD-80987-111914-DD-082	11/19/2014	0-1 ft BGS	Duplicate	8.9 U	8.9 U	8.9 U	52 J	8.9 U	8.9 U	8.9 U	52 ^{ab}	27	-
SD-218	SD-80987-111914-DD-083	11/19/2014	1-2 ft BGS		0.92 U	0.92 U	0.92 U	4.9	0.92 U	0.92 U	0.92 U	4.9 ^a	29	-
SD-219	SD-80987-111814-DD-070	11/18/2014	0-1 ft BGS		24 U	24 U	24 U	220 J	24 U	24 U	24 U	220 ^{ab}	31	-
SD-219	SD-80987-111814-DD-071	11/18/2014	1-2 ft BGS		9900 U	9900 U	9900 U	50000	9900 U	9900 U	9900 U	50000 ^{ab}	34	-
SD-219	SD-80987-111814-DD-072	11/18/2014	2-3 ft BGS		52 U	52 U	52 U	580	52 U	120 J	52 U	700 ^{ab}	37	-
SD-219	SD-80987-111814-DD-073	11/18/2014	3-4 ft BGS		460 U	460 U	460 U	4300	460 U	470	460 U	4770 ^{ab}	28	-
SD-220	SD-80987-111814-DD-074	11/18/2014	0-1 ft BGS		43 U	43 U	43 U	140 J	43 U	43 U	43 U	140 ^{ab}	25	-
SD-220	SD-80987-111814-DD-075	11/18/2014	1-2 ft BGS		0.95 U	0.95 U	0.95 U	7.7	0.95 U	0.95 U	0.95 U	7.7 ^a	31	-
SD-220	SD-80987-111814-DD-076	11/18/2014	2-3 ft BGS		0.82 U	0.82 U	0.82 U	7.9	0.82 U	0.82 U	0.82 U	7.9 ^a	21	-
SD-220	SD-80987-111814-DD-078	11/18/2014	2.3-3.4 ft BGS		-	-	-	-	-	-	-	N/A	-	1650
SD-220	SD-80987-111814-DD-077	11/18/2014	3-3.6 ft BGS		4.1 U	4.1 U	4.1 U	24	4.1 U	4.1 U	4.1 U	24 ^a	20	-
SD-221	SD-80987-111814-DD-061	11/18/2014	0-1 ft BGS		4.4 U	4.4 U	4.4 U	25 J	4.4 U	5.4	4.4 U	30.4 ^a	26	-
SD-221	SD-80987-111814-DD-062	11/18/2014	0-1 ft BGS		4.1 U	4.1 U	4.1 U	21 J	4.1 U	4.1 U	4.1 U	21 ^a	21	-
SD-221	SD-80987-111814-DD-064	11/18/2014	0-1.4 ft BGS		-	-	-	-	-	-	-	N/A	-	18100
SD-221	SD-80987-111814-DD-063	11/18/2014	1-1.4 ft BGS		4.2 U	4.2 U	4.2 U	44 J	4.2 U	9.8	4.2 U	53.8 ^{ab}	21	-
SD-222	SD-80987-111814-DD-066	11/18/2014	0-1 ft BGS		0.043 U	0.043 U	0.043 U	0.14 J	0.043 U	0.043 U	0.043 U	0.14	25	-
SD-223	SD-80987-111814-DD-055	11/18/2014	0-1 ft BGS		8 U	8 U	8 U	28 J	8 U	8 U	8 U	28 ^a	19	-
SD-223	SD-80987-111814-DD-056	11/18/2014	1-1.9 ft BGS		22 U	22 U	22 U	140	22 U	29	22 U	169 ^{ab}	25	-
SD-224	SD-80987-111814-DD-057	11/18/2014	0-1 ft BGS		460 U	460 U	460 U	5500	460 U	500 NJ	460 U	6000 ^{ab}	29	-
SD-224	SD-80987-111814-DD-058	11/18/2014	1-2 ft BGS		9.5 U	9.5 U	9.5 U	79 J	9.5 U	14	9.5 U	93 ^{ab}	32	-
SD-224	SD-80987-111814-DD-059	11/18/2014	2-3 ft BGS		0.45 U	0.45 U	0.45 U	2.8 J	0.45 U	0.45 U	0.45 U	2.8 ^a	26	-
SD-224	SD-80987-111814-DD-060	11/18/2014	3-3.3 ft BGS		0.039 U	0.039 U	0.039 U	0.38	0.039 U	0.044	0.039 U	0.424	17	-
SD-225	SD-80987-111814-DD-052	11/18/2014	0-1 ft BGS		300 U	300 U	300 U	3200 J	300 U	300 U	300 U	3200 ^{ab}	46	-
SD-225	SD-80987-111814-DD-053	11/18/2014	1-1.5 ft BGS		4.5 U	4.5 U	4.5 U	32 J	4.5 U	6.8 J	4.5 U	38.8 ^a	27	-
SD-226	SD-80987-111814-DD-054	11/18/2014	2-2.2 ft BGS		0.04 U	0.04 U	0.04 U	0.12	0.04 U	0.04 U	0.04 U	0.12	19	-
SD-227	SD-80987-111614-DD-049	11/16/2014	3.2-3.3 ft BGS		0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	15	-
SD-228	SD-80987-111614-DD-050	11/16/2014	2.9-3 ft BGS		0.04 U	0.04 U	0.04 U	0.22	0.04 U	0.04 U	0.04 U	0.22	19	-
SD-229	SD-80987-111614-DD-048	11/16/2014	2.3-2.4 ft BGS		0.08 U	0.08 U	0.08 U	0.67 J	0.08 U	0.092 J	0.08 U	0.762	18	-
SD-230	SD-80987-111614-DD-051	11/16/2014	2.4-2.5 ft BGS		-	-	-	-	-	-	-	N/A	-	3170
SD-232	SD-80987-111614-DD-046	11/16/2014	0-1 ft BGS		0.31 U	0.31 U	0.31 U	3	0.31 U	0.54 J	0.31 U	3.54 ^a	47	-
SD-232	SD-80987-111614-DD-047	11/16/2014	1-1.5 ft BGS		0.042 U	0.042 U	0.042 U	0.27	0.042 U	0.052 J	0.042 U	0.322	22	-
SD-233	SD-80987-111614-DD-044	11/16/2014	0-1 ft BGS		2.8 U	2.8 U	2.8 U	17	2.8 U	3.2 J	2.8 U	20.2 ^a	53	-
SD-233	SD-80987-111614-DD-045	11/16/2014	1-1.25 ft BGS		0.046 U	0.046 U	0.046 U	0.37 J	0.046 U	0.072	0.046 U	0.442	29	-

TABLE 5.3

2014 PCB SOIL SAMPLE KEY
FRIEDRICHSON COOPERAGE SITE
WATERFORD, NEW YORK

Sample Location	Sample ID	Sample Date	Sample Depth	Parameter:	Aroclor-1016 (PCB-1016)	Aroclor-1221 (PCB-1221)	Aroclor-1232 (PCB-1232)	Aroclor-1242 (PCB-1242)	Aroclor-1248 (PCB-1248)	Aroclor-1254 (PCB-1254)	Aroclor-1260 (PCB-1260)	Total PCBs (calculated)	Percent moisture	Total organic carbon (TOC)
				Unit:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg
				Criteria 1 ^a :	-	-	-	-	-	-	-	1	-	-
				Criteria 2 ^b :	-	-	-	-	-	-	-	50	-	-
SD-234	SD-80987-111514-DD-037	11/15/2014	0-1 ft BGS		0.42 U	0.42 U	0.42 U	3.8 J	0.42 U	0.68 J	0.42 U	4.48 ^a	60	-
SD-234	SD-80987-111514-DD-038	11/15/2014	1-2 ft BGS		0.51 U	0.51 U	0.51 U	2.3	0.51 U	0.51 U	0.51 U	2.3 ^a	35	-
SD-234	SD-80987-111514-DD-039	11/15/2014	2-3 ft BGS		0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	16	-
SD-234	SD-80987-111514-DD-036	11/15/2014	2.8-3 ft BGS	Duplicate	-	-	-	-	-	-	-	N/A	-	16100
SD-235	SD-80987-111514-DD-040	11/15/2014	0-1 ft BGS		0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	28	-
SD-235	SD-80987-111514-DD-041	11/15/2014	0-1 ft BGS		0.046 U	0.046 U	0.046 U	0.095 J	0.046 U	0.046 U	0.046 U	0.095	29	-
SD-236	SD-80987-111514-DD-023	11/15/2014	0-1 ft BGS	Duplicate	0.15 U	0.15 U	0.15 U	1	0.15 U	0.21	0.15 U	1.21 ^a	56	-
SD-236	SD-80987-111514-DD-024	11/15/2014	0-1 ft BGS		0.15 U	0.15 U	0.15 U	0.89	0.15 U	0.21	0.15 U	1.1 ^a	57	-
SD-236	SD-80987-111514-DD-025	11/15/2014	1-2 ft BGS		1.3 U	1.3 U	1.3 U	11	1.3 U	1.2 J	1.3 U	12.2 ^a	49	-
SD-236	SD-80987-111514-DD-026	11/15/2014	2-3 ft BGS		1.3 U	1.3 U	1.3 U	11	1.3 U	2.6	1.3 U	13.6 ^a	47	-
SD-236	SD-80987-111514-DD-027	11/15/2014	3-4 ft BGS		0.049 U	0.049 U	0.049 U	0.14 J	0.049 UJ	0.049 UJ	0.049 UJ	0.14	34	-
SD-236	SD-80987-111514-DD-028	11/15/2014	4-5 ft BGS		0.052 U	0.052 U	0.052 U	0.059	0.052 U	0.052 U	0.052 U	0.059	37	-
SD-237	SD-80987-111514-DD-030	11/15/2014	0-1 ft BGS		3.3 U	3.3 U	3.3 U	29	3.3 U	4.9 J	3.3 U	33.9 ^a	51	-
SD-237	SD-80987-111514-DD-034	11/15/2014	0-1 ft BGS		-	-	-	-	-	-	-	N/A	-	86700
SD-237	SD-80987-111514-DD-031	11/15/2014	1-2 ft BGS		0.1 U	0.1 U	0.1 U	1.1	0.1 U	0.17 J	0.1 U	1.27 ^a	36	-
SD-237	SD-80987-111514-DD-032	11/15/2014	2-3 ft BGS		0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	25	-
SD-238	SD-80987-111514-DD-012	11/15/2014	0-1 ft BGS		0.058 U	0.058 U	0.058 U	0.67	0.058 U	0.24	0.058 U	0.91	44	-
SD-239	SD-80987-111514-DD-017	11/15/2014	0-1 ft BGS		0.13 U	0.13 U	0.13 U	1.1	0.13 U	0.22 J	0.13 U	1.32 ^a	48	-
SD-239	SD-80987-111514-DD-018	11/15/2014	1-2 ft BGS		0.051 U	0.051 U	0.051 U	0.099	0.051 U	0.051 U	0.051 U	0.099	37	-
SD-240	SD-80987-111414-DD-001	11/14/2014	0-1 ft BGS		0.3 U	0.3 U	0.3 U	1.3	0.3 U	0.48	0.3 U	1.78 ^a	45	-
SD-240	SD-80987-111414-DD-002	11/14/2014	0-1 ft BGS		0.3 U	0.3 U	0.3 U	1.7	0.3 U	0.62	0.3 U	2.32 ^a	46	-
SD-240	SD-80987-111414-DD-003	11/14/2014	1-2 ft BGS	Duplicate	0.055 U	0.055 U	0.055 U	0.055 UJ	0.055 UJ	0.095 J	0.055 UJ	0.095	40	-
SD-241	SD-80987-111414-DD-011	11/14/2014	4.5-5.1 ft BGS		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	34	-
SD-242	SD-80987-111414-DD-006	11/14/2014	0-1 ft BGS		1.2 U	1.2 U	1.2 U	12	1.2 U	2.1 J	1.2 U	14.1 ^a	47	-
SD-242	SD-80987-111414-DD-007	11/14/2014	1-2 ft BGS		0.12 U	0.12 U	0.12 U	0.8	0.12 U	0.32	0.17	1.29 ^a	45	-
SD-242	SD-80987-111414-DD-008	11/14/2014	2-3 ft BGS		0.052 U	0.052 U	0.052 U	0.12 J	0.052 U	0.052 U	0.052 U	0.12	38	-

Notes:

BGS Below Ground Surface

ft feet

mg/kg milligram per kilogram

TOC Total Organic Carbon

U Not detected at the associated reporting limit.

J Estimated concentration.

UJ Not detected; associated reporting limit is estimated.

NJ Tentatively identified compound, estimated concentration.

% Percent

Appendix A

New York State Canal Corporation Canal Work Permit

New York State Canal Corporation
CANAL WORK PERMIT

Permit No. C2W140117
App. Fee \$25.00
Permit Fee \$0.00
Total Recd \$25.00
Tn/Vil/Cty Town of Waterford
County of Saratoga



Exp. Date 12/31/2014
CPM No. Blue Line Map - C - 6
Cl Sta. Baseline 188+67
Side West
Parcel No. Old Champlain Canal
Buoy No. N/A

Permittee CONESTOGA-ROVERS & ASSOCIATES
JAMES PUSKAS
Address 2055 NIAGARA FALLS BOULEVARD, SUITE 3
NIAGARA FALLS, NY 14304

Tel No. 519 884-0510 (519) 575-9444 CELL

Under the provisions of the Canal Law, PERMISSION IS HEREBY GRANTED to the Permittee to

CONDUCT SEDIMENT SAMPLING IN THE OLD CHAMPLAIN CANAL BETWEEN O'CONNOR STREET AND BURTON AVE IN ACCORDANCE WITH THE FEBRUARY 7, 2013 ORDER ON CONSENT - INDEX # A5-0784-1202 (FRIEDRICHSON COOPERAGE SITE),

as set forth and presented in the attached application: at the particular location or area as stated herein in accordance with any plans or maps, hereto attached, and pursuant to the conditions and regulations, whether general or special, which are hereinafter set forth; all of which form part of this permit.

CONDITIONS AND REGULATIONS:

1. Notice - IT IS ABSOLUTELY NECESSARY THAT THE PERMITTEE NOTIFY, **Garret R. O'Connor P.L.S.** NYS Canal Corporation, at phone number (518) 471-5033, BEFORE WORK IS STARTED AND UPON COMPLETION.
2. No right, title, ownership or interest of any kind in Canal property is granted by this permit. In addition, the Canal Corporation retains the right to make changes or additions to the Conditions and Regulations of this permit; and that such additions and changes shall form a part of the Permit heretofore issued and shall be complied with immediately.
3. This permit shall not be subleased, assigned or transferred. (Any attempt to sublease, assign, transfer or convey the authority granted to perform described work as stated above will be considered an automatic revocation of this Permit.)
4. Permittee is responsible to perform the work authorized herein in compliance with any and all applicable federal, state, and local laws, ordinances, codes, rules and regulations. Permittee shall not make any alterations, excavations, modifications or improvements of any kind to the work/use authorized by this Permit without the written permission of the New York State Canal Corporation. Permittee is responsible for obtaining all required permits from federal, state and local agencies, such as the U.S. Army Corps of Engineers, NYS Department of Environmental Conservation, etc.
5. Permittee is responsible for any repairs, improvements or maintenance work of any kind on the property. The Permittee shall maintain the lands, buildings and/or other structures in a neat, clean, and sanitary condition and shall be in compliance with all State and local building, zoning and health rules and regulations. The Permittee shall notify the Canal Corporation immediately of any unsafe or hazardous conditions.
6. The New York State Thruway Authority and the Canal Corporation, its agents, employees and contractors, shall at all times have the right of entry upon the property defined by this Permit to perform whatever duties are deemed necessary and Permittee hereby agrees to allow representatives or agents of said Authority/Corporation to inspect the work authorized herein during reasonable business hours.
7. Insurance and fees: The Permittee agrees to provide a certificate of general liability insurance in the amount of **\$1,000,000.00** (combined property damage and/or bodily injury, including death) single limit per occurrence for the protection of the Permittee, the People of the State of New York, the New York State Canal Corporation, and the New York State Thruway Authority, as additional insured. General liability insurance is to be provided by an insurance company licensed in New York State. The insurance company is required to provide thirty day written notice of cancellation to the Canal Corporation. Fees are to be made payable to the New York State Canal Corporation by check, bank cashier's check or money order.

8. It is understood by Permittee that no liability of any kind shall attach to or rest upon the Canal Corporation for any damage on account of the granting or revocation of any Permit. Permittee therefore undertakes and agrees to indemnify and save harmless the NYS Canal Corporation, the NYS Thruway Authority, its officers or employees from any and all liability, claims, demands and recoveries arising out of the negligence or use of the property by the Permittee or its representatives or agents.

9. The Permit hereby granted will terminate **Dec 31, 2014** but it may be revoked by the Canal Corporation at any time if it is determined that the Permittee is not in compliance with all the provisions hereof or if it is determined that the permitted use is no longer consistent with the operational needs of the Canal Corporation, whereupon the Permittee shall promptly discontinue operations under the same. Upon revocation, it will be the Permittee's duty to remove all structures and facilities from Canal property at the Permittee's expense. If the Permittee fails to remove same in a timely manner after reasonable notice, the Canal Corporation will do so and the reimbursement of the costs thereof will be the responsibility of the Permittee. Permittee will also be liable for any legal costs incurred by the Canal Corporation in collecting such reimbursement.

10. Any continued use and occupancy of Canal lands, after the work hereunder is completed, will require a Use and Occupancy Permit or a lease agreement with the Canal Corporation.

11. If any of the provisions of this Permit are held invalid, such invalidity shall not affect or impair other provisions herein which can be given effect without the invalid provisions, and to this end the provisions of this permit are severable.

12. The Canal Corporation reserves the right to issue more than one Permit for any one location.

13. In addition to the above listed standard conditions, this permit is also subject to the special conditions listed below as/if applicable under, "OTHER CONDITIONS," which are hereby incorporated into this document up to the notation of, "END OF OTHER CONDITIONS."

OFFICIAL SIGNATURE: _____

Division Canal Engineer

Date

11/6/14

THIS PERMIT IS NOT VALID UNTIL IT IS APPROVED AND SIGNED BY THE DIVISION CANAL ENGINEER

OTHER CONDITIONS:

1. THE PERMITTEE AGREES TO SUPPLY THE NYSCC WITH COPIES OF ALL ANALYSES, LOGS, PLANS, NOTES AND REPORTS, FOR ALL ACTIVITIES UNDERTAKEN ON NYSCC LANDS UNDER THIS PERMIT. ALL INFORMATION IS TO BE TRANSMITTED WITHIN 45 DAYS OF THE FIELD WORK OR DATA COLLECTION.
2. THE PERMITTEE SHALL CONDUCT ALL ACTIVITIES AUTHORIZED UNDER THIS PERMIT IN SUCH A MANNER SO THAT THEY DO NOT INTERFERE WITH THE CANAL SYSTEM OPERATIONS, MAINTENANCE AND/OR THE SAFETY OF THE CANAL CORPORATION'S PERSONNEL OR THE USE OF THE CANAL SYSTEM BY THE GENERAL PUBLIC.
3. ALL CANAL LANDS SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AS DETERMINED BY THE NYSCC.

END OF OTHER CONDITIONS

Appendix B

Core Logs



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-200

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-GRAVELLY SAND, loose, medium grained, fine rounded gravel, poorly graded, dark gray, wet	0.58						0.0
		0.83						0.0
	SP-SAND, with silt, loose, fine grained, poorly graded, medium gray, wet	0.92						0.0
2	ML-SANDY SILT, trace gravel, very loose, slight plasticity, medium gray, wet, sliver sized vegetative matter (wood) throughout	1.75						0.3
		2.42						9.5
	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, up to 15% sliver to twig sized vegetative matter (wood) throughout	3.00						0.1
4		4.08						0.0
	ML-CLAYEY SILT, very loose, low plasticity, dark brown, wet, trace vegetative matter - 1.5" silty clay, light gray at 1.83ft BGS	4.25						0.0
6	SP/SM-SAND, with silt, very loose, fine grained, poorly graded, dark gray, wet, approx. 15% shell							
	ML-SILT, trace clay, loose to very loose, slight plasticity, dark brown, wet, trace vegetative matter							
8	- REFUSAL at 4.3ft BGS							
	ML-CLAYEY SILT, low plasticity, medium gray, wet							
	END OF BOREHOLE @ 4.3ft BGS							
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-201

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace clay, trace sand, very loose, slight plasticity, dark gray, wet, sliver to twig sized vegetative matter (wood) throughout	0.75	 NATURAL COLLAPSE	0-1'-123				0.0
	CL-SILTY CLAY, very soft, low plasticity, light gray, wet	1.08		1-2'-124				0.0
		1.50						0.0
								0.0
2	SM-SILTY SAND, with fine rounded gravel, loose, fine grained, dark gray, wet, trace shells, trace shale pieces up to 1/2"	2.37		2-3'-125				
4	ML-SANDY SILT, trace to with fine rounded gravel, loose, fine grained, dark gray, wet, trace shells, trace shale pieces up to 1/4" - increase in shale fragments at 2.3ft BGS - REFUSAL at 2.4ft BGS							
	END OF BOREHOLE @ 2.4ft BGS							
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSOHN COOPERAGE SITE

HOLE DESIGNATION: SD-202

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, very loose, no plasticity, dark brown, wet, sliver to twig sized vegetative matter (wood, leaves and plants) throughout	0.42		0-1' -117				0.0
2	ML-SILT, trace clay, trace sand, very loose, slight plasticity, dark gray, wet, sliver to twig sized vegetative matter (wood and plants) throughout, occasional irregular sand laminations			1-2' -118				0.8
	- 1/4" lens twig to sliver sized vegetative matter (wood) at 1.2ft BGS			2-3' -119				0.2
4	- increase in vegetative matter throughout at 1.4ft BGS	3.17						0.2
	- 1/4" lens twig to sliver sized vegetative matter (wood and plants) at 1.6ft BGS							0.3
	- decrease in vegetative matter at 1.7ft BGS							
6	- 1/2" lens sliver sized vegetative matter (wood) at 2.0ft BGS							
	- 1/4" lens clayey silt, very loose, gray at 2.5ft BGS							
	- twig sized vegetative matter (wood) at 3.17ft BGS							
8	- REFUSAL at 3.2ft BGS							
	END OF BOREHOLE @ 3.2ft BGS							
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FRIEDRICHSOHN COOPERAGE SITE

HOLE DESIGNATION: SD-203

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace clay, very loose, slight plasticity, dark gray, wet, trace sliver to twig sized vegetative matter (wood and plants) throughout	1.17	 NATURAL COLLAPSE	0-1' -120				1.0
	- 3/4" silty clay, light gray at 0.7ft BGS			1-2' -121				1.5
2	- 1-1/2" silty clay, light gray at 0.9ft BGS	2.08						3.0
	ML-SILT, trace sand, very loose, slight plasticity, dark gray, wet, irregular sand laminations, trace sliver sized vegetative matter throughout	2.58						1.1
		2.79						0.8
	SM-SILTY SAND, very loose, fine grained, poorly graded, dark gray, wet, with 10% shells, trace sliver sized vegetative matter throughout							
4								
	ML-SANDY SILT, trace clay, loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter, up to 5% shells							
6	- REFUSAL, decay odor throughout at 2.8ft BGS							
	END OF BOREHOLE @ 2.8ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS





STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-204

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, sliver sized vegetative matter throughout	0.33						0.0
	ML-SILT, trace clay, very loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter (wood), occasional sand laminations	1.67						0.5
2	- 1/4" vegetative matter at 0.92ft BGS							1.1
	- 3/4" silty clay, very soft, light gray at 1.1ft BGS	3.00						1.6
	- 1/4" silty clay, very soft, light gray at 1.5ft BGS	3.50						2.3
4		4.00						1.1
	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter throughout							0.4
	- trace shells at 2.2ft BGS							
	- several sand laminations at 2.8ft BGS							
6	SM-SILTY GRAVELLY SAND, very loose, fine grained, fine rounded gravel, poorly graded, dark gray, wet, matrix includes 10% shells, trace sliver to twig sized vegetative matter throughout							
8	ML-SILT, trace clay, trace sand, loose, slight plasticity, dark gray, wet, trace sliver sized vegetative matter, occasional sand laminations							
	- REFUSAL, faint petroleum and decay type odors throughout at 4.0ft BGS							
10	END OF BOREHOLE @ 4.0ft BGS							
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-205

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, sliver sized vegetative matter (leaves, roots), throughout	0.75						8
	CL-SILTY CLAY, very soft, low plasticity, light gray, wet	0.83						52
		1.17						9.3
		1.75						4.3
2	ML-SILT, with sliver sized vegetative matter (wood, leaves), very loose, no plasticity, dark gray, wet	2.00						0.3
		2.17						0.6
		2.83						
		3.42						
4	ML-SILT, trace clay, very loose, slight plasticity, dark gray, wet, trace shale fragments up to 0.5" throughout							
	ML-SILT, trace sand, very loose, dark gray, no plasticity, wet, occasional sand laminations throughout, possible trace paint chip debris							
6	SM-SILTY SAND, trace pebble sized gravel, very loose, fine grained, poorly graded, dark gray, wet, matrix includes approx 10-15% shells							
	ML-SILT, trace sand, trace clay, loose, slight plasticity, dark gray, wet, trace sliver sized vegetative matter (plants), trace shells							
8	ML-CLAYEY SANDY SILT, trace gravel, firm, low plasticity, light gray, very moist to wet - REFUSAL, faint petroleum type odor in sample at 3.4ft BGS							
	END OF BOREHOLE @ 3.4ft BGS							
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-206

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, vegetative matter (roots, twigs) throughout	0.50						2.9
	ML-SILT, with clay, trace sand, very loose, no plasticity, dark gray, wet, trace sliver to twig sized vegetative matter throughout	1.50						1.5
2	- 1/2" silty clay, very soft, light gray at 0.92ft BGS	2.67						28.7
	- 1/2" silty clay, very soft, light gray at 1.3ft BGS	3.42		2-3' -111				3.7
	- trace shale fragments up to 1/2" long at 1.4ft BGS			3-3.4' -112				2.8
4	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter, shells and shell fragments throughout							6.7
	SM-GRAVELLY SILTY SAND, loose, fine grained, fine rounded gravel, poorly graded, dark gray, wet, trace shale fragments							
6	- REFUSAL, faint petroleum-type odor throughout at 3.4ft BGS							
	END OF BOREHOLE @ 3.4ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-207

PROJECT NUMBER: 080987

DATE COMPLETED: November 20, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, sliver sized vegetative matter (leaves, roots, wood) throughout							0.0
		1.25						69.5
	ML-CLAYEY SILT, very soft, low plasticity, light and dark gray, wet	1.42						41.6
		1.58						
2	ML-SANDY SILT, trace gravel, very loose, fine grained, no plasticity, dark gray, wet, sliver sized vegetative matter throughout	1.83						15.5
		2.83						8.9
	ML-SILT, with clay/clayey silt, very loose, slight plasticity, dark gray and light gray mottled, trace vegetative matter throughout, occasional irregular sand laminations	3.17						5.0
4		4.00						5.1
		4.25						
	ML-SILT, trace sand, trace clay, loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter, trace shells, occasional sand laminations							
6	SM-SILTY GRAVELLY SAND, very loose, fine grained, fine gravel, poorly graded, dark gray, wet, trace plastic and glass debris							
	ML-SILT, with clay, trace sand, very soft, slight plasticity, dark gray, wet, trace shells							
8	- 1/2" gravelly sand at 3.33ft BGS							
	- 1/2 gravelly sand at 3.42ft BGS							
	CL/ML-SILTY CLAY/CLAYEY SILT, soft, low plasticity, light gray, with dark gray laminations, wet							
10	- REFUSAL at 4.3ft BGS							
	END OF BOREHOLE @ 4.3ft BGS							
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-208

PROJECT NUMBER: 080987

DATE COMPLETED: November 19, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	ML-SILT, trace to with clay, trace sand, very loose, slight plasticity, dark gray, wet, sand laminations and vegetative laminations throughout, top 1-1/2" vegetative matter - 1/2" silty clay, very soft, light gray at 0.8ft BGS - 1/2" silty clay, very soft, light gray at 1.0ft BGS - 1" light gray overlying thin paper lamination at 1.2ft BGS - 2" irregular light yellowish brown nodule at 1.3ft BGS - 1/2" vegetative matter at 1.7ft BGS - 1/2" silty clay, very soft, light gray at 1.8ft BGS - 2-1/2" sandy silt, trace plastic debris, very loose at 2.0ft BGS - increase in vegetative matter at 2.6ft BGS - trace shells at 3.1ft BGS SP-SAND, with fine rounded gravel, trace silt, very loose, fine to medium grained, poorly graded, dark gray, wet - REFUSAL, petroleum-type odor throughout at 4.0ft BGS END OF BOREHOLE @ 4.0ft BGS	3.42 4.00	 NATURAL COLLAPSE	3.9-4" -108				76.1 38.8 17 135 102 77.3 55.9
4								
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-209

PROJECT NUMBER: 080987

DATE COMPLETED: November 19, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				0-1' -101/102				2200
		0.50						2500
		1.58		1-1.9' -103				2300
		1.83						
2	SP-GRAVELLY SAND, trace silt, very loose, fine grained, fine gravel, poorly graded, gray, wet							
	ML-SILT, trace to with clay, very loose, slight plasticity, dark gray, wet							
	- 2" silt lens, very loose, multiple 2-3mm nodules of brown liquid at 1.2ft BGS							
4	SM/GM-SILTY SAND GRAVEL, very loose, fine sand, fine subangular gravel, poorly graded, dark gray, wet							
	- REFUSAL, strong petroleum type odor throughout at 1.8ft BGS							
	END OF BOREHOLE @ 1.8ft BGS							
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12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-210

PROJECT NUMBER: 080987

DATE COMPLETED: November 19, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-SAND, trace silt, trace gravel, very loose, fine grained, poorly graded, dark gray, wet, trace sliver sized vegetative matter throughout	0.42	 NATURAL COLLAPSE	0-1' -104				46.1
	ML-CLAYEY SILT, very soft, low plasticity, light gray with dark gray lenses and laminations, wet, occasional sand laminations and vegetative laminations	1.92		1-2' -105				79.2
2	- 1/2" red laminations at 1.1ft BGS - 1" several sand laminations at 1.4ft BGS	2.92		2-3' -106				119
	ML-SILT, trace sand, loose, no plasticity, dark gray, wet, sliver sized vegetative matter and irregular sand laminations throughout	3.92		3-4' -107				49.9
4	- 1-1/2" gravelly sand, loose at 2.7ft BGS	4.21						308
	ML-SILT, with clay, trace sand, loose, slight plasticity, dark gray, wet, sliver sized vegetative matter and sand laminations throughout							112
6	CL-SILTY CLAY, very soft, low plasticity, light gray, very moist to wet, several irregular gray laminations throughout							95
	- REFUSAL, petroleum-type odor throughout at 4.2ft BGS							
8	END OF BOREHOLE @ 4.2ft BGS							
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

PROJECT NUMBER: 080987

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-211

DATE COMPLETED: November 19, 2014

DRILLING METHOD: VIBRACORE

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, vegetative matter (leaves, roots)	0.17 0.50 0.67 0.83 1.08 1.17	 NATURAL COLLAPSE					44
	ML-SANDY SILT, very loose, no plasticity, dark brown, wet							182
2	CL-SILTY CLAY, very soft, low plasticity, light gray, wet							307
	ML-SILT, with clay, trace sand, loose, slight plasticity, brown, with olive laminations, wet, sand laminations throughout	2.75 3.00 3.25 3.67		2-3' -098				185
4	CL-SILTY CLAY, very soft, low plasticity, light gray, wet			3-3.6' -099				117
	SM-SILTY SAND, loose, fine grained, poorly graded, dark brown, wet, several red laminations							22
6	ML-SILT, with clay/clayey silt, very soft, low plasticity, dark gray, wet, occasional sand laminations and vegetative laminations throughout - 1-1/2" several red laminations at 1.33ft BGS							
8	ML-SILT, very loose, no plasticity, dark gray, wet, sliver to twig sized vegetative matter throughout							
	ML-CLAYEY SILT, very soft, low plasticity, light gray, with dark gray sand laminations, wet							
10	SM-SILTY SAND, with fine gravel, loose, fine grained, poorly graded, dark gray, wet, trace small shells and sliver sized vegetative debris - REFUSAL, petroleum-type odor throughout at 3.7ft BGS							
12	END OF BOREHOLE @ 3.7ft BGS							
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-212

PROJECT NUMBER: 080987

DATE COMPLETED: November 19, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	ML-SILT, trace to with clay, trace sand, very loose, slight plasticity, dark gray, wet, sliver sized vegetative matter throughout occasional irregular sand laminations - 1" silty clay, light gray at 0.6ft BGS - 1/2" sliver sized vegetative matter (wood, leaves) at 0.7ft BGS - 1" silty clay, light gray at 0.8ft BGS - 1-1/2" silty clay, light gray at 1.1ft BGS - multiple sand laminations at 1.3ft BGS - 1/4" vegetative matter at 1.8ft BGS - 1" silty sand, light brown at 2.3ft BGS SP-GRAVELLY SAND, trace silt, very loose, fine grained, fine rounded gravel, poorly graded, dark gray, wet - REFUSAL, petroleum odor throughout at 3.4ft BGS END OF BOREHOLE @ 3.4ft BGS	2.92 3.42		0-1' -090				75.6
				1-2' -091				585
				2-3' -092				616
				3-3.5' -093				205
								60
								16

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-213
DATE COMPLETED: November 19, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-SAND, trace silt, trace fine rounded gravel, loose, fine to medium grained, poorly graded, dark gray, wet	0.58 0.83 1.00 1.33	 NATURAL COLLAPSE	0-1' -094				6.9
	ML-CLAYEY SILT, trace sand, very soft, low plasticity, brown, wet			1-2' -095				16.6
2	- sand and vegetative matter lamination at 0.71ft BGS			2-3' -096				39.5
	- gray at 0.75ft BGS			3-3.5' -097				25.1
	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, sliver sized vegetative matter throughout	2.92 3.00 3.42						10.5
4	ML-CLAYEY SILT, very soft, low plasticity, dark gray, wet							6.5
	- vegetative matter lamination at 1.17ft BGS							
6	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter, occasional sand laminations							
	- loose at 1.9ft BGS							
8	SM-SILTY SAND, very loose, fine grained, poorly graded, dark gray, wet, trace vegetative matter							
	ML-CLAYEY SILT, soft, low plasticity, light gray, with dark gray laminations, very moist							
	- REFUSAL, faint petroleum-type odor throughout at 3.4ft BGS							
10	END OF BOREHOLE @ 3.4ft BGS							
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-214

PROJECT NUMBER: 080987

DATE COMPLETED: November 19, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	VEGETATIVE MATTER (leaves, roots), very loose, wet	0.08	 NATURAL COLLAPSE	0-1' -085				15.1
	SM-SILTY SAND, very loose, fine grained, poorly graded, dark gray, wet, trace sliver sized vegetative matter throughout	0.58		1-2' -086				40.7
	ML-SILT, trace clay, trace sand, loose, no plasticity, dark gray, wet, trace vegetative matter, occasional sand laminations	1.17		2-3' -087				824
	SM-SILTY SAND, very loose, fine grained, poorly graded, brown, wet, petroleum-type odor	1.33		3-3.3' -088				172
	ML-SILT, with clay, soft to very soft, slight plasticity, dark gray, wet, trace sliver sized vegetative matter, occasional sand laminations, strong petroleum-type odor	3.33						50.4
2								27
4								
6	END OF BOREHOLE @ 3.3ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-215
DATE COMPLETED: November 19, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SM-SAND, with silt and vegetative matter, very loose, fine grained, poorly graded, dark brown, wet	0.17						283
	SP-SAND, trace silt, loose, fine grained, poorly graded, brown, wet	1.08 1.25						391 77
2	ML-SILT, trace sand, trace clay, loose, low plasticity, dark gray, wet, occasional sand laminations - light gray at 1.17ft BGS	1.83						151
		2.75						359
		3.08						322
4	ML-SILT, trace to with clay, trace sand, loose to compact, slight plasticity, dark brown and dark gray, wet, interbedded sand lenses and laminations, trace sliver sized vegetative matter	4.00						12.8
	ML-SILT, with clay, trace sand, loose to compact, slight plasticity, dark gray, wet, sliver sized vegetative matter throughout - 3/4" asphalt shingles/roofing material at 2.5ft BGS							
6	SM-SILTY SAND, trace gravel, very loose, fine to medium grained, dark gray, wet, trace sliver sized vegetative matter							
8	CL-SILTY CLAY, soft, low plasticity, light gray, with dark gray mottling, very moist - REFUSAL, petroleum-type odor throughout at 4.0ft BGS							
	END OF BOREHOLE @ 4.0ft BGS							
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-216

PROJECT NUMBER: 080987

DATE COMPLETED: November 19, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-SAND (FILL), loose, fine grained, poorly graded, brown, wet, petroleum-type odor throughout							901
		1.25						1095
2	ML-SILT, with clay, trace sand, loose to compact, slight plasticity, dark gray, wet, occasional sand laminations, petroleum-type odor throughout							1150
	- 1/4" card board at 1.5ft BGS							1286
	- 1/2" wood debris at 1.9ft BGS							385
	- 1/2" wood debris at 2.4ft BGS							
4	- REFUSAL at 2.8ft BGS	2.83						
	END OF BOREHOLE @ 2.8ft BGS							
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12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

PROJECT NUMBER: 080987

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-217

DATE COMPLETED: November 18, 2014

DRILLING METHOD: VIBRACORE

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	SP-SAND (FILL), trace silt, loose to compact, fine grained, poorly graded, dark gray to gray, wet, horizontal silt laminations, fine sand laminations medium grained sand laminations throughout, trace vegetative matter throughout - olive laminations at 0.6ft BGS - red laminations at 0.8ft BGS - brown, with dark gray, red, light gray laminations at 1.6ft BGS	2.00	 NATURAL COLLAPSE					396
								1717
								597
								5100
								502
		3.00						486
4	ML-SILT, trace to with clay, loose to compact, slight plasticity, brown, with red laminations, very moist ML-SILT, with clay, very soft, low plasticity, dark gray, wet - 3/4" silty sand at 3.17ft BGS - 1/2" lens sand at 3.33ft BGS - occasional dark gray sand laminations at 3.5ft BGS	3.83 4.08		3.8-3.9 -079				73
6	ML-SILT, with clay, trace sand, very soft, low plasticity, dark gray, very moist - REFUSAL, strong petroleum-type odor throughout at 4.1ft BGS							
8	END OF BOREHOLE @ 4.1ft BGS							
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-218

PROJECT NUMBER: 080987

DATE COMPLETED: November 19, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
		0.08 0.33						
	GP-GRAVEL, trace sand, loose, coarse, poorly graded, gray, wet			0-1' -081/082				0.0
	SP-SAND, trace gravel, very loose, fine to medium grained, poorly graded, dark gray, wet, faint decay odor							0.0
2	ML-SILT, with clay, trace sand, loose to compact, slight plasticity, dark gray, very moist to wet, trace shells throughout - REFUSAL at 2.0ft BGS END OF BOREHOLE @ 2.0ft BGS	1.96		1-2' -083				0.0
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NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-219

PROJECT NUMBER: 080987

DATE COMPLETED: November 18, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-SAND, trace fine rounded gravel, loose, medium grained, dark gray, wet	0.42		0-1'-070				3.3
	SM-SILTY SAND, loose, fine grained, poorly graded, brown, wet	0.67						138
	- several dark brown and tan laminations at 0.58ft BGS	1.00		1-2'-071				794
2	SM-SAND, with silt, very loose, fine grained, poorly graded, dark gray, wet, trace vegetative matter throughout	1.25		2-3'-072				2100
	CL-SILTY CLAY, very soft, low plasticity, brown and gray, wet, trace shells	2.25		3-4'-073				500
	- 1/2" sand at 1.11ft BGS	3.75						170
4	ML-CLAYEY SILT/SILT, with clay, very soft, low plasticity, gray, with brown lenses, sand laminations and silt laminations throughout, trace vegetative matter throughout	4.08						75
	- several sand laminations and lenses up to 1/4" thick, visible brown liquid in sand lens at 1.42ft BGS	4.12						
	- 1/2" lens vegetative matter at 1.67ft BGS							
6	- several unknown green sliver sized particles at 1.8ft BGS							
8	- trace brick and wood debris at 1.9ft BGS							
	- 1/2" dark gray lens at 2.0ft BGS							
	- light gray at 2.1ft BGS							
	- dark brown at 2.2ft BGS							
10	ML-SILT, with clay, trace sand, loose to compact, slight plasticity, gray, moist to very moist, irregularly spaced sand laminations, occasional vegetative laminations							
	- 1/2" red layer at 2.8ft BGS							
	- 1/2" vegetative matter at 2.8ft BGS							
12	- 1-1/2" highly laminated sand, vegetative matter, trace shell fragments at 3.0ft BGS							
	- 2-1/2" diameter piece coarse gravel from 3.6 to 3.8ft BGS							
14	CL-SILTY CLAY, firm, low plasticity, dark gray, moist							
	- REFUSAL, strong petroleum-type odor throughout at 4.1ft BGS							
	SP-SAND, trace silt, compact, fine grained, poorly graded, dark gray, wet							
	END OF BOREHOLE @ 4.1ft BGS							
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-220

PROJECT NUMBER: 080987

DATE COMPLETED: November 18, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-SAND, with gravel, trace silt, very loose, fine grained, poorly graded, dark gray, wet, trace shells	0.50		0-1' -074				1.5
		0.92						1.5
	ML-SILT, with clay, very soft, low plasticity, dark gray, wet, occasional sand laminations	1.08		1-2' -075				2
2	- 1/2" lens sand, trace gravel, trace vegetative matter at 0.75ft BGS							4
	- trace shells at 0.83ft BGS	2.25		2-3' -076				3
								1.3
4	SP/GP-SAND/GRAVEL, very loose, fine sand, fine rounded pebble sized gravel, poorly graded, dark gray, wet, trace shells (5-10%)	3.50		3-3.6' -077				
	ML-SILT, with clay, trace sand, very soft, low plasticity, dark gray, very moist to wet, occasional sand laminations, trace shells							
	- fine sand lens at 2.2ft BGS							
6	ML-SILT, trace to with sand, trace clay, loose, slight plasticity, olive gray with dark gray laminations, wet							
	- few shale fragments at 3.5ft BGS							
	- REFUSAL at 3.5ft BGS							
	END OF BOREHOLE @ 3.5ft BGS							
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16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-221

PROJECT NUMBER: 080987

DATE COMPLETED: November 18, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
		0.33						8.4
		0.92						8.1
		1.33						8.1
2	SP-GRAVELLY SAND, trace silt, loose, fine grained, trace gravel, poorly graded, gray, wet, trace vegetative matter, faint petroleum-type odor							
	SM-SILTY SAND, very loose, fine grained, poorly graded, dark gray, wet, trace vegetative matter, faint petroleum-type odor							
4	SP-GRAVELLY SAND, trace to with silt, loose to compact, fine grained, poorly graded, dark gray, wet, faint petroleum-type odor							
	- shell fragments at 1.31ft BGS							
	- REFUSAL at 1.3ft BGS							
	END OF BOREHOLE @ 1.5ft BGS							
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NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

PROJECT NUMBER: 080987

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-222

DATE COMPLETED: November 18, 2014

DRILLING METHOD: VIBRACORE

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-SAND, trace silt, loose, fine grained, poorly graded, dark gray, wet, trace vegetative matter - silt lamination, brown, petroleum-type odor at 0.22ft BGS	0.25 0.50 0.67		0-1' -066				18.8
				1-2' -067				7.4
2	ML-SILT, with clay, trace sand, very loose, no plasticity, dark gray, wet, several sand laminations, trace sliver sized vegetative matter	1.67		2-3' -068				5.5
				3-3.5' -069				3.8
4	SM-SILTY SAND, very loose, fine grained, poorly graded, dark gray, wet, trace plastic debris, faint petroleum-type odor	3.42						3.1
	ML-SILT, trace clay, trace sand, loose, slight plasticity, dark gray, wet, trace shells, faint petroleum-type odor - lamination, with shells at 1.0ft BGS - lamination, with shells at 1.3ft BGS							2.7
6	ML-SILT, with sand, trace clay, loose, slight plasticity, grayish brown, wet, irregular sand laminations throughout - trace shale fragments up to 1/2" at 2.8ft BGS - increase in shale fragments at 3.2ft BGS - sand laminations at 3.3ft BGS - REFUSAL at 3.4ft BGS							
8	END OF BOREHOLE @ 3.4ft BGS							
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NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-223
DATE COMPLETED: November 18, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

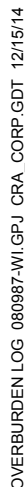
DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	SP-SAND, trace silt, trace gravel, loose, fine grained, poorly graded, dark gray, wet, faint petroleum-type odor, trace sliver sized vegetative matter, trace shells, occasional silt laminations - fine grained at 0.7ft BGS - rubber debris at 0.8ft BGS - 2" sandy silt at 1.2ft BGS - coarse grained at 1.3ft BGS - REFUSAL at 1.8ft BGS END OF BOREHOLE @ 1.8ft BGS	1.83	 NATURAL COLLAPSE	0-1'-055				3.3
				1-1.9'-056				9.2
								9.4
								2.1
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NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14





STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-225
DATE COMPLETED: November 18, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, with vegetative matter, trace sand, trace clay, very loose, no plasticity, dark gray, wet			0-1' -052				0.5
	CL-SILTY CLAY, very soft, low plasticity, gray, wet, several shells, trace plastic debris	1.08		1-1.5' -053				0.5
	- REFUSAL at 1.4ft BGS	1.33						0.5
2	ML-SILT, with shale fragments, very loose, no plasticity, dark gray, wet, shale up to 3/4" long	1.42						
	END OF BOREHOLE @ 1.4ft BGS							
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18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14

PROJECT NAME: FRIEDRICHSOHN COOPERAGE SITE

HOLE DESIGNATION: SD-226

PROJECT NUMBER: 080987

DATE COMPLETED: November 18, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	SP-SAND, with silt, trace gravel, loose, fine grained, poorly graded, gray, wet, trace rootlets, trace shells	0.25	 NATURAL COLLAPSE					0.0
	ML-SILT, trace sand and trace clay, loose, no plasticity, dark gray, with irregular light gray sections, several sand laminations, trace shells, wet	1.17						0.0
2		2.00						0.0
		2.17						0.0
	ML-SILT, with clay, trace sand, loose, slight plasticity, gray, with dark gray laminations, very moist - REFUSAL at 2.1ft BGS			2-2.2' -054				
4	CL-SILTY CLAY, firm, low plasticity, light gray, very moist END OF BOREHOLE @ 2.1ft BGS							
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12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS





STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-227
DATE COMPLETED: November 16, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, with sand, trace clay, very loose, no plasticity, dark gray, wet, trace vegetative matter (roots, sliver sized wood) throughout, petroleum-type odor	0.50 0.75	 NATURAL COLLAPSE					7.8
	ML-SILT, with clay, trace sand, very loose, no plasticity, dark gray, wet, two sand laminations, petroleum-type odor	1.67						62
2								69
	CL-SILTY CLAY, trace sand, very soft, low plasticity, light gray, with dark gray laminations, wet, occasional sand laminations and vegetative laminations, petroleum-type odor	2.58 2.83 3.00 3.25						17.2
	- dark gray, with light gray lamination at 1.08ft BGS - 1/4" silty sand at 1.6ft BGS							6.8
4				3-3.3' -049				5.8
	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, trace shells, trace sliver to twig sized vegetative matter throughout, petroleum-type odor							
6								
	SM-SILTY SAND, very loose, fine grained, dark gray, wet, faint petroleum-type odor, single shell 2-1/2" long							
8								
	CL-SILTY CLAY, very soft, low plasticity, dark gray, wet, several sand and silt laminations							
	SP-SAND, with silt, loose to compact, fine uniformed grained, dark gray, wet - REFUSAL at 3.3ft BGS							
10	END OF BOREHOLE @ 3.3ft BGS							
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14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-228

PROJECT NUMBER: 080987

DATE COMPLETED: November 16, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, with sand, trace clay, very loose, fine grained, dark gray, wet, rootlets throughout, petroleum-type odor	0.42 0.75	 NATURAL COLLAPSE					46.5
	ML-CLAYEY SILT, trace sand, very soft, slight plasticity, dark gray, wet, petroleum-type odor	1.33						9.5
		1.92						9.1
2	SP-SAND, with pebble-sized gravel, trace silt, very loose, fine to medium grained, gray, with dark gray and olive gray laminations, wet, matrix is approx 5% shells, small friable shale fragments up to 3/4" long, petroleum-type odor	2.92 3.00						7.3
								2.2
4	SM-SILTY SAND, loose, fine grained, gray, with dark gray and olive gray laminations, wet, petroleum-type odor, occasional silt and clay laminations							
6	ML-SANDY SILT, loose, fine grained, no plasticity, olive gray, with gray laminations, very moist to wet - REFUSAL at 3.0ft BGS							
	ML-CLAYEY SILT, firm, slight plasticity, gray, very moist - sand lamination at 2.96ft BGS							
8	END OF BOREHOLE @ 3.0ft BGS							
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NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-229

PROJECT NUMBER: 080987

DATE COMPLETED: November 16, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, trace sliver to twig sized vegetative matter, trace leaves	0.83	 NATURAL COLLAPSE					5.5
	ML-CLAYEY SILT, very soft, slight plasticity, light gray, with dark gray laminations, wet, several vegetative laminations, petroleum-type odor	1.42						15.7
2		1.50						56.4
		1.75						6.6
		2.08						
		2.42						
	ML-SANDY SILT, very loose, fine grained, no plasticity, dark gray, wet, petroleum-type odor							
	ML-SILT, trace clay, trace sand, very loose, no plasticity, dark gray, wet							
4								
	ML-SANDY SILT, trace clay, loose, fine grained, no plasticity, gray and olive gray, several dark gray laminations, very moist to wet							
	ML/CL-SILTY CLAY, soft, low plasticity, light gray, very moist, several shale fragments throughout							
6								
	- REFUSAL at 2.4ft BGS							
	END OF BOREHOLE @ 2.4ft BGS							
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10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-230
DATE COMPLETED: November 16, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, with clay, trace sand, very loose, no plasticity, dark gray, wet, rootlets throughout, faint petroleum-type odor	0.33	 NATURAL COLLAPSE					NR
	ML-CLAYEY SILT, trace sand, soft, low plasticity, dark gray, occasional brown laminations and gray laminations, wet	1.50						NR
2	- several pieces of weathered shale at 1.46ft BGS							NR
	SM-SILTY SAND, trace fine gravel, loose to compact, fine grained, poorly graded, olive gray to gray, wet, occasional shale fragments	3.00						NR
4	- REFUSAL at 3.0ft BGS							NR
	END OF BOREHOLE @ 3.0ft BGS							
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8								
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12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-231

PROJECT NUMBER: 080987

DATE COMPLETED: November 16, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace clay, trace sand, very loose, no plasticity, gray, wet, vegetative matter (leaves, sliver to twig sized matter) throughout, trace shells, petroleum-type odor - 2" sandy silt at 1.0ft BGS	1.50	 NATURAL COLLAPSE					3.9
		1.83						10
2	ML-GRAVELLY SILT, very loose, no plasticity, dark gray, wet, strong petroleum-type odor, weathered shale fragments throughout	2.17						25
								7
	CL/ML-SILTY CLAY/CLAYEY SILT, firm, low plasticity, gray, wet, shale fragments throughout - REFUSAL at 2.2ft BGS END OF BOREHOLE @ 2.2ft BGS							
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12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-232
DATE COMPLETED: November 16, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, with sand and vegetative matter, very loose, no plasticity, dark gray, wet, visible sheen, trace shells, leaves and sliver to twig sized vegetative matter throughout - REFUSAL at 1.4ft BGS	1.33 1.42	 NATURAL COLLAPSE					2.5 2.5
2	CL-SILTY CLAY, soft, low plasticity, light gray, very moist, shale fragments throughout END OF BOREHOLE @ 1.4ft BGS							
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8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-233

PROJECT NUMBER: 080987

DATE COMPLETED: November 16, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, petroleum-type odor, minor sheen, several shells	0.75	 NATURAL COLLAPSE	0-1' -044				4.6
	ML-GRAVELLY SANDY SILT, very loose, no plasticity, dark gray, wet, vegetative matter (leaves, sliver sized wood) throughout, trace metal debris, petroleum-type odor	1.00		1-1.25' -045				2.1
2		1.17						
		1.25						
	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, matrix with approx. 5% small shells, faint petroleum-odor - REFUSAL at 1.3ft BGS							
4								
	ML-CLAYEY SILT, firm, slight plasticity, gray, wet, several shale fragments							
	END OF BOREHOLE @ 1.3ft BGS							
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14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-234

PROJECT NUMBER: 080987

DATE COMPLETED: November 15, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				0-1' -037				0.0
		1.08						0.8
		1.58		1-2' -038				1.3
2	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, rootlets and sliver to twig sized vegetative debris throughout, faint petroleum-type odor	2.17						1.6
	ML-GRAVELLY SILT, trace sand, very loose, no plasticity, gray, wet, trace sliver to twig sized vegetative matter, friable weathered shale up to 1/2" pieces throughout, faint petroleum-type odor	2.75		2-3' -039				0.2
		3.00						
4	ML-SILT, with clay, trace sand, trace gravel, very loose to loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter, trace friable shale fragments, faint petroleum-type odor							
	ML-GRAVELLY SILT, trace sand, very loose, no plasticity, dark gray, wet, friable shale pieces approx. 1/2"x1/2" throughout							
6	CL-CLAYEY SILT, trace sand, trace gravel, soft, slight plasticity, gray, very moist to wet, irregular pieces of shale at top of interface							
	- REFUSAL at 3.0ft BGS							
	END OF BOREHOLE @ 3.0ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-235

PROJECT NUMBER: 080987

DATE COMPLETED: November 15, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
		0.17 0.33						
	GM-SILTY SANDY GRAVEL, loose, fine sand, fine and coarse gravel up to 1" diameter, gray, wet, faint decay-type odor			0-1' -040/-041				0.0
	PT-VEGETATIVE MATTER, leaves, roots, other sliver to twig sized matter							0.0
2	ML-SILT, with clay, loose, slight plasticity, medium gray, very moist, trace vegetative matter throughout	2.00		1-2' -042				0.0
	- trace fine rounded gravel up to 1/4" diameter at 1.6ft BGS							
4	- trace to with small shale fragments approx 1/4"x1/2" at 1.8ft BGS							
	- large pieces of shale at 2.0ft BGS							
	- REFUSAL at 2.0ft BGS							
	END OF BOREHOLE @ 2.0ft BGS							
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-236
DATE COMPLETED: November 15, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, trace vegetative (rootlets and other sliver sized matter) matter, decay-type odor	0.83	 NATURAL COLLAPSE	0-1' -023				0.8
	ML-SILT, trace sand, trace clay, very loose, no plasticity, dark gray, wet, occasional sand laminations, trace vegetative matter, decay-type odor	2.75		1-2' -024				1.1
				2-3' -025				1.3
4	ML-SILT, with clay, loose to compact, slight plasticity, dark gray, very moist to wet, trace small shells, trace sliver sized vegetative matter, decay-type odor - trace gravel up to 1/2" diameter at 3.7ft BGS			3-4' -026				0.4
				4-5' -027				0.1
6	- 1/2" lens sliver sized vegetative matter at 5.3ft BGS - gray, with dark gray mottling, trace vegetative matter at 5.8ft BGS - REFUSAL at 5.8ft BGS END OF BOREHOLE @ 5.8ft BGS	5.83		5-5.9' -028				
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-237
DATE COMPLETED: November 15, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, trace gravel, very loose, no plasticity, dark gray, wet, irregular sand laminations, trace sliver sized vegetative matter, faint petroleum-type odor			0-1' -030				2.1
	- loose at 1.6ft BGS			1-2' -031				1.1
2	- trace clay at 1.7ft BGS	2.08		2-3' -032				1.3
	GM/ML-GRAVELLY SILT, trace sand, very loose, fine gravel, friable angular shale pieces, gray, wet	3.00		3-4' -033				0.3
	ML-SILT, with clay, trace sand, trace gravel, loose, slight plasticity, gray, wet	3.67						
4	ML-CLAYEY SILT, firm, low plasticity, gray, wet, few sand laminations	4.08						
	- REFUSAL at 4.1ft BGS							
	END OF BOREHOLE @ 4.1ft BGS							
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSOHN COOPERAGE SITE

HOLE DESIGNATION: SD-238

PROJECT NUMBER: 080987

DATE COMPLETED: November 15, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, trace sand, trace clay, very loose, slight plasticity, dark gray, wet, trace sliver sized vegetative matter throughout			0-1' -012				0.0
2	ML-SILT, with clay, trace sand, loose, slight plasticity, gray, with irregular dark gray lenses, wet, occasional sand laminations - several shale pieces in 2" lens at 3.0ft BGS	2.00	 NATURAL COLLAPSE	1-2' -013				0.0
				2-3' -014				0.0
4	- trace shale pieces up to 1/2" at 3.8ft BGS			3-4' -015				0.0
	- 0.2" shale lens at 4.8ft BGS	4.67		4-5' -016				0.0
		4.96						
6	CL/ML-SILTY CLAY/CLAYEY SILT, soft to firm, low plasticity, gray, very moist to wet, small pieces of shale throughout - REFUSAL at 5.0ft BGS END OF BOREHOLE @ 5.0ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-239

PROJECT NUMBER: 080987

DATE COMPLETED: November 15, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				0-1' -012				0.3
				1-2' -018				0.8
2	ML-SILT, trace clay, trace sand, very loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter	0.75		2-3' -019				0.7
	ML-SILT, trace clay, trace sand, loose, gray, wet, occasional sand laminations			3-4' -020				0.4
	- 1/4" lens shells at 1.0ft BGS			4-5' -021				0.4
	- trace sliver sized vegetative wood at 1.3ft BGS			5-5.6' -022				
	- trace shells throughout at 2.2ft BGS							
4								
6	- gray, with dark gray mottling at 5.5ft BGS	5.58						
	- REFUSAL at 5.6ft BGS							
	END OF BOREHOLE @ 5.6ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE

HOLE DESIGNATION: SD-240

PROJECT NUMBER: 080987

DATE COMPLETED: November 14, 2014

CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP

DRILLING METHOD: VIBRACORE

LOCATION: WATERFORD, NEW YORK

FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				0-1' -001				0.0
				1-2' -002				0.0
2	ML-SILT, trace sand, very loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter throughout - loose at 1.0ft BGS - trace to with clay at 1.9ft BGS - 1-1/2" lens very loose, 5-10% small shells, 5-10% vegetative matter at 2.2ft BGS	2.67	 NATURAL COLLAPSE	2-3' -003				0.0
4	ML-CLAYEY SILT, loose to compact, slight plasticity, gray, with dark gray mottling, wet, weathered shale fragments up to 1/2" long, increase in sand and frequency with depth - REFUSAL at 4.3ft BGS	4.33		3-4' -004				0.0
	END OF BOREHOLE @ 4.3ft BGS							
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-241
DATE COMPLETED: November 14, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	ML-SILT, with sand, very loose, no plasticity, dark gray, wet, trace sliver sized vegetative matter	0.58						0.0
2	ML-SILT, trace clay, trace sand, loose, slight plasticity, dark gray, with irregular light gray lenses, wet, vegetative matter laminations throughout - trace small shells at 2.6ft BGS							0.0
4								0.0
								0.0
								0.0
	- REFUSAL at 5.1ft BGS	4.92 5.08			4.5-5.1 -011			0.0
6	CL/ML-SILTY CLAY/CLAYEY SILT, soft to firm, low plasticity, gray, with dark gray mottling, wet END OF BOREHOLE @ 5.1ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: FRIEDRICHSON COOPERAGE SITE
PROJECT NUMBER: 080987
CLIENT: GENERAL ELECTRIC COMPANY & SI GROUP
LOCATION: WATERFORD, NEW YORK

HOLE DESIGNATION: SD-242
DATE COMPLETED: November 14, 2014
DRILLING METHOD: VIBRACORE
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	ML-SILT, trace sand, very loose, no plasticity, gray, wet, trace rootlets and other sliver sized vegetative matter - trace shells at 1.8ft BGS - multiple small shells in 1/2" lens at 2.2ft BGS	2.92	 NATURAL COLLAPSE	0-1'-006				0.3
				1-2'-007				0.4
				2-3'-008				0.2
4	ML-SILT, trace sand, trace clay, very loose to loose, slight plasticity, gray, with dark gray mottling, wet - 3' long shell at 3.6ft BGS - slight increase in density at 3.8ft BGS - 1/2"x3" wood debris at 4.8ft BGS	4.83		3-4'-009				0.4
		5.08		4-5'-010				
6	CL-SILTY CLAY, firm, low plasticity, light gray, very moist to wet - REFUSAL at 5.1ft BGS END OF BOREHOLE @ 5.1ft BGS							
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 080987-WI.GPJ CRA_CORP.GDT 12/15/14

Appendix C

Core Collection Field Data Forms

FIELD DATA SHEET

Page 1 of 2

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11 / 14 / 14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 0845-0908 / 0945-1020
 Station ID #: SD-240 Weather: Clear Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph NNE

FIELD DATA

Water Depth: 1.5' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-240-1 Coring Time: 0855 Penetration Depth: 31" 39" Core Recovery: 31"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-240-2 Coring Time: 0955 Penetration Depth: 42" 48" Core Recovery: 42"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: SD-240-3 Coring Time: 1015 Penetration Depth: 52" 59" Core Recovery: 52"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

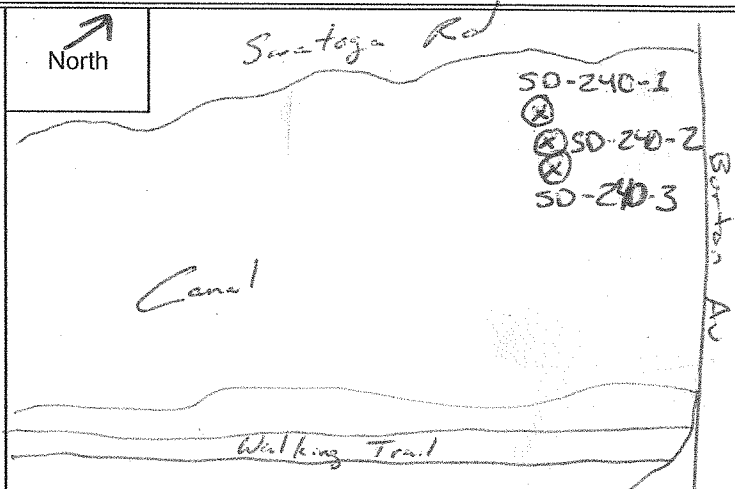
Operator: KCM
 File Name: SD-240-1 / SD-240-2
 Lat / N: 44.2589.84 / 44.2586.61
 Lon / E: 71.0389.85 / 71.0386.80
 PDOP: 7

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- Hit dark black like clay & tube started bending
- ~~Handed to sample locations~~
- 2nd push requested per CRA @ 5' step-off from SD-240-1
- 3rd push requested per CRA @ 5' step-off from SD-240-2

Preparer's Initial: KCM



QC'd
 12/1/14

FIELD DATA SHEET

Page 2 of 2

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/14/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCB, MKM		Arrival & Departure Times: see page 1
Station ID #: SD-240		Weather: Clear Cloudy Rain Other
Photos: Y N Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph NNE

FIELD DATA

Water Depth: **1.5'** Tide: Ebb Flood Low Slack High Slack Other **N/A**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfeller / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: **N/A** Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfeller / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfeller / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: **KCM**
 File Name: **SD-240-3**
 Lat / N: **42°58'20.08"**
 Lon / E: **71°03'51.51"**
 PDOP: **7**

Coordinate Units: Lat/Lon **US Survey Feet**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

Push #3 (SD-240-3) hit refusal per CRA (6" or less in 30 seconds)
- Kept all cores for sample per CRA.
20' of tube used at this location.
 Preparer's Initial: **KCM**

North

See Page 1

QC OK
11/14/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/14/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 1100-1130 / 1310-1330
 Station ID #: SD-241 Weather: Clear Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 5-10 mph NNE

FIELD DATA

Water Depth: 1.8' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-241-1 Coring Time: 1120 Penetration Depth: KCM 46" 52" Core Recovery: 46"
 Sample Method: Ponar (Vibracore) Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3") 4"
 Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #2

Core ID#: SD-241-2 Coring Time: 1325 Penetration Depth: KCM 63" 69" Core Recovery: 63"
 Sample Method: Ponar (Vibracore) Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3") 4"
 Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

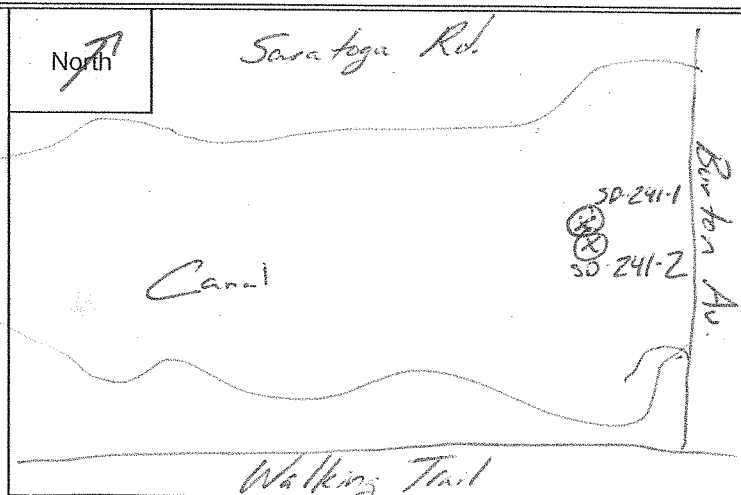
Operator: KCM Coordinate Units: Lat/Lon (US Survey Feet)
 File Name: SD-241-1 / SD-241-2 Datum: NAD83
 Lat / N: 1442547.82 / 1442547.19 Proj.: US State Plane 1983 NY East 3101
 Lon / E: 710421.19 / 710424.20 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 6

COMMENTS / NOTES

- Pushed 10' tube and hit refusal per CRA definition
- Per request of CRA attempted 2nd push at location.
- 2nd push hit refusal per CRA definition.
- kept both cores for sample.

10' GI tube used.

Preparer's Initial: KCM



over
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/14/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCB, MKM		Arrival & Departure Times: 1335-1415
Station ID #: SD-242		Weather: Clear Cloudy Rain Other
Photos: Y N Photo Nos.: N/A		Wind Conditions (Speed/Direction): 10-15 mph NNE

FIELD DATA

Water Depth: **3.7'** Tide: Ebb Flood Low Slack High Slack Other **N/A**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-242-1** Coring Time: **1350** Penetration Depth: **7"** Core Recovery: **4"**
 Sample Method: Ponar / **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #2

Core ID#: **SD-242-2** Coring Time: **1405** Penetration Depth: **61" 68"** Core Recovery: **61"**
 Sample Method: Ponar / **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #3

Core ID#: Coring Time: Penetration Depth: Core Recovery:
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: **KCM**
 File Name: **SD-242-1 / SD-242-2**
 Lat / N: **1442513.92 / 1442519.37**
 Lon / E: **710498.72 / 710498.56**
 PDOP: **6**

Coordinate Units: Lat/Lon **US Survey Feet**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

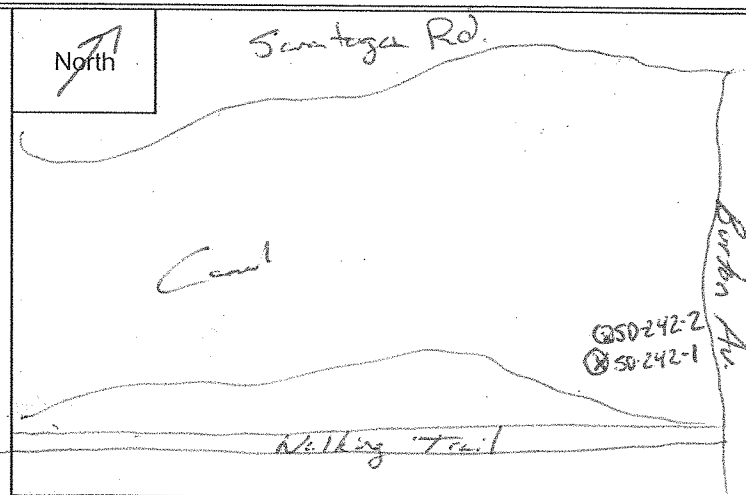
COMMENTS / NOTES

SD-242-1 yielded waddy debris w/ minimal sediment recovery. Per CRA moved 5' from original location and tried 2nd attempt.

SD-242-2 yielded sediment until refusal was hit per CRA protocols.

7' of tube used

Preparer's Initial: **KCM**



**OK
12/1/14**

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/15/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCB, MKM		Arrival & Departure Times: 0745 - 0803
Station ID #: SD-238		Weather: Clear Cloudy Rain Other
Photos: Y (N) Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph ESE

FIELD DATA

Water Depth: **1.4'** Tide: Ebb Flood Low Slack High Slack Other **(N/A)**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-238-1** Coring Time: **0755** Penetration Depth: **68"** Core Recovery: **59.5"**
 Sample Method: Ponar **(Vibracore)** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #2

Core ID#: Coring Time: Penetration Depth: Core Recovery:
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: Coring Time: Penetration Depth: Core Recovery:
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

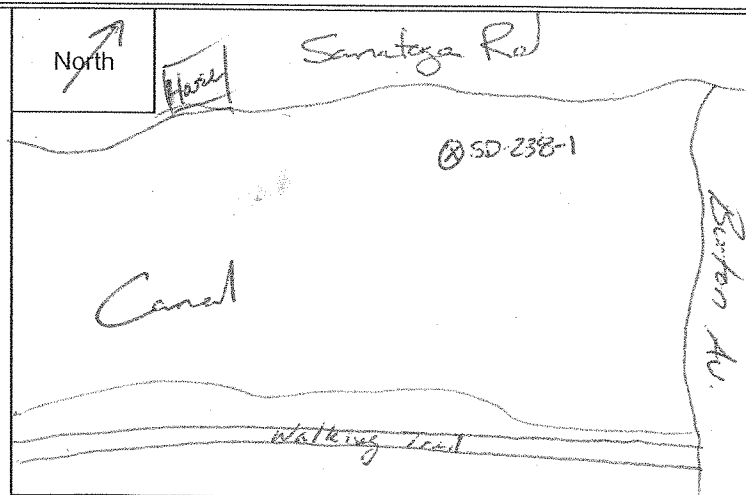
DGPS DATA

Operator: **KCM**
 File Name: **SD-238-1**
 Lat / **(N)**: **1442517.11**
 Lon **(E)**: **710291.10**
 PDOP: **7**

Coordinate Units: Lat/Lon **(US Survey Feet)**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- Refusal hit per CRA protocol.
 - Recovery acceptable per CRA.
 - 6' of tube used.
 Preparer's Initial: **KCM**



OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/15/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: BOB, MKM		Arrival & Departure Times: 0820 - 0835
Station ID #: SD-239		Weather: Clear Cloudy Rain Other
Photos: Y (N) Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 ESE

FIELD DATA

Water Depth: **1.6'** Tide: **Ebb** Flood Low Slack High Slack Other **(N/A)**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-239-1** Coring Time: **0825** Penetration Depth: **73"** Core Recovery: **67"**
 Sample Method: **Ponar (Vibracore) Piston Core / Manual** Coring Material: **CAB / Aluminum / SS** Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder / PVL / Portable Clamp-on / NA** Sampling Equipment Deconned or Replaced: **(Y) N**

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB / Aluminum / SS** Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder / PVL / Portable Clamp-on / NA** Sampling Equipment Deconned or Replaced: **Y N**

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB / Aluminum / SS** Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder / PVL / Portable Clamp-on / NA** Sampling Equipment Deconned or Replaced: **Y N**

DGPS DATA

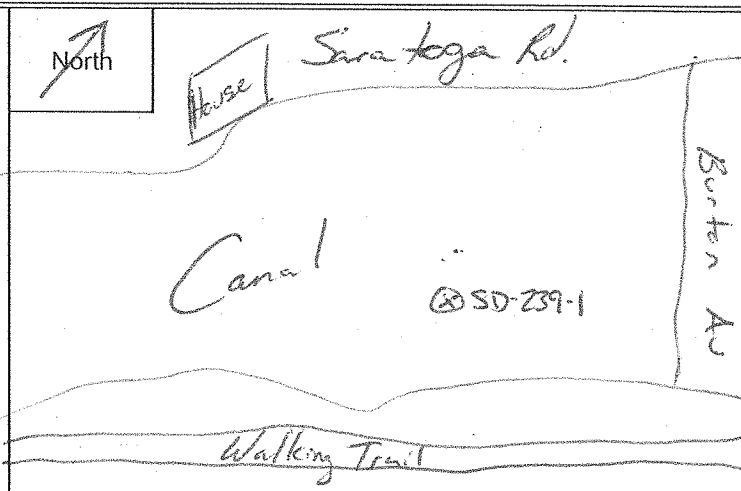
Operator: **KCM**
 File Name: **SD-239-1**
 Lat / (N): **1442467.86**
 Lon (E): **710324.39**
 PDOP: **6**

Coordinate Units: Lat/Lon **(US Survey Feet)**
 Datum: **NAD83**
 Proj.: **US State Plane 1983 NY East 3101**
 GPS Serial#: **5010469344 (Trimble Geo XH)**

COMMENTS / NOTES

- Refusal hit per CRA protocol
 - Recovery acceptable per CRA

7' of tube used
 Preparer's Initial: **KCM**



Qc vcr
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/15/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RGB, MKM		Arrival & Departure Times: 0925 - 0940
Station ID #: SD-236		Weather: Clear Cloudy Rain Other
Photos: Y N Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph E

FIELD DATA

Water Depth: **2.9'** Tide: Ebb Flood Low Slack High Slack Other **N/A**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H²O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-236-1** Coring Time: **0935** Penetration Depth: **7' 83"** Core Recovery: **70"**
 Sample Method: Ponar / **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

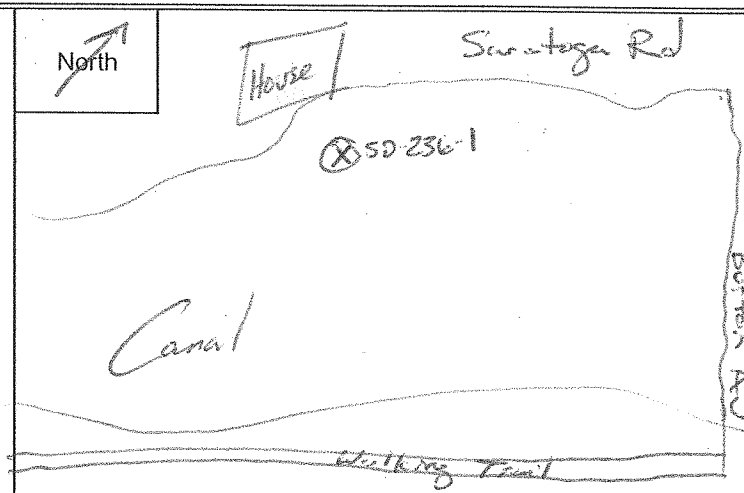
DGPS DATA

Operator: **KCM**
 File Name: **SD-236-1**
 Lat / (N): **42° 14' 23.87" N**
 Lon (E): **71° 02' 17.34" W**
 PDOP: **6**

Coordinate Units: Lat/Lon **US Survey Feet**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- Retrieval bit per CRA protocol.
 - Recovery acceptable per CRA.



7' of tube used

Preparer's Initial: **KCM**

FIELD DATA SHEET

Page 1 of 2

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/15/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCE, MKM		Arrival & Departure Times: 1020 - 1120
Station ID #: SD-237-1		Weather: Clear Cloudy Rain Other
Photos: Y (N) Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph E

FIELD DATA

Water Depth: **3.6'** Tide: Ebb Flood Low Slack High Slack Other **(N/A)**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-237-1** Coring Time: **1027** Penetration Depth: **30"** Core Recovery: **27"**
 Sample Method: Ponar **(Vibrocure)** / Piston Core / Manual Coring Material: **(CAB)** Aluminum / SS Core Diameter (OD): 2" **(3)** 4"
 Vibrocure Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #2

Core ID#: **SD-237-2** Coring Time: **1036** Penetration Depth: **65"** Core Recovery: **49"**
 Sample Method: Ponar **(Vibrocure)** / Piston Core / Manual Coring Material: **(CAB)** Aluminum / SS Core Diameter (OD): 2" **(3)** 4"
 Vibrocure Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #3

Core ID#: **SD-237-3** Coring Time: **1055** Penetration Depth: **64"** Core Recovery: **43"**
 Sample Method: Ponar **(Vibrocure)** / Piston Core / Manual Coring Material: **(CAB)** Aluminum / SS Core Diameter (OD): 2" **(3)** 4"
 Vibrocure Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

DGPS DATA

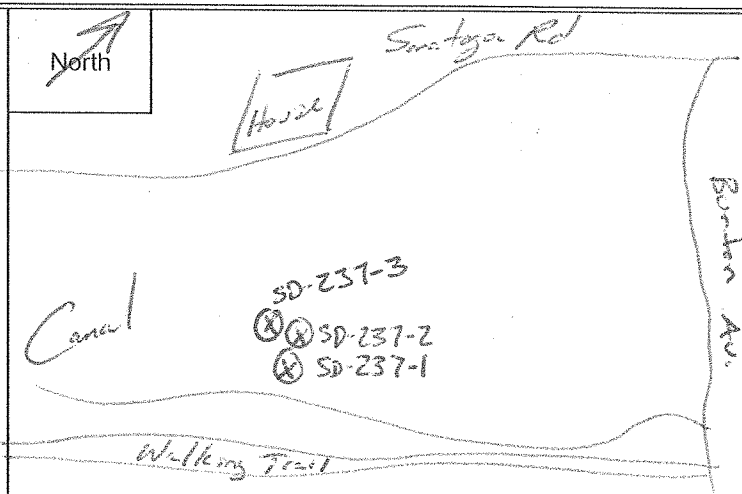
Operator: **KCM**
 File Name: **SD-237-1 / SD-237-2**
 Lat / **(N)**: **1442352.62 / 1442355.92**
 Lon **(E)**: **710236.49 / 710233.83**
 PDOP: **7**

Coordinate Units: Lat/Lon **(US Survey Feet)**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-237-1 hit refusal without getting desired yield. Discarded sample and pushed again @ 5' stepout per CRA.
- SD-237-2 hit refusal per CRA protocol
- SD-237-2 odor was present as well as a sheen.
- Kept core SD-237-2 and did 3rd push 5' from SD-237-2 per CRA.
- Kept core SD-237-3 and did 4th push 5' from SD-237-2 per CRA.
- 13' tube used

Preparer's Initial: **KCM**



QC OK
 12/1/14

FIELD DATA SHEET

Page 2 of 2

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/15/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: ROS, MKM Arrival & Departure Times: 1020-1120
 Station ID #: SD-237 Weather: Clear Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph E

FIELD DATA

Water Depth: 3.6' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-237-3
 Lat / N: 1442356.14
 Lon / E: 710230.14
 PDOP: 7

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

See pg. 1

Preparer's Initial: KCM

North	<u>See page 1</u>

QC'd
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/15/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: Rob, MKM		Arrival & Departure Times: 1228 - 1310
Station ID #: SD-134 SD-234		Weather: Clear Cloudy Rain Other
Photos: Y N Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph E

FIELD DATA

Water Depth: **4.9'** Tide: **Ebb** Flood Low Slack High Slack Other **N/A**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-134-1** Coring Time: **1238** Penetration Depth: **36"** Core Recovery: **36"**
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB** Aluminum / SS Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #2

Core ID#: **SD-234-2** Coring Time: **1250** Penetration Depth: **28"** Core Recovery: **28"**
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB** Aluminum / SS Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #3

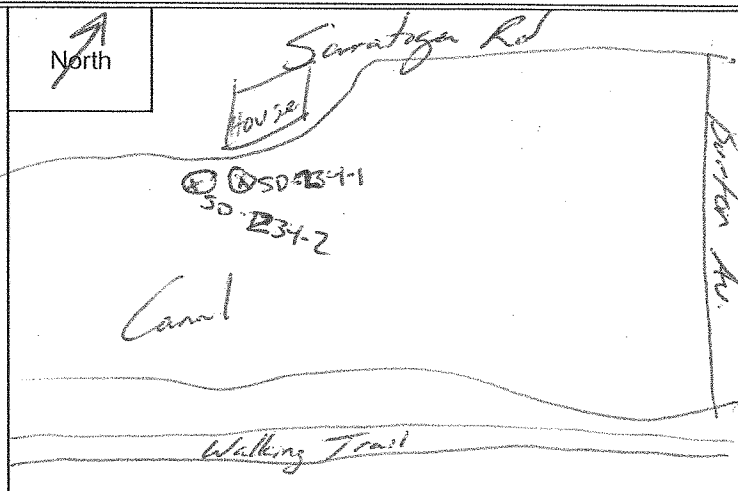
Core ID#: **SD-134-3** Coring Time: **1250** Penetration Depth: **28"** Core Recovery: **28"**
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB** Aluminum / SS Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

DGPS DATA

Operator: **KCM** Coordinate Units: **Lat/Lon** **US Survey Feet**
 File Name: **SD-234-1 / SD-234-2** Datum: **NAD83**
 Lat / N: **1442335.52 / 1442334.00** Proj.: **US State Plane 1983 NY East 3101**
 Lon / E: **710167.64 / 710163.40** GPS Serial#: **5010469344 (Trimble Geo XH)**
 PDOP: **7**

COMMENTS / NOTES

- SD-134-1 had petroleum on the bottom 24" of tube on the outside. When capping sample, found small pieces of shale @ bottom.
 - Per request of CRA did 2nd push 5' south of SD-134-1
 - SD-134-2 push rossfelder laid over after hitting heavy shale + gravel. moved to next location per CRA.
 - 13' of tube used
- Preparer's Initial: **KCM**



OK
11/15/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/15/14

Field Team Leader(s): KCM

Field Team Safety Coordinator: KCM / MKM

Field Crew: ROB, MKM

Arrival & Departure Times: 1330 - 1405

Station ID #: SD-235

Weather: Clear Cloudy Rain Other

Photos: Y N Photo Nos.: N/A

Wind Conditions (Speed/Direction): 0-5 mph ESE

FIELD DATA

Water Depth: 20.9' Tide: Ebb Flood Low Slack High Slack Other N/A

PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-235-1 Coring Time: 1335 Penetration Depth: 24" Core Recovery: 24"

Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-235-2 Coring Time: 1355 Penetration Depth: 25" Core Recovery: 25"

Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: Coring Time: Penetration Depth: Core Recovery:

Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM

Coordinate Units: Lat/Lon US Survey Feet

File Name: SD-235-1 / SD-235-2

Datum: NAD83

Lat / N: 1442318.33 / 1442319.42

Proj.: US State Plane 1983 NY East 3101

Lon / E: 710176.11 / 710175.40

GPS Serial#: 5010469344 (Trimble Geo XH)

PDOP: 7

COMMENTS / NOTES

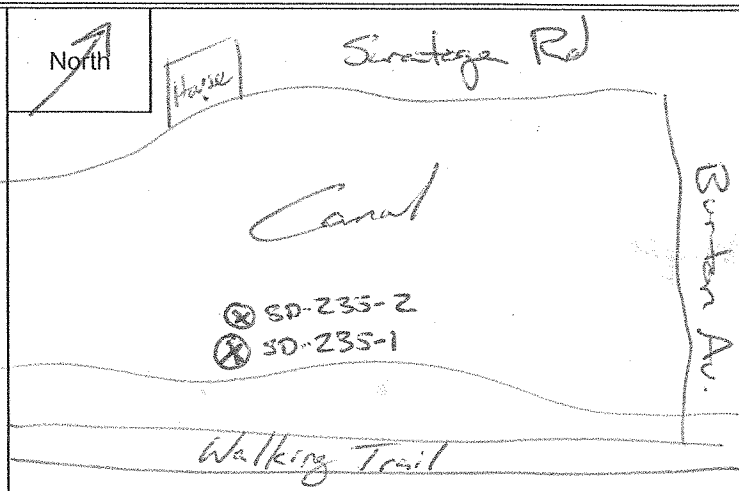
SD-235-1 hit refusal @ 24" as per CRA protocol.

Per request of CRA did 2nd push ~5' from SD-235-1 (WAW)

SD-235-2 hit refusal as per CRA protocols Bottom was dark gray shale.

7' of tube used

Preparer's Initial: KCM



per OK
me
12/1/14

FIELD DATA SHEET

Page 1 of 2

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCB, MKM		Arrival & Departure Times: 0733-0820
Station ID #: SD-233		Weather: Clear Cloudy Rain Other
Photos: Y (N) Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: **502'** Tide: Ebb Flood Low Slack High Slack Other **(N/A)**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-233-1** Coring Time: **0740** Penetration Depth: **28"** Core Recovery: **14"**
 Sample Method: Ponar / **(Vibracore)** / Piston Core / Manual Coring Material: **(CAB)** / Aluminum / SS Core Diameter (OD): 2" **(3")** 4"
 Vibracore Type: **(Rossfeller)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #2

Core ID#: **SD-233-2** Coring Time: **0745** Penetration Depth: **22"** Core Recovery: **15"**
 Sample Method: Ponar / **(Vibracore)** / Piston Core / Manual Coring Material: **(CAB)** / Aluminum / SS Core Diameter (OD): 2" **(3")** 4"
 Vibracore Type: **(Rossfeller)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #3

Core ID#: **SD-233-3** Coring Time: **0805** Penetration Depth: **28"** Core Recovery: **14'-0"**
 Sample Method: Ponar / **(Vibracore)** / Piston Core / Manual Coring Material: **(CAB)** / Aluminum / SS Core Diameter (OD): 2" **(3")** 4"
 Vibracore Type: **(Rossfeller)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

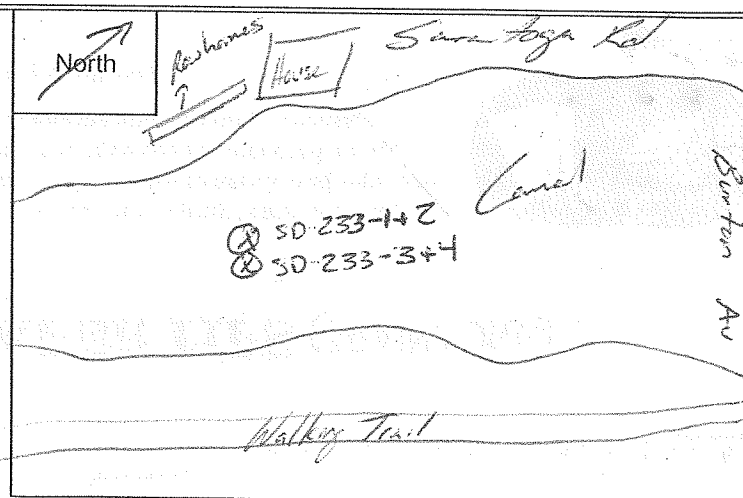
DGPS DATA

Operator: **KCM**
 File Name: **SD-233-1** / **SD-233-23**
 Lat (N): **1442308.01** / **1442311.55**
 Lon (E): **710116.37** / **710118.70**
 PDOP: **6**

Coordinate Units: Lat/Lon **(US Survey Feet)**
 Datum: **NAD83**
 Proj.: **US State Plane 1983 NY East 3101**
 GPS Serial#: **5010469344 (Trimble Geo XH)**

COMMENTS / NOTES

- SD-233-1 hit refusal per CRA protocol.
- Sheen present in water upon retrieval
- Less than 60% recovery. Discarded sample and did another push @ same location.
- SD-233-2 hit refusal per CRA protocol.
- Sheen present in water and petroleum odor upon retrieval. Kept core.
- Shale/gravel present in bottom of core.
- Moved 5' per CRA for third push.
- SD-233-3 washed out on retrieval
- Did 4th push @ same location as SD-233-3. Recovered about same as primary location. Sample discarded per CRA.
- 6' tube used.



QEDOK
 12/1/14

FIELD DATA SHEET

Page 2 of 2

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 0733-0820
 Station ID #: SD-233 Weather: Clear Cloudy Rain Other
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: 5.2' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1-4
 Core ID#: SD-233-4 Coring Time: 0808 Penetration Depth: 22" Core Recovery: 16.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #2
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-233-BR
 Lat / N: 1442320.49
 Lon / E: 710094.20
 PDOP: 6

Coordinate Units: Lat/Lon (US Survey Feet)
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- Note bedrock/shale outcropping on NW bank and took 0 GPS point of outcrop per CRA. Coordinates above (SD-233-BR)

- Note sheen present in water on all 4 pushes @ location.

North

See Pg. 1

Preparer's Initial: KCM

QCVOK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCB, MKM		Arrival & Departure Times: 0833-0905
Station ID #: SD-232		Weather: Clear Cloudy Rain Other
Photos: Y (N) Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: **5.5'** Tide: Ebb Flood Low Slack High Slack Other **(N/A)**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-232-1** Coring Time: **0840** Penetration Depth: **16"** Core Recovery: **12"**
 Sample Method: Ponar **(Vibracore)** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" **(3")** 4"
 Vibracore Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #2

Core ID#: **SD-232-2** Coring Time: **0845** Penetration Depth: **21"** Core Recovery: **17"**
 Sample Method: Ponar **(Vibracore)** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" **(3")** 4"
 Vibracore Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #3

Core ID#: **SD-232-3** Coring Time: **0900** Penetration Depth: **23"** Core Recovery: **19"**
 Sample Method: Ponar **(Vibracore)** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" **(3")** 4"
 Vibracore Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

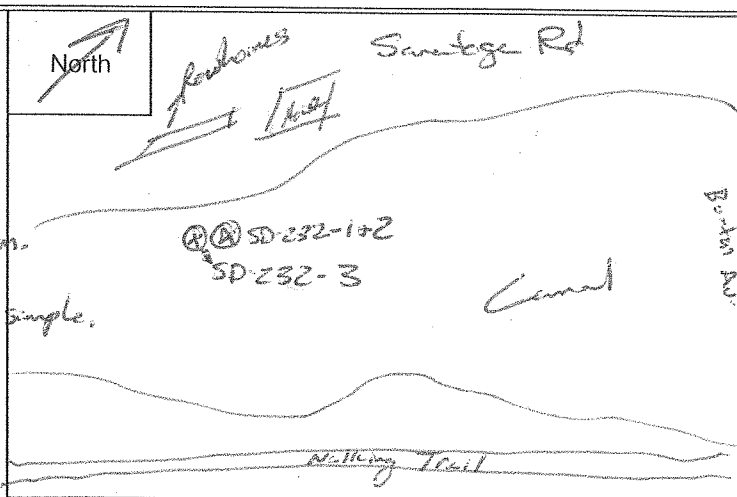
DGPS DATA

Operator: **KCM**
 File Name: **112281.83 SD-232-1/SD-232-3**
 Lat / (N): **1442281.83 / 1442287.76**
 Lon (E): **710064.16 / 710064.65**
 PDOP: **6**

Coordinate Units: Lat/Lon **(US Survey Feet)**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-232-1 hit refusal per CRA protocol.
- Shells present upon retrieval
- Small gravel in bottom of core
- Discarded sample and did 2nd push @ same location.
- When discarding SD-232-1, heavy shale present @ bottom.
- SD-232-2 hit refusal per CRA protocol
- Shells present upon retrieval. Core kept for sample.
- Shale & gravel present @ bottom of core.
- Per CRA moved ~5' S of current location to do 3rd push.
- SD-232-3 hit refusal per CRA protocol.
- Preparer's Initial: **KCM**
- SD-232-3 had shells upon recovery.
- SD-232-3 discarded per CRA
- 1' L.L. used



QCVK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCB, MKM		Arrival & Departure Times: 0922-1000
Station ID #: SD-231		Weather: Clear Cloudy Rain Other
Photos: Y (N) Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: **4.8'** Tide: Ebb Flood Low Slack High Slack Other **(N/A)**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-231-1** Coring Time: **0930** Penetration Depth: **34"** Core Recovery: **16"**
 Sample Method: Ponar **(Vibracore)** Piston Core / Manual Coring Material: **(CAB)** Aluminum / SS Core Diameter (OD): 2" **(3)** 4"
 Vibracore Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #2

Core ID#: **SD-231-2** Coring Time: **0936** Penetration Depth: **35"** Core Recovery: **25.5"**
 Sample Method: Ponar **(Vibracore)** Piston Core / Manual Coring Material: **(CAB)** Aluminum / SS Core Diameter (OD): 2" **(3)** 4"
 Vibracore Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

SAMPLE/PUSH #3

Core ID#: **SD-231-3** Coring Time: **0955** Penetration Depth: **34"** Core Recovery: **26"**
 Sample Method: Ponar **(Vibracore)** Piston Core / Manual Coring Material: **(CAB)** Aluminum / SS Core Diameter (OD): 2" **(3)** 4"
 Vibracore Type: **(Rossfelder)** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **(Y)** N

DGPS DATA

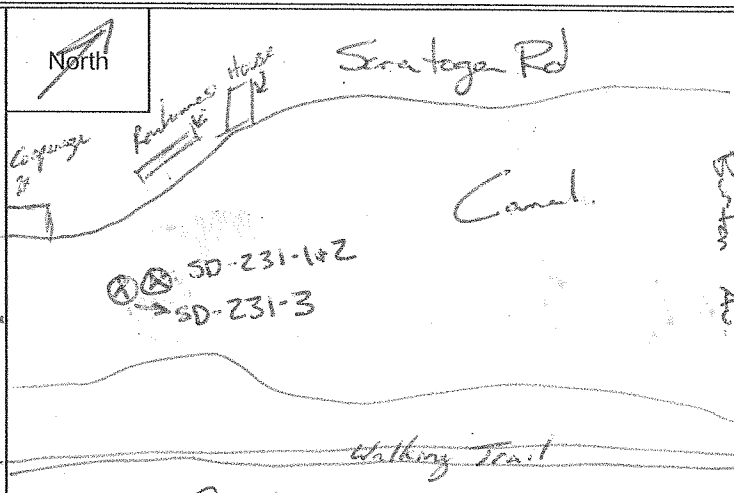
Operator: **KCM**
 File Name: **SD-231-1 / SD-231-3**
 Lat / (N): **1442245.55 / 1442241.12**
 Lon (E): **709946.32 / 709943.00**
 PDOP: **6**

Coordinate Units: Lat/Lon **(US Survey Feet)**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-231-1 hit refusal per CRA protocol.
- Shells present upon retrieval. Sand/gravel.
- Core discarded due to recovery less than 60%.
- SD-231-2 @ same location. Hit shells upon retrieval and hit refusal per CRA protocol.
- Sand/gravel present @ bottom of core.
- Kept core SD-231-2 as sample.
- Moved ~5' south of SD-231-1 per CRA for 3rd push.
- SD-231-3 hit refusal per CRA protocol.
- Shells present upon retrieval.
- Core kept for sample.
- 7' tube used - 13' tube used.

Preparer's Initial: **KCM**



RCB OK
11/16/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: X RCB, MKM Arrival & Departure Times: 1035-1105
 Station ID #: SD-229 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: 5.0' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H²O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-229-1 Coring Time: 1045 Penetration Depth: 33" Core Recovery: 21.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-229-2 Coring Time: 1052 Penetration Depth: 36" Core Recovery: 29"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: N/A / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

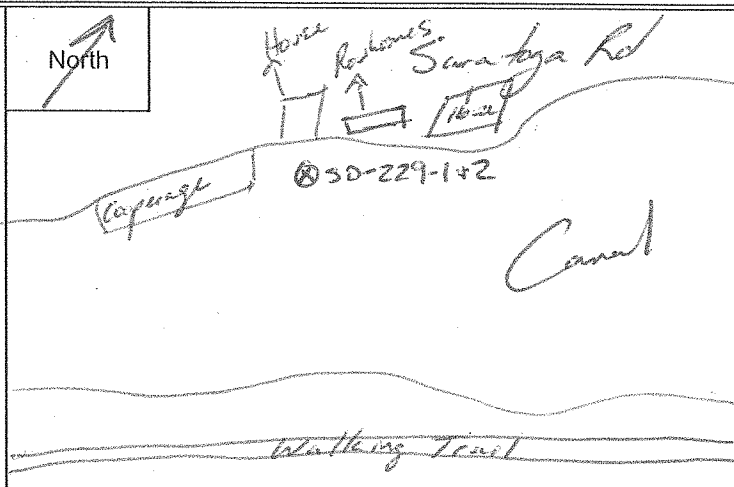
DGPS DATA

Operator: KCM
 File Name: SD-229-1
 Lat / N: 1442221.68
 Lon / E: 709854.97
 PDOP: 7

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-229-1 hit refusal per CRA protocol.
 - Sheeps present upon retrieval.
 - Sand and fine gravel @ bottom of core.
 - Discarded sample and tried 2nd attempt @ same location.
 - SD-229-2 hit refusal per CRA protocol.
 - Sheeps present upon retrieval.
 - Sand + fine gravel present @ bottom of core.
 - Core kept for sample.
 - Recovery acceptable per CRA.
 - 6' tube used
- Preparer's Initial: KCM



QCVOK
R
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 1113-1140
 Station ID #: SD-230 Weather: Clear Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: 4.2' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-230-1 Coring Time: 1115 Penetration Depth: 41" Core Recovery: 35.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3") 4"
 Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #2

Core ID#: SD-230-2 Coring Time: 1130 Penetration Depth: 40" Core Recovery: 36"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3") 4"
 Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3") 4"
 Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-230-1 / SD-230-2
 Lat / N: 1442207.12 1442206.49
 Lon / E: 709861.15 709855.49
 PDOP: 6

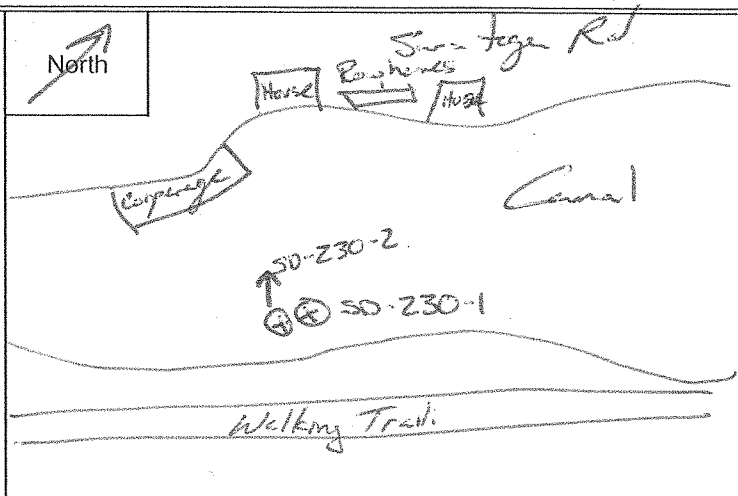
Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-230-1 hit refusal per CRA protocol.
- Slight sheen & petroleum odor upon retrieval
- Kept sample & moved ~5' S per CRA for 2nd push
- SD-230-2 hit refusal per CRA protocol.
- Slight sheen upon retrieval.
- Small gravel & shale present @ bottom of core.
- Core kept for sample
- Recovery acceptable per CRA

-13' tube used

Preparer's Initial: KCM



per OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: PCB, MKM Arrival & Departure Times: 1255 - 1330
 Station ID #: SD-227 Weather: Clear Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: 4.6' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-227-1 Coring Time: 1305 Penetration Depth: 25.5" Core Recovery: 22.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #2

Core ID#: SD-227-2 Coring Time: 1325 Penetration Depth: 48" Core Recovery: 39"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

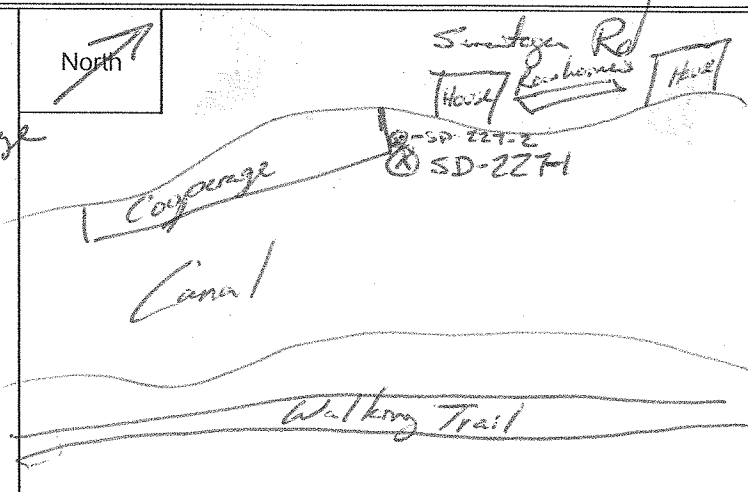
DGPS DATA

Operator: KCM
 File Name: SD-227-1 / SD-227-2
 Lat (N): 1442181.29 / 1442186.67
 Lon (E): 709769.11 / 709772.92
 PDOP: 7

Coordinate Units: Lat/Lon (US Survey Feet)
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-227-1 hit refusal per CRA protocol
- Heavy sheen in water upon retrieval
- Moved up against fence @ soft-edge cooperage NW of SD-227-1 for 2nd push.
- Hit refusal per CRA protocol
- Slight sheen upon retrieval
- SD-227-2 core used as sample per CRA.
- Discarded SD-227-1 as SD-227-2 yielded greater recovery



- 12' tube used
 Preparer's Initial: KCM

QCEOK
Pm
12/1/14

FIELD DATA SHEET

Page 1 of 2

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RGB, MKM Arrival & Departure Times: 1340-1420
 Station ID #: ~~SD-227~~ ^{KCM} SD-228 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph S

FIELD DATA

Water Depth: 5.1' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-228-1 Coring Time: 1345 Penetration Depth: 35" Core Recovery: 29"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-228-2 Coring Time: 1353 Penetration Depth: ^{KCM} 72" 14" Core Recovery: ^{KCM} 14" 12"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: SD-228-3 Coring Time: 1400 Penetration Depth: 35" Core Recovery: 29"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

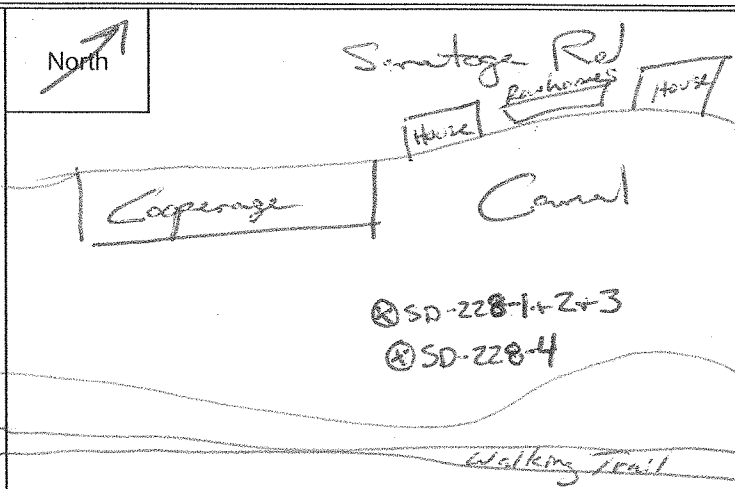
Operator: KCM
 File Name: SD-228-1 / SD-228-4
 Lat / N: 1442175.87 / 1442170.06
 Lon / E: 709774.34 / 709774.38
 PDOP: 6

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-228-1 hit refusal per CRA protocol.
- Heavy silt present in water upon retrieval.
- Discarded core in attempt to get better recovery w/ 2nd push @ same location.
- SD-228-2 hit hard surface and stopped penetration. Core discarded and did 3rd core @ same location.
- SD-228-3 hit refusal as per CRA protocol.
- Some silt present. kept core per CRA.
- Moved ~5' E from SD-228-1 per CRA for 4th push.

Preparer's Initial: KCM



QC'd
12/1/14

FIELD DATA SHEET

Page 2 of 2

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/16/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: R&B, MKM Arrival & Departure Times: 1340-1420
 Station ID #: SD-228 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 0.5 mph S

FIELD DATA

Water Depth: 5.1' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1
 Core ID#: SD-228-4 Coring Time: 1410 Penetration Depth: 42" Core Recovery: 36"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-228-4 KCM
 Lat / (N): _____
 Lon / (E): See pg 1
 PDOP: _____

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-228-4 hit refusal per CRA protocol.
- Sheen present upon retrieval.
- Fine sand & gravel @ bottom of core.
- Core kept for sample.

- 12' tube used

Preparer's Initial: KCM

North

See pg 1

QC OK
 10/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 0730-0755
 Station ID #: SD-225 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 5-10 mph ENE

FIELD DATA

Water Depth: 4.7' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-225-1 Coring Time: 0737 Penetration Depth: 26" Core Recovery: 17"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-225-2 Coring Time: 0745 Penetration Depth: 19" Core Recovery: 14"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: N/A / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

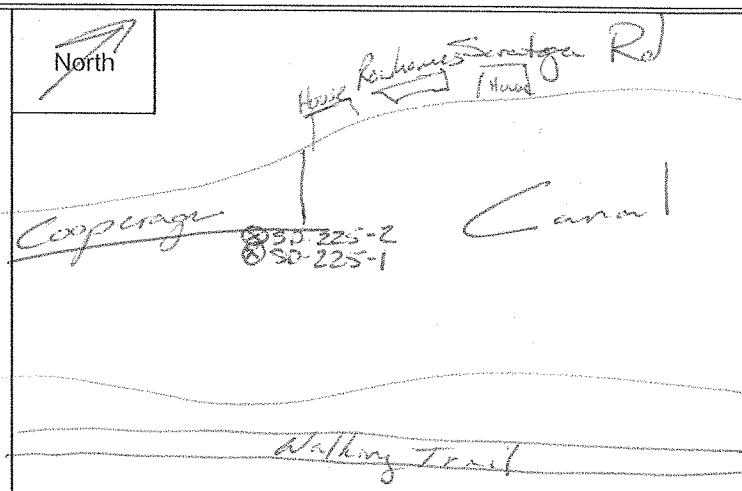
Operator: KCM Coordinate Units: Lat/Lon US Survey Feet
 File Name: SD-225-1 / SD-225-2 Datum: NAD83
 Lat / (N): 442169.34 / 442169.34 Proj.: US State Plane 1983 NY East 3101
 Lon (E): 709752.64 / 709753.61 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 6

COMMENTS / NOTES

- SD-225-1 hit refusal per CRA protocol.
- Slight sheen present upon retrieval.
- Shale + small gravel present @ bottom of core.
- Moved towards cooperage fence per CRA for SD-225-2.
- SD-225-2 hit refusal per CRA protocol.
- Sheen present upon retrieval.
- Small gravel + shale @ bottom of core.
- Discarded SD-225-2 + kept SD-225-1 for sample per CRA.

7' tube used.

Preparer's Initial: KCM



Geovox
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM

Field Team Safety Coordinator: KCM / MKM

Field Crew: RCB, MKM

Arrival & Departure Times: 0800 - 0830

Station ID #: SD-226

Weather: Clear Cloudy Rain Other Snow

Photos: Y N Photo Nos.: N/A

Wind Conditions (Speed/Direction): 5-10 mph ENE

FIELD DATA

Water Depth: 402' Tide: Ebb Flood Low Slack High Slack Other N/A

PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-226-1 Coring Time: 0810 Penetration Depth: 46" Core Recovery: 28"

Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-226-2 Coring Time: 0818 Penetration Depth: 44.5" Core Recovery: 26"

Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____

Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM

Coordinate Units: Lat/Lon US Survey Feet

File Name: SD-226-1

Datum: NAD83

Lat / (N): 1442160.53

Proj.: US State Plane 1983 NY East 3101

Lon / (E): 709759.40

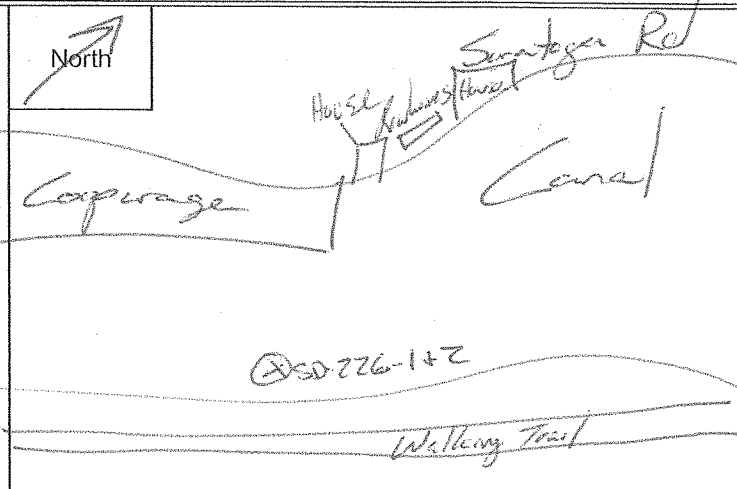
GPS Serial#: 5010469344 (Trimble Geo XH)

PDOP: 7

COMMENTS / NOTES

- SD-226-1 hit refusal per CRA protocol.
- Broke through crust @ ~2.5'.
- Bottom of core bent oblong severely.
- Sandy gravel @ bottom of core.
- SD-226-2 done @ same location as SD-226-1.
- SD-226-2 hit refusal per CRA protocol.
- Slickens present upon retrieval.
- Bottom of core busted/cracked 6" up.
- Sandy gravel @ bottom of core.
- Discarded SD-226-2 and kept SD-226-1 for sample per CRA.
- 12' tube used.

Preparer's Initial: KCM



QC OK

12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RGB, MKM Arrival & Departure Times: 0855 - 0915
 Station ID #: SD-223 Weather: Clear (P) Cloudy Rain rem Other rem
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 0855 - 0-5 mph E

FIELD DATA

Water Depth: 3.3' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-223-1 Coring Time: 0900 Penetration Depth: 29" Core Recovery: 22"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: N/A Coring Time: N/A Penetration Depth: N/A Core Recovery: N/A
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: N/A Coring Time: N/A Penetration Depth: N/A Core Recovery: N/A
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

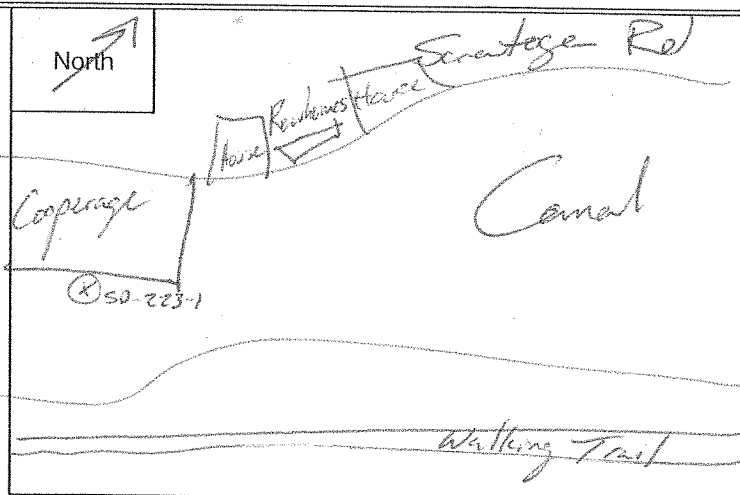
DGPS DATA

Operator: KCM
 File Name: SD-223-1
 Lat / N: 1442165.10
 Lon / E: 709742.41
 PDOP: 6

Coordinate Units: Lat/Lon (US Survey Feet)
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-223-1 hit refusal per CRA protocol.
- Heavy sheen upon retrieval.
- Sample kept per CRA for analysis.



Preparer's Initial: KCM

QC OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM
 Field Crew: RCB, MKM
 Station ID #: SD-224
 Photos: Y (N) Photo Nos.: N/A
 Field Team Safety Coordinator: KCM / MKM
 Arrival & Departure Times: 0917-0930
 Weather: Clear Cloudy Rain Other
 Wind Conditions (Speed/Direction): 10-15 mph ENE

FIELD DATA

Water Depth: 402' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-224-1 Coring Time: 0920 Penetration Depth: 47" Core Recovery: 39.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: Coring Time: Penetration Depth: Core Recovery:
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: Coring Time: Penetration Depth: Core Recovery:
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

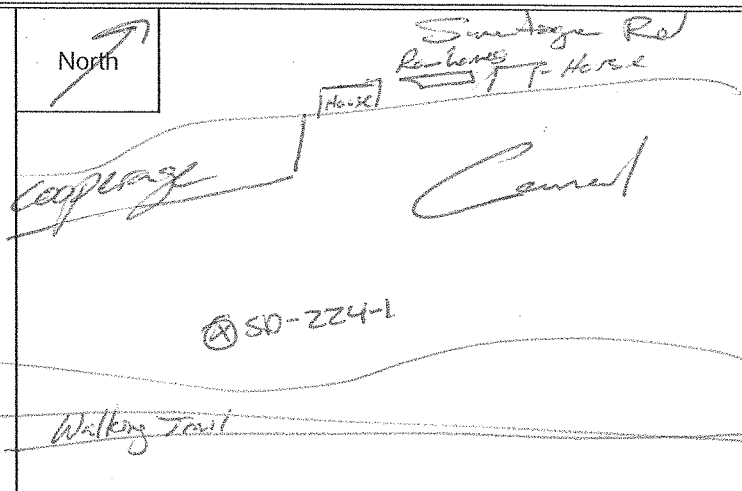
DGPS DATA

Operator: KCM
 File Name: SD-22 SD-224-1
 Lat / (N): 442157.53
 Lon (E): 709748.00
 PDOP: 7

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-224-1 hit refusal per CRA protocol
- Slight shear upon retrieval
- Core of sandy clay @ bottom of core.
- See Core kept for sample per CRA.



-7' tube used

Preparer's Initial: KCM

QC OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM

Field Team Safety Coordinator: KCM / MKM

Field Crew: RGB, MKM

Arrival & Departure Times: 0935 - 1013

Station ID #: SD-221

Weather: Clear Cloudy Rain Other

Photos: Y N Photo Nos.: N/A

Wind Conditions (Speed/Direction): 0-5 mph ENE

FIELD DATA

Water Depth: 30' Tide: Ebb Flood Low Slack High Slack Other N/A

PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-221-1 Coring Time: 0940 Penetration Depth: 22" Core Recovery: 16"

Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-221-2 Coring Time: 0948 Penetration Depth: 12" Core Recovery: 8"

Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: SD-221-3 Coring Time: 1005 Penetration Depth: 14" Core Recovery: 9"

Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM

Coordinate Units: Lat/Lon US Survey Feet

File Name: SD-221-1 / SD-221-2

Datum: NAD83

Lat / N: 144216.68 / 144217.72

Proj.: US State Plane 1983 NY East 3101

Lon / E: 709730.91 / 709735.00

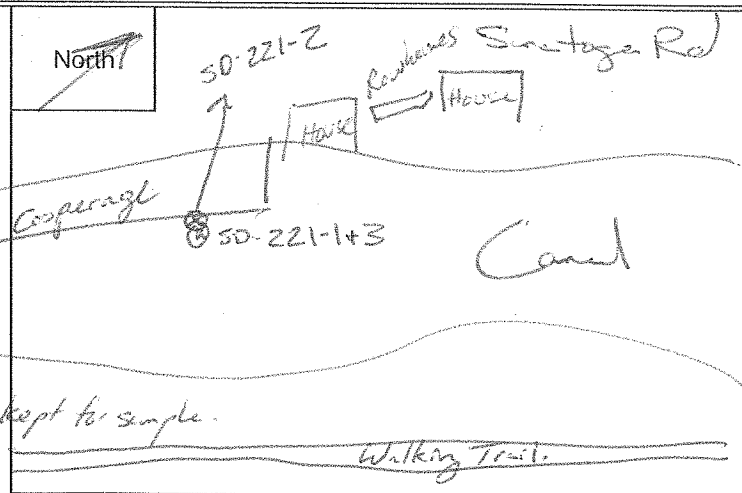
GPS Serial#: 5010469344 (Trimble Geo XH)

PDOP: 6

COMMENTS / NOTES

- SD-221-1 hit refusal per CRA protocol.
- Sandy gravel @ bottom of core
- Slight sheen present upon retrieval
- Moved against coopeage fence for 2nd push
- SD-221-2 hit refusal per CRA protocol.
- SD-221-2 discarded. Gravel @ bottom
- SD-221-1 used as sample
- Per CRA moved back to SD-221-1 to do another attempt.
- SD-221-3 hit refusal per CRA protocol.
- Sandy gravel @ bottom of core. SD-221-3 kept to sample.
- 7' tube used. 10' tube used

Preparer's Initial: KCM



GC OK
11/21/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 1035-1050
 Station ID #: SD-222 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15mph E

FIELD DATA

Water Depth: 403' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-222-1 Coring Time: 1040 Penetration Depth: 49" Core Recovery: 41.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

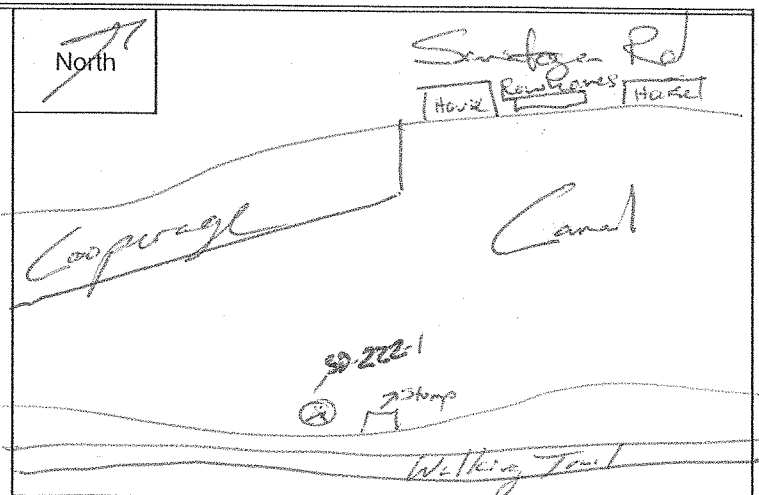
DGPS DATA

Operator: KCM
 File Name: SD-222-1
 Lat / (N): 1442151.63
 Lon / (E): 709741.43
 PDOP: 7

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

-SD-222-1 hit refusal per CRA protocol
 -Sandy clay @ bottom of core
 -Core kept for sample



Preparer's Initial: KCM

QC OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: ROB, MKM		Arrival & Departure Times: 1240-1255
Station ID #: SD-219		Weather: Clear Cloudy Rain Other
Photos: Y N Photo Nos.: N/A		Wind Conditions (Speed/Direction): 10-15 mph E

FIELD DATA

Water Depth: **30.2'** Tide: Ebb Flood Low Slack High Slack Other **N/A**

PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-219-1** Coring Time: **1245** Penetration Depth: **12"** Core Recovery: **0"**

Sample Method: Ponar **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #2

Core ID#: **SD-219-2** Coring Time: **1250** Penetration Depth: **59"** Core Recovery: **49.5"**

Sample Method: Ponar **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #3

Core ID#: Coring Time: Penetration Depth: Core Recovery:

Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"

Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: **KCM**

File Name: **SD-219-1**

Lat / (N): **1442157.05**

Lon (E): **709722.51**

PDOP: **6**

Coordinate Units: Lat/Lon **US Survey Feet**

Datum: **NAD83**

Proj.: **US State Plane 1983 NY East 3101**

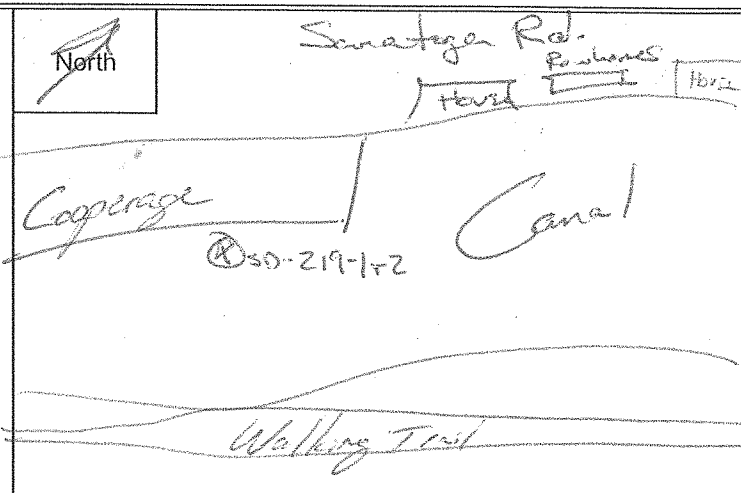
GPS Serial#: **5010469344 (Trimble Geo XH)**

COMMENTS / NOTES

- SD-219-1 core head snapped off. No recovery
- SD-219-2 @ same location as SD-219-1
- SD-219-2 hit refusal per CRA protocol
- Sheen present upon recovery
- Core kept for sample

- T tube used

Preparer's Initial: **KCM**



QCMOK
Rm
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: ROB, MKM Arrival & Departure Times: 1305 - 1325
 Station ID #: SD-220 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph E

FIELD DATA

Water Depth: 3.7' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-220-1 Coring Time: 1310 Penetration Depth: 26" Core Recovery: 20.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-220-2 Coring Time: 1317 Penetration Depth: 50" Core Recovery: 42"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

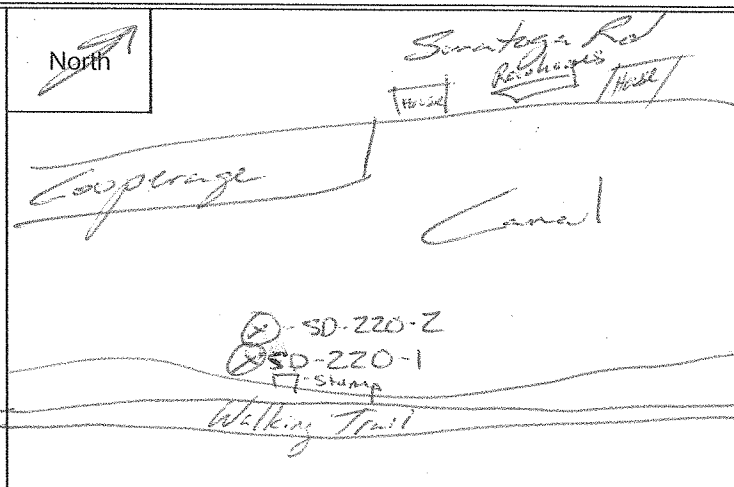
DGPS DATA

Operator: KCM Coordinate Units: Lat/Lon US Survey Feet
 File Name: SD-220-1 / SD-220-2 Datum: NAD83
 Lat / N: 1442145.74 / 1442149.63 Proj.: US State Plane 1983 NY East 3101
 Lon / E: 709732.65 / 709728.44 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 6

COMMENTS / NOTES

- SD-220-1 hit refusal per CRA protocol.
- Clay w/ sand @ bottom of core.
- Moved ~ 5' E for push #2
- SD-220-2 hit refusal per CRA protocol.
- Heavy clay w/ gravel @ bottom of core.
- SD-220-2 kept for sample
- SD-220-1 discarded per CRA.
- Note when discarding SD-220-1 found woody root @ bottom of core (close to stump on bank).

Preparer's Initial: KCM



QC OK
RM
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/18/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 1338 - 1350 / 1418
 Station ID #: SD-217 Weather: Clear Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph E

FIELD DATA

Water Depth: 3.4' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-217-1 Coring Time: 1345 Penetration Depth: 43" Core Recovery: 37"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-217-2 Coring Time: 1410 Penetration Depth: 59" Core Recovery: 49"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

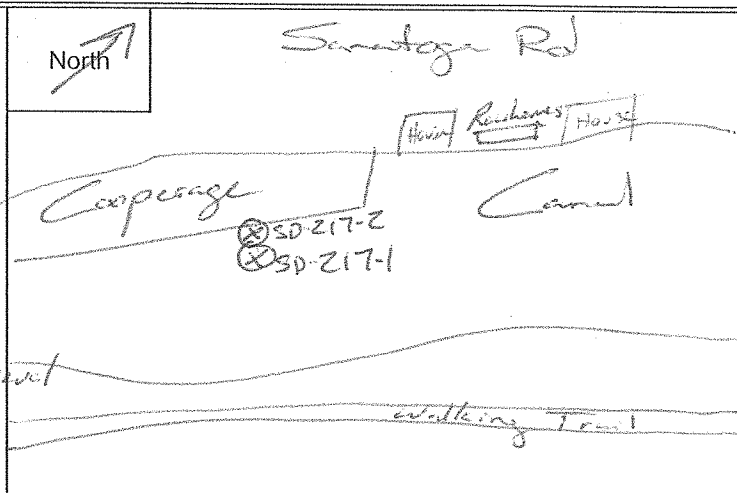
Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM Coordinate Units: Lat/Lon US Survey Feet
 File Name: SD-217-1 / SD-217-2 Datum: NAD83
 Lat / N: 1442144.30 / 1442152.55 Proj.: US State Plane 1983 NY East 3101
 Lon / E: 709708.79 / 709702.84 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 6

COMMENTS / NOTES

- SD-217-1 hit refusal per CRA protocol.
 - Clay/sand/gravel @ bottom of core
 - Core kept for sample
 - Recovery acceptable per CRA KCM
 - CRA asked to do 2nd push 15' W of SD-217-1
 - SD-217-2 next to fence @ coopersage
 - SD-217-2 hit refusal per CRA protocol.
 - Clay/gravel @ bottom of core.
 - Shown and petroleum odor present upon retrieval
 - KCM - Some kept for sample
 - 6 tube used - 13 tube used
- Preparer's Initial: KCM



QEL OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: RCB, MKM		Arrival & Departure Times: 0730-0755
Station ID #: SD-218		Weather: Clear Cloudy Rain Other
Photos: Y N Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0 mph NW

FIELD DATA

Water Depth: **3.8'** Tide: Ebb Flood Low Slack High Slack Other **N/A**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-218-1** Coring Time: **0740** Penetration Depth: **28"** Core Recovery: **23.5"**
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB / Aluminum / SS** Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder / PVL / Portable Clamp-on / NA** Sampling Equipment Deconned or Replaced: **Y** **N**

SAMPLE/PUSH #2

Core ID#: **SD-218-2** Coring Time: **0745** Penetration Depth: **28"** Core Recovery: **23"**
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB / Aluminum / SS** Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder / PVL / Portable Clamp-on / NA** Sampling Equipment Deconned or Replaced: **Y** **N**

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: **Ponar / Vibracore / Piston Core / Manual** Coring Material: **CAB / Aluminum / SS** Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder / PVL / Portable Clamp-on / NA** Sampling Equipment Deconned or Replaced: **Y** **N**

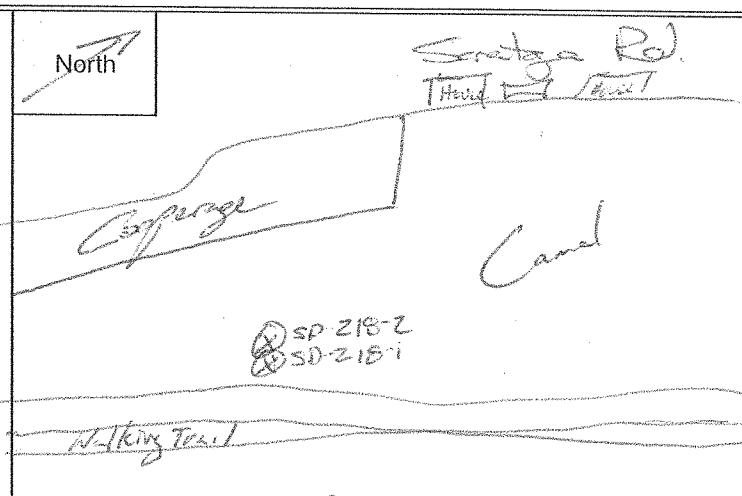
DGPS DATA

Operator: **KCM**
 File Name: **SD-218-1 / SD-218-2**
 Lat / N: **1442130.92 / 1442132.16**
 Lon / E: **709714.56 / 709710.98**
 PDOP: **6**

Coordinate Units: Lat/Lon **US Survey Feet**
 Datum: **NAD83**
 Proj.: **US State Plane 1983 NY East 3101**
 GPS Serial#: **5010469344 (Trimble Geo XH)**

COMMENTS / NOTES

SD-218-1 hit refusal per CRA protocol.
 Sandy gravel @ bottom of core.
 Marginal ~5' W of SD-218-2 for
 2nd push per CRA.
 SD-218-2 hit refusal per CRA protocol.
 Sandy gravel @ bottom of core.
 SD-218-2 discarded and used SD-218-1
 as sample per CRA.



Preparer's Initial: **KCM**

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 0800 - 0830
 Station ID #: SD-216 Weather: Clear Cloudy Rain Other
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph ENE

FIELD DATA

Water Depth: 4.0' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H²O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-216-1 Coring Time: 0808 Penetration Depth: 33" Core Recovery: 26"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-216-2 Coring Time: 0815 Penetration Depth: 35" Core Recovery: 28"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: SD-216-3 Coring Time: 0825 Penetration Depth: 34" - 43" Core Recovery: 34"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

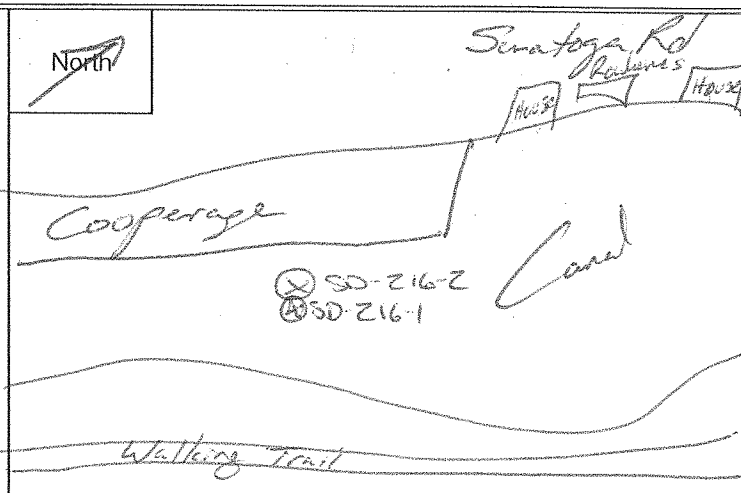
DGPS DATA

Operator: KCM
 File Name: SD-216-1 / SD-216-2
 Lat / N: 1442126.78 / 1442129.06
 Lon / E: 709690.07 / 709687.15
 PDOP: 6

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-216-1 hit refusal per CRA protocol.
 - Sandy clay @ bottom of core
 - Discarded SD-216-1 per CRA.
 - Moved ~ 5' ft towards coopeage fence for 2nd push SD-216-2
 - SD-216-2 hit refusal per CRA protocol.
 - Aborted vacuum bail in rossfelder frozen & hindering recovery. Fixed rossfelder & did 3rd push @ SD-216-2.
 - SD-216-3 hit refusal per CRA protocol.
 - Sandy clay @ bottom of core. Kept SD-216-3 for sample & discarded SD-216-2 per CRA.
 Preparer's Initial: KCM



- 7' tube used

QC OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RGB, MKM Arrival & Departure Times: 0840-0855
 Station ID #: SD-214 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph ENE

FIELD DATA

Water Depth: 3.4' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-214-1 Coring Time: 0845 Penetration Depth: 46" Core Recovery: 40"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-214-1
 Lat / N: 42.128.09
 Lon / E: 70.96.75.12
 PDOP: 6

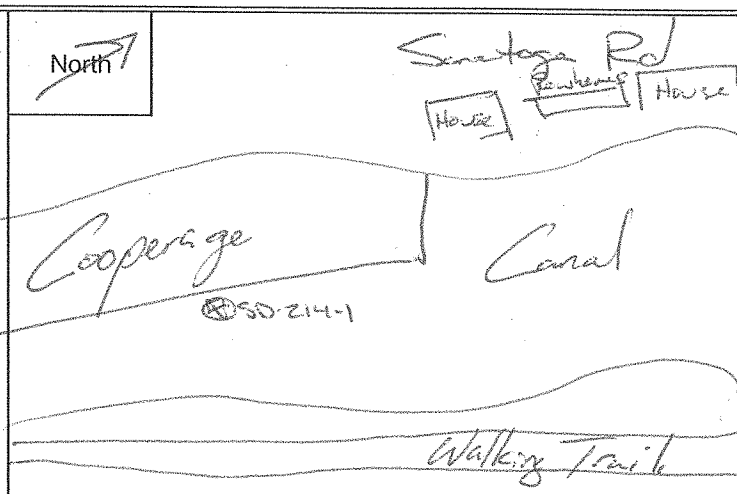
Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-214-1 hit refusal per CRA protocol.
- Heavy shear upon retrieval.
- Sandy gravel @ bottom of core.
- Recovery acceptable per CRA.

6' tube used

Preparer's Initial: KCM



OK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 0940-0955
 Station ID #: SD-215 Weather: Clear Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 5-10 mph N

FIELD DATA

Water Depth: 3.8' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-215-1 Coring Time: 0945 Penetration Depth: 56" Core Recovery: 48"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

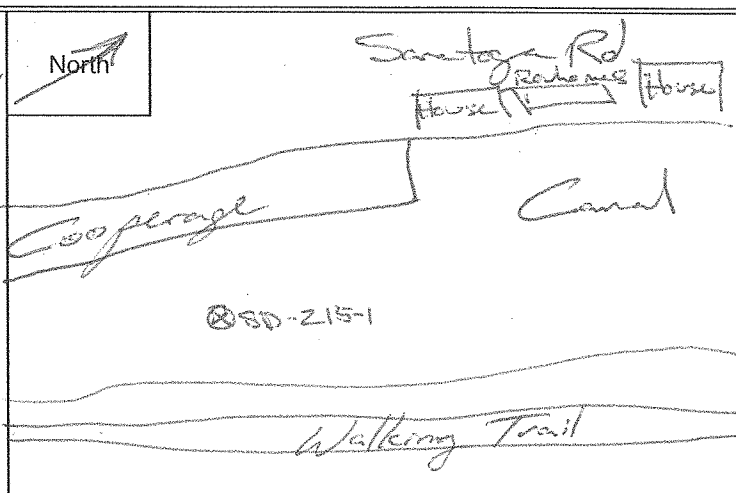
DGPS DATA

Operator: KCM Coordinate Units: Lat/Lon US Survey Feet
 File Name: SD-215-1 Datum: NAD83
 Lat / (N): 1442122.60 Proj.: US State Plane 1983 NY East 3101
 Lon / (E): 709680.70 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 6

COMMENTS / NOTES

SD-215-1 hit refusal per CRA protocol.
Slight sheen present upon retrieval.
Recovery acceptable per CRA.

7' tube used
 Preparer's Initial: KCM



OK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RGB, MKM Arrival & Departure Times: 0958 - 1020
 Station ID #: SD-212 Weather: Clear Cloudy Rain Other
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph N

FIELD DATA

Water Depth: 3.0' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-212-1 Coring Time: 1010 Penetration Depth: 46" Core Recovery: 41"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

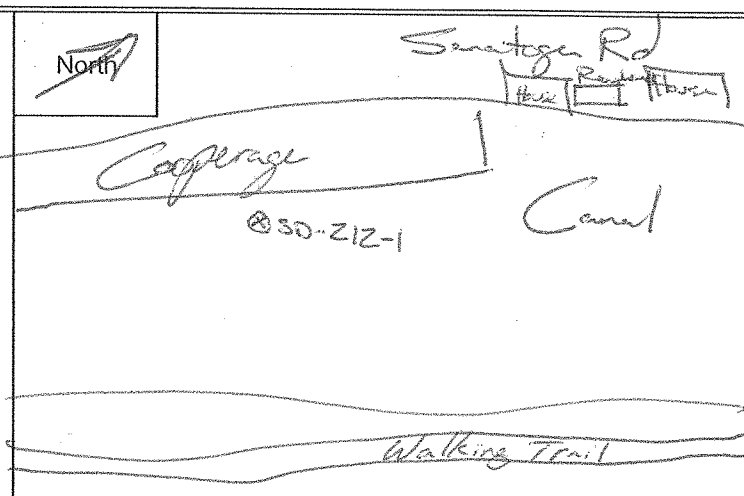
DGPS DATA

Operator: KCM
 File Name: SD-212-1
 Lat / N: 44°21'23.32" 144°21'21.37"
 Lon / E: 74°46'10.00" 70°46'20.96"
 PDOP: 6

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- Had to move ~4' E of proposed point due to hard pilings @ original spot.
- SD-212-1 h.t. refusal per CRA protocol.
- Sheen present upon retrieval.
- Recovery acceptable per CRA.



7' tube used.

Preparer's Initial: KCM

QC OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: R&B, MKM Arrival & Departure Times: 1030 - 1055
 Station ID #: SD-213 Weather: Clear Cloudy Rain Other
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph N

FIELD DATA

Water Depth: 3.9' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-213-1 Coring Time: 1035 Penetration Depth: 31" Core Recovery: 28.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-213-2 Coring Time: 1042 Penetration Depth: 49" Core Recovery: 41"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: N/A / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

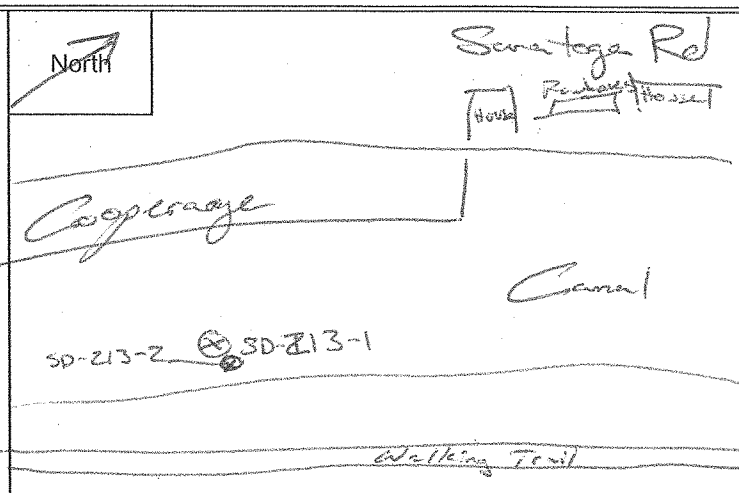
DGPS DATA

Operator: KCM Coordinate Units: Lat/Lon US Survey Feet
 File Name: SD-213-1 / SD-213-2 Datum: NAD83
 Lat / (N): 1442116.09 / 1442112.17 Proj.: US State Plane 1983 NY East 3101
 Lon (E): 709669.73 / 709672.34 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 7

COMMENTS / NOTES

SD-213-1 hit refusal per CRA protocol.
 Sheen present upon retrieval.
 Smudgy along @ bottom of core.
 - Moved ~ S-SE of SD-213-1 for 2nd push
 - SD-213-2 hit refusal per CRA protocol.
 - Sheen present upon retrieval.
 - Kept SD-213-2 for sample and discarded SD-213-1 per CRA.

7' tube used
 Preparer's Initial: KCM



REVOK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: BCB, MKM		Arrival & Departure Times: 1103-1120
Station ID #: SD-211		Weather: Clear Cloudy Rain Other
Photos: Y (N) Photo Nos.: N/A		Wind Conditions (Speed/Direction): 0-5 mph E

FIELD DATA

Water Depth: **4.2'** Tide: Ebb Flood Low Slack High Slack Other **N/A**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H₂O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SP-211-1** Coring Time: **1110** Penetration Depth: **57"** Core Recovery: **44"**
 Sample Method: Ponar / **Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** N

SAMPLE/PUSH #2

Core ID#: Coring Time: Penetration Depth: Core Recovery:
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: Coring Time: Penetration Depth: Core Recovery:
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: **KCM**
 File Name: **SD-211-1**
 Lat / (N): **44°21'52.27"**
 Lon / (E): **70°56'06.67"**
 PDOP: **7**

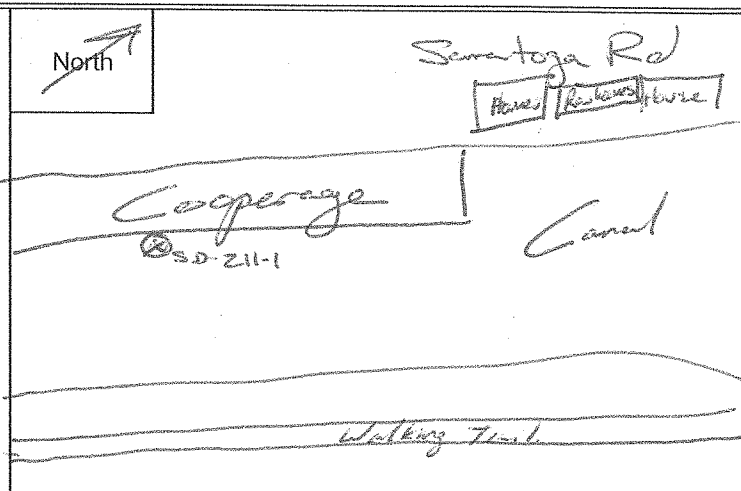
Coordinate Units: Lat/Lon **US Survey Feet**
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- Needed to move SE of proposed position due to rock hard bottom to proposed
 - SD-211-1 hit refusal per CRA protocol.
 - Shells present upon retrieval
 - Recovery acceptable per CRA.

- 7' tube used.

Preparer's Initial: **KCM**



QC OK
Ru
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM
Field Crew: BCB, MKM
Station ID #: SD-209
Photos: Y (N) Photo Nos.: N/A

Field Team Safety Coordinator: KCM / MKM
Arrival & Departure Times: 1249 - 1320
Weather: Clear Cloudy Rain Other
Wind Conditions (Speed/Direction): 0-5 mph NNE

FIELD DATA

Water Depth: 3.7' Tide: Ebb Flood Low Slack High Slack Other (N/A)
PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-209-1 Coring Time: 1254 Penetration Depth: 18" Core Recovery: 14"
Sample Method: Ponar Vibracore Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3) 4"
Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-209-2 Coring Time: 1305 Penetration Depth: 11" Core Recovery: 8"
Sample Method: Ponar Vibracore Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3) 4"
Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: SD-209-3 Coring Time: 1315 Penetration Depth: 31" Core Recovery: 22.5"
Sample Method: Ponar Vibracore Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" (3) 4"
Vibracore Type: Rossfelder PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

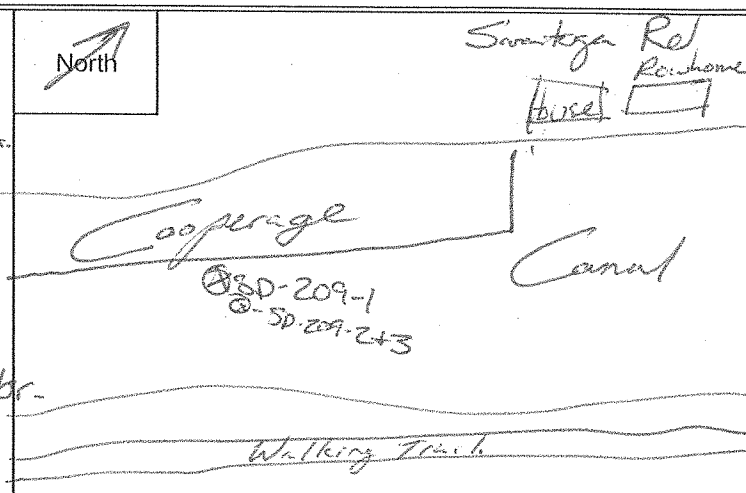
Operator: KCM
File Name: SD-209-1 / SD-209-2
Lat / (N): 1442102.92 / 1442097.55
Lon / (E): 709641.78 / 709639.89
PDOP:

Coordinate Units: Lat/Lon US Survey Feet
Datum: NAD83
Proj.: US State Plane 1983 NY East 3101
GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-209-1 hit refusal per CRA protocol.
Sheen present upon retrieval.
2nd push done ~5' SE of SD-209-1 per CRA.
SD-209-1 discarded per CRA.
SD-209-2 hit refusal per CRA protocol.
Sheen present upon retrieval.
SD-209-2 discarded and 3rd push done
@ same location as SD-209-2.
SD-209-3 hit refusal per CRA protocol.
Heavy sheen present w/ strong petroleum odor.
SD-209-3 kept for sample per CRA.
-7' tube used

Preparer's Initial: KCM



QC OK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 1330 - 1342
 Station ID #: SD-210 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph ENE

FIELD DATA

Water Depth: 4'1" Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-210-1 Coring Time: 1337 Penetration Depth: 59" Core Recovery: 50.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

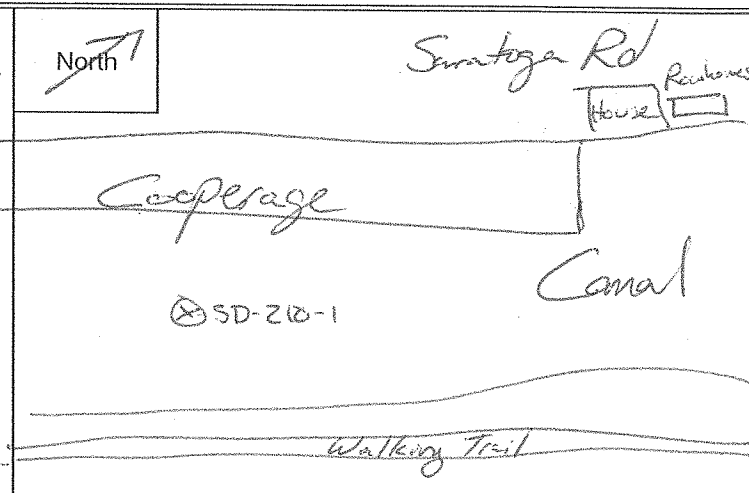
DGPS DATA

Operator: KCM
 File Name: SD-210-1
 Lat / N: 1442098.53
 Lon / E: 709652.68
 PDOP: 7

Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-210-1 hit refusal per CRA protocol.
Screen present upon retrieval.
SD-210-1 kept for sample.
Recovery sufficient per CRA.



6' tube used

Preparer's Initial: KCM

QC OK
 PM
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/19/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: ROB, MKM Arrival & Departure Times: 1400 - 1430
 Station ID #: SD-208 Weather: Clear Cloudy Rain Other _____
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 0-5 mph ESE

FIELD DATA

Water Depth: 3.4' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-208-1 Coring Time: 1405 Penetration Depth: 64" Core Recovery: 48"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-208-2 Coring Time: 1415 Penetration Depth: 43" Core Recovery: 21"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

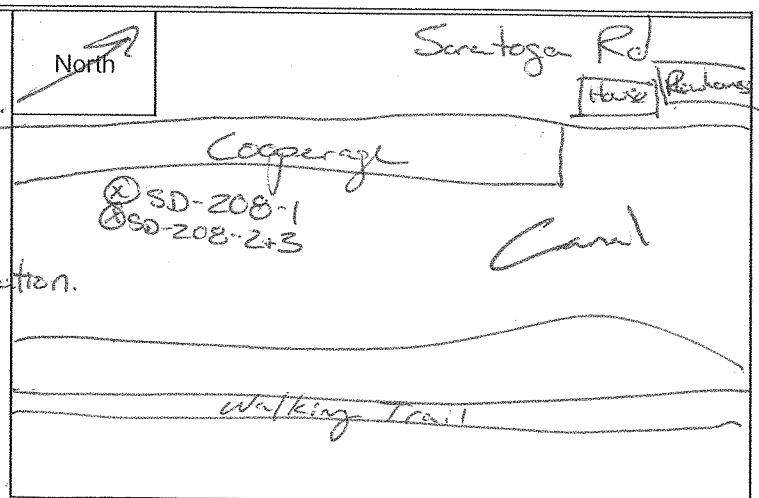
Core ID#: SD-208-3 Coring Time: 1420 Penetration Depth: 48" Core Recovery: 35.5"
 Sample Method: Ponar Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM Coordinate Units: Lat/Lon US Survey Feet
 File Name: SD-208-1 / SD-208-2 Datum: NAD83
 Lat / N: 1442080.46 / 1442083.08 Proj.: US State Plane 1983 NY East 3101
 Lon / E: 709610.62 / 709612.96 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 7

COMMENTS / NOTES

SD-208-1 hit refusal per CRA protocol.
 SD-208-2 Heavy sheen present upon retrieval.
 Recovery not suitable for CRA, need to attempt 2nd push for greater recovery.
 - Moved ~ 5' SE for 2nd push from SD-208-1.
 - SD-208-2 did not yield 60% recovery.
 - Discarded SD-208-2 and tried again at same location.
 - SD-208-3 hit refusal per CRA protocol.
 - Heavy sheen upon retrieval.
 - CRA used SD-208-1 for sample due to it being highest recovery of 3 pushes.
 - 7' tube used.



Preparer's Initial: KCM

QC OK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14
Field Team Leader(s): KCM		Field Team Safety Coordinator: KCM / MKM
Field Crew: ROB, MKM		Arrival & Departure Times: 0727 - 0740
Station ID #: SD-207		Weather: Clear <u>Pt Cloudy</u> Rain Other
Photos: Y <u>N</u> Photo Nos.: N/A		Wind Conditions (Speed/Direction): 10-15 mph E

FIELD DATA

Water Depth: **3.3'** Tide: **Ebb** Flood Low Slack High Slack Other: **N/A**
 PID: **N/A** Redox Potential: **N/A** pH: **N/A** H²O Temp.: **N/A** Air Temp.: **N/A**

SAMPLE/PUSH #1

Core ID#: **SD-207-1** Coring Time: **0730** Penetration Depth: **60"** Core Recovery: **51"**
 Sample Method: **Ponar / Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** **N**

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: **Ponar / Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** **N**

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: **Ponar / Vibracore** / Piston Core / Manual Coring Material: **CAB** / Aluminum / SS Core Diameter (OD): **2" 3" 4"**
 Vibracore Type: **Rossfelder** / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: **Y** **N**

DGPS DATA

Operator: **KCM**
 File Name: **SD-207-1**
 Lat / (N): **1442029.01**
 Lon / (E): **709577.11**
 PDOP: **6**

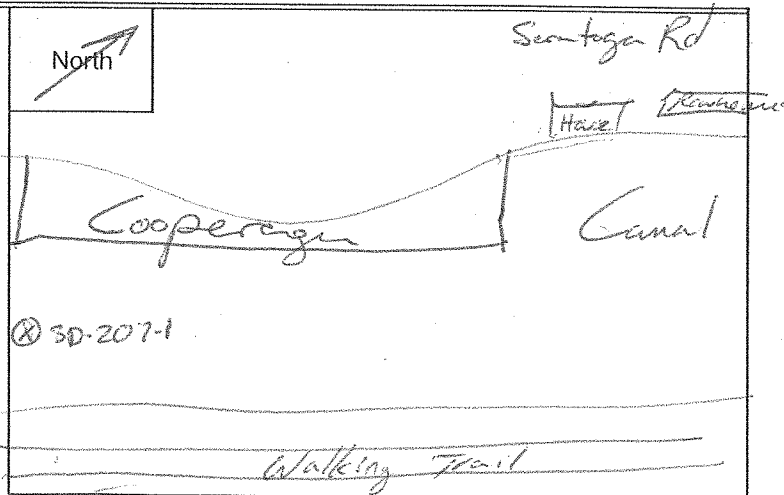
Coordinate Units: Lat/Lon **US Survey Feet**
 Datum: **NAD83**
 Proj.: **US State Plane 1983 NY East 3101**
 GPS Serial#: **5010469344 (Trimble Geo XH)**

COMMENTS / NOTES

-SD-207-1 not refused per CRA protocol.
 -Shells present upon retrieval.
 -Small clay @ bottom of core.
 -Recovery acceptable per CRA

-7' tube used

Preparer's Initial: **KCM**



QCVOK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: PCB, MKM Arrival & Departure Times: 0800 - 0810
 Station ID #: SD-206 Weather: Clear Pt Cloudy Rain Other _____
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 15-20 mph NNE

FIELD DATA

Water Depth: 3.4' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-206-1 Coring Time: 0805 Penetration Depth: 50" Core Recovery: 40"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-206-1
 Lat / (N): 44°19'51.16"
 Lon / (E): 70°53'33.83"
 PDOP: 6

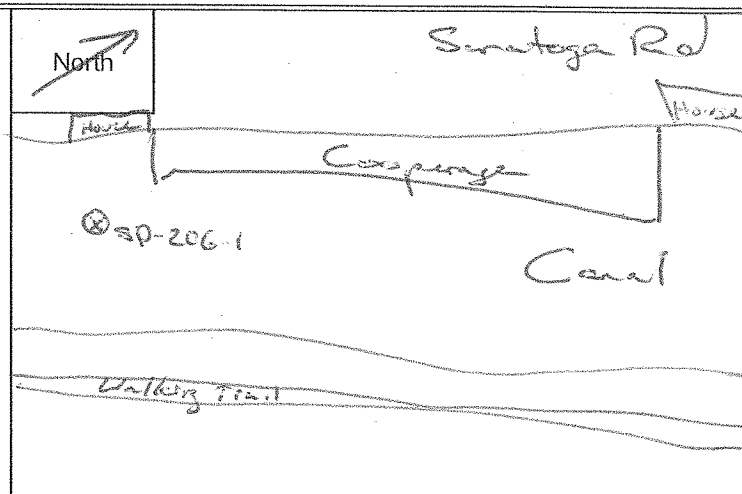
Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-206-1 hit refusal per CRA protocol.
Slight sheen present upon retrieval.
Sandy clay bottom of core.

-6' tube used

Preparer's Initial: KCM



OK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RCB, MKM Arrival & Departure Times: 0825 - 0847
 Station ID #: SD-204 Weather: Clear PI Cloudy Rain Other 20 mph G
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph NNE

FIELD DATA

Water Depth: 3.4' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-204-1 Coring Time: 0830 Penetration Depth: 58" Core Recovery: 48"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-204-2 Coring Time: 0839 Penetration Depth: 57" Core Recovery: 46"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: N/A Coring Time: N/A Penetration Depth: N/A Core Recovery: N/A
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-204-1 / SD-204-2
 Lat / N: 1441859.76 / 1441857.05
 Lon / E: 709431.72 / 709430.12
 PDOP: 6

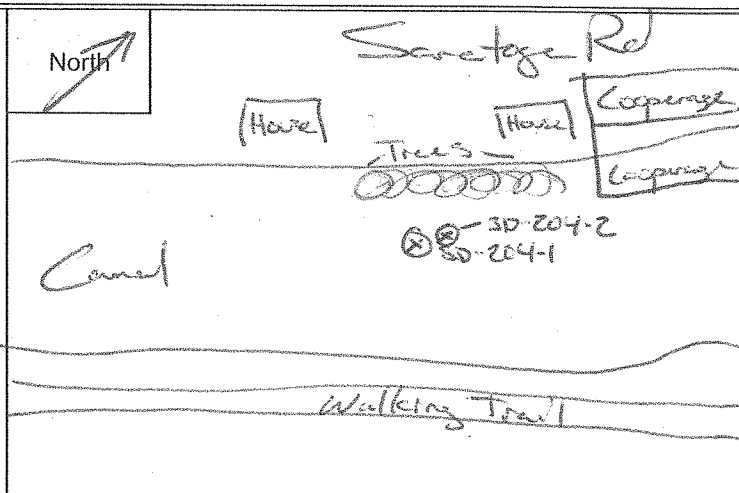
Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- Due to overhanging trees and vertical obstructions, could not get to proposed sampling location. Got as close as possible which is ~12' from proposed location.
- SD-204-1 hit refusal per CRA protocol.
- Did 2nd push ~ 5 E of SD-204-1 per CRA.
- SD-204-2 hit refusal per CRA protocol.
- Sandy clay @ bottom of core.
- SD-204-2 discarded due to lesser recovery.
- Kept SD-204-1 for sample per CRA.

- 7' tube used

Preparer's Initial: KCM



QC OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSOHN COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: PCB, MKM Arrival & Departure Times: 0908-0925
 Station ID #: SD-205 Weather: Clear (P) Cloudy Rain (Other) 20-25 mph gusts
 Photos: Y (N) Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph NNE

FIELD DATA

Water Depth: 3.6' Tide: Ebb Flood Low Slack High Slack Other (N/A)
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-205-1 Coring Time: 0910 Penetration Depth: 50" Core Recovery: 41"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" (3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #2

Core ID#: SD-205-2 Coring Time: 0915 Penetration Depth: 48" Core Recovery: 38"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" (3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #3

Core ID#: N/A Coring Time: N/A Penetration Depth: N/A Core Recovery: N/A
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: SD-20 KCM
 File Name: SD-205-1 / SD-205-2
 Lat (N): 144184.53 / 1441852.97
 Lon (E): 709432.55 / 709434.94
 PDOP: 6

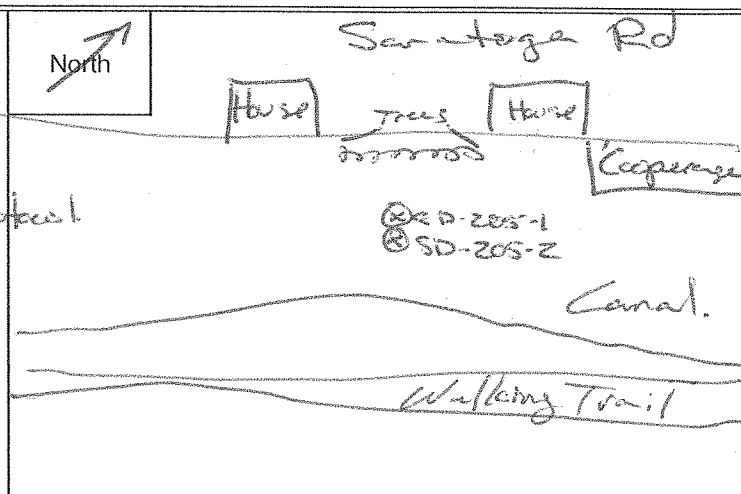
Coordinate Units: Lat/Lon (US Survey Feet)
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-205-1 hit refusal per CRA protocol.
Shells present upon retrieval.
Sandy clay @ bottom of core.
Did 2nd push ~5' SE of SD-205-1
SD-205-2 hit hard clay refusal per CRA protocol.
Heavy sandy clay @ bottom of core.
SD-205-2 discarded due to less recovery
SD-205-1 kept for sample

7' tube used.

Preparer's Initial: KCM



QC OK
MW
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: ROB MKM Arrival & Departure Times: 1015-1030
 Station ID #: SD-202 Weather: Clear Cloudy Rain Other
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 5-10 mph N

FIELD DATA

Water Depth: 20' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-202-1 Coring Time: 1018 Penetration Depth: 47" Core Recovery: 38"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-202-1
 Lat / N: 44° 18' 05.46"
 Lon / E: 73° 37' 09.66"
 PDOP: 6

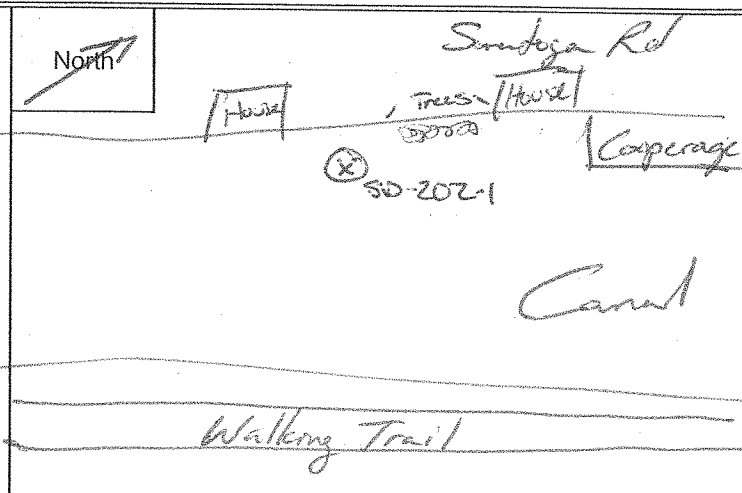
Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

- SD-202-1 hit refusal per CRA protocol
- Recovery sufficient per CRA.
- Note lots of bit & organic matter present @ this location.

- 7' tube used

Preparer's Initial: KCM



OK
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: ROB, MKM Arrival & Departure Times: 10:15 am N 1045-110
 Station ID #: SD-203 Weather: Clear Cloudy Rain Other
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph N

FIELD DATA

Water Depth: 4.2' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-203-1 Coring Time: 1050 Penetration Depth: 44" Core Recovery: 33.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: KCM
 File Name: SD-203-1
 Lat / (N): 44.1793.56
 Lon / (E): 70.9389.85
 PDOP: 6

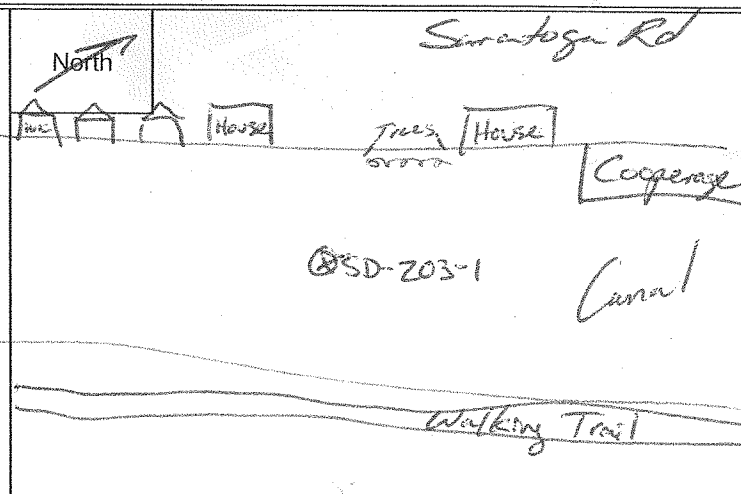
Coordinate Units: Lat/Lon US Survey Feet
 Datum: NAD83
 Proj.: US State Plane 1983 NY East 3101
 GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-203-1 hit refusal per CRA protocol
Sandy clay @ bottom of core
Recovery acceptable per CRA.

-7' tube used

Preparer's Initial: KCM



QC OK
12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14

Field Team Leader(s): KCM Field Team Safety Coordinator: KCM / MKM
 Field Crew: RGB, MKM Arrival & Departure Times: 1105-1135H-3^{ECM}
 Station ID #: SD-201 Weather: Clear Cloudy Rain Other
 Photos: Y N Photo Nos.: N/A Wind Conditions (Speed/Direction): 10-15 mph N

FIELD DATA

Water Depth: 4.8' Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-201-1 Coring Time: 1120 Penetration Depth: 25" Core Recovery: 19.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2

Core ID#: SD-201-2 Coring Time: 1125 Penetration Depth: 36" Core Recovery: 28.5"
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

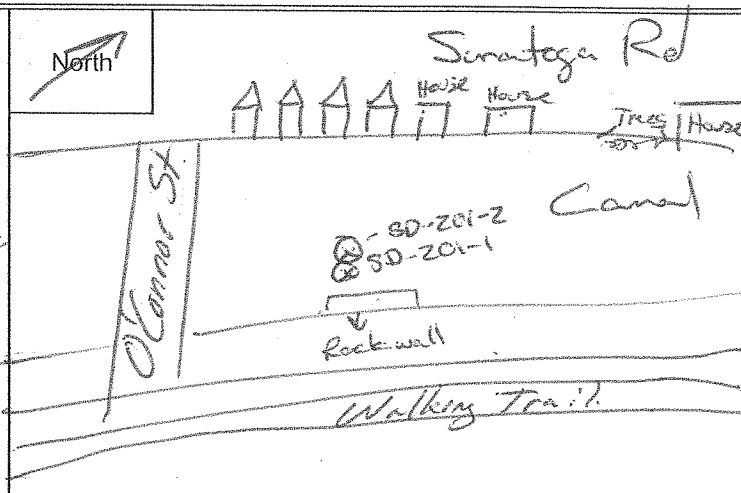
Operator: KCM Coordinate Units: Lat/Lon US Survey Feet
 File Name: SD-201-1 / SD-201-2 Datum: NAD83
 Lat / N: 1441682.88 / 1441686.67 Proj.: US State Plane 1983 NY East 3101
 Lon / E: 709297.19 / 709299.29 GPS Serial#: 5010469344 (Trimble Geo XH)
 PDOP: 6

COMMENTS / NOTES

Moved ~10' SW of proposed location due to hard gravel bottom. Stopped off small increments until suitable sediment was found for sampling.
 - SD-201-1 hit refusal per CRA.
 - Sandy clay @ bottom of core w/ gravel & shale.
 - Did 5' step off from SD-201-1 per CRA.
 - Bottom of core had gravel + clay.
 - SD-201-2 kept for sample due to higher recovery + SD-201-1 was discarded.

- T to be used

Preparer's Initial: KCM



QC OK
 PM
 12/1/14

FIELD DATA SHEET

Page 1 of 1

Project Name: CRA/FRIEDRICHSON COOPERAGE SEDIMENT SAMPLING		Proj. #: 23559.000
Site Name: OLD CHAMPLAIN CANAL		Task #: N/A
City: WATERFORD	State: NY	Date: 11/20/14

Field Team Leader(s): KCM
Field Crew: RCB, MKM
Station ID #: SD-200
Photos: Y (N) Photo Nos.: N/A

Field Team Safety Coordinator: KCM / MKM
Arrival & Departure Times: 1140 - 1200
Weather: Clear Cloudy Rain Other
Wind Conditions (Speed/Direction): 10-15 mph N

FIELD DATA

Water Depth: 2.7' Tide: Ebb Flood Low Slack High Slack Other (N/A)
PID: N/A Redox Potential: N/A pH: N/A H²O Temp.: N/A Air Temp.: N/A

SAMPLE/PUSH #1

Core ID#: SD-200-1 Coring Time: 1145 Penetration Depth: 55" Core Recovery: 42"
Sample Method: Ponar (Vibracore) Piston Core / Manual Coring Material: (CAB) Aluminum / SS Core Diameter (OD): 2" (3") 4"
Vibracore Type: (Rossfelder) / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #2

Core ID#: SD-200-2 Coring Time: 1150 Penetration Depth: 58" Core Recovery: 52"
Sample Method: Ponar (Vibracore) Piston Core / Manual Coring Material: (CAB) Aluminum / SS Core Diameter (OD): 2" (3") 4"
Vibracore Type: (Rossfelder) / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ Core Recovery: _____
Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: (CAB) Aluminum / SS Core Diameter (OD): 2" 3" 4"
Vibracore Type: Rossfelder / PVL / Portable Clamp-on / NA Sampling Equipment Deconned or Replaced: (Y) N

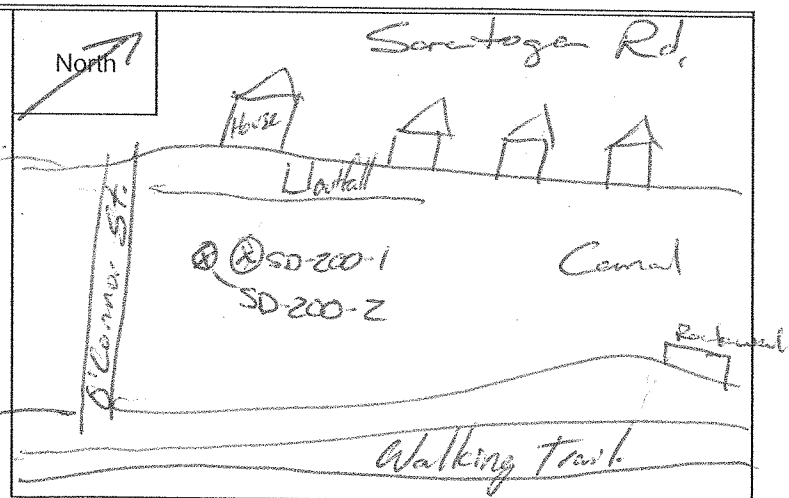
DGPS DATA

Operator: KCM
File Name: SD-200-1 / SD-200-2
Lat / N: 1441607.89 / 1441607.21
Lon / E: 709168.66 / 709170.61
PDOP: 6

Coordinate Units: Lat/Lon (US Survey Feet)
Datum: NAD83
Proj.: US State Plane 1983 NY East 3101
GPS Serial#: 5010469344 (Trimble Geo XH)

COMMENTS / NOTES

SD-200-1 hit refusal per CRA protocol.
Did 2nd push ~ 3' S of SD-200-2.
SD-200-2 hit refusal per CRA protocol.
Kept SD-200-2 for sample due to
greater recovery & disturbed SD-200-1



7' tube used

Preparer's Initial: KCM

QCR OK
11/21/14

Appendix D

Sediment Analytical Data Reports

Report Date:
23-Dec-14 08:00



- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2193
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
N2193-01	SD-80987-111414-DD-001	Soil	14-Nov-14 11:15	15-Nov-14 09:10
N2193-02	SD-80987-111414-DD-002	Soil	14-Nov-14 11:20	15-Nov-14 09:10
N2193-03	SD-80987-111414-DD-003	Soil	14-Nov-14 11:25	15-Nov-14 09:10
N2193-04	SD-80987-111414-DD-004	Soil	14-Nov-14 11:30	15-Nov-14 09:10
N2193-05	SD-80987-111414-DD-005	Soil	14-Nov-14 11:35	15-Nov-14 09:10
N2193-06	SD-80987-111414-DD-006	Soil	14-Nov-14 14:30	15-Nov-14 09:10
N2193-07	SD-80987-111414-DD-007	Soil	14-Nov-14 14:35	15-Nov-14 09:10
N2193-08	SD-80987-111414-DD-008	Soil	14-Nov-14 14:40	15-Nov-14 09:10
N2193-09	SD-80987-111414-DD-009	Soil	14-Nov-14 14:45	15-Nov-14 09:10
N2193-10	SD-80987-111414-DD-010	Soil	14-Nov-14 14:50	15-Nov-14 09:10
N2193-11	SD-80987-111414-DD-011	Soil	14-Nov-14 15:25	15-Nov-14 09:10

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 NELAP or USEPA CLP requirements have been met.

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
Rhode Island	LA100301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033



Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** Data Summary Pack ***

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2193

Client ID: CRA

Case:

HC Due: 12/15/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J".

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2193-01A	SD-80987-111414-DD-001	11/14/2014 11:15	11/15/2014	Soil	PMoist	/					C2
N2193-01A	SD-80987-111414-DD-001	11/14/2014 11:15	11/15/2014	Soil	SW8082_S	/					C2
N2193-02A	SD-80987-111414-DD-002	11/14/2014 11:20	11/15/2014	Soil	PMoist	/					C2
N2193-02A	SD-80987-111414-DD-002	11/14/2014 11:20	11/15/2014	Soil	SW8082_S	/					C2
N2193-03A	SD-80987-111414-DD-003	11/14/2014 11:25	11/15/2014	Soil	PMoist	/					C2
N2193-03A	SD-80987-111414-DD-003	11/14/2014 11:25	11/15/2014	Soil	SW8082_S	/					C2
N2193-04A	SD-80987-111414-DD-004	11/14/2014 11:30	11/15/2014	Soil	PMoist	/		Y			C2
N2193-04A	SD-80987-111414-DD-004	11/14/2014 11:30	11/15/2014	Soil	SW8082_S	/		Y			C2
N2193-05A	SD-80987-111414-DD-005	11/14/2014 11:35	11/15/2014	Soil	PMoist	/		Y			C2
N2193-05A	SD-80987-111414-DD-005	11/14/2014 11:35	11/15/2014	Soil	SW8082_S	/		Y			C2
N2193-06A	SD-80987-111414-DD-006	11/14/2014 14:30	11/15/2014	Soil	PMoist	/					C2
N2193-06A	SD-80987-111414-DD-006	11/14/2014 14:30	11/15/2014	Soil	SW8082_S	/					C2
N2193-07A	SD-80987-111414-DD-007	11/14/2014 14:35	11/15/2014	Soil	PMoist	/					C2
N2193-07A	SD-80987-111414-DD-007	11/14/2014 14:35	11/15/2014	Soil	SW8082_S	/					C2
N2193-08A	SD-80987-111414-DD-008	11/14/2014 14:40	11/15/2014	Soil	PMoist	/		Y			C2
N2193-08A	SD-80987-111414-DD-008	11/14/2014 14:40	11/15/2014	Soil	SW8082_S	/		Y			C2
N2193-09A	SD-80987-111414-DD-009	11/14/2014 14:45	11/15/2014	Soil	PMoist	/		Y			C2
N2193-09A	SD-80987-111414-DD-009	11/14/2014 14:45	11/15/2014	Soil	SW8082_S	/		Y			C2
N2193-10A	SD-80987-111414-DD-010	11/14/2014 14:50	11/15/2014	Soil	PMoist	/		Y			C2
N2193-10A	SD-80987-111414-DD-010	11/14/2014 14:50	11/15/2014	Soil	SW8082_S	/		Y			C2
N2193-11A	SD-80987-111414-DD-011	11/14/2014 15:25	11/15/2014	Soil	PMoist	/					C2

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. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2193

Client ID: CRA
Project: Friedrichsohn Cooperage Site
WO Name: Friedrichsohn Cooperage Site
Location: CRA_FRIEDRICHSOHN, 080987-001
Comments: Report "J".

Case:
SDG:
PO: 4073689

HC Due: 12/15/14
Fax Due:
Fax Report: ☐

Report Level: LEVEL 4
Special Program:
EDD: EQUIIS_4_CRA

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2193-11A	SD-80987-111414-DD-011	11/14/2014 15:25	11/15/2014	Soil	SW8082_S	/					C2



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** PCB Organics ***

REPORT NARRATIVE

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

Client : Conestoga-Rovers & Associates

Project: Friedrichsohn Cooperage Site

Laboratory Workorder / SDG #: N2193

SW846 8082A, PCB by GC-ECD

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 8082A

IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3550B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E2
Instrument Type: GC-ECD
Description: HP5890 II +
Manufacturer: Hewlett-Packard

Model: 5890

GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest capillary column.

GC Column used: 30 m X 0.53 mm ID [0.42 um thickness] CLPPestII capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

SD-80987-111414-DD-003 (N2193-03A), recovery is below criteria for Decachlorobiphenyl on front column at 58% with criteria of (60-125).

D. Spikes:

1. Laboratory Control Spikes (LCS):

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

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Dilutions:

The following samples were analyzed at dilution:

SD-80987-111414-DD-001 (N2193-01A) : Dilution Factor: 5

SD-80987-111414-DD-002 (N2193-02A) : Dilution Factor: 5

SD-80987-111414-DD-006 (N2193-06A) : Dilution Factor: 20

SD-80987-111414-DD-007 (N2193-07A) : Dilution Factor: 2

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

G. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or falling baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The following samples were manually integrated:

AR12326M2 Aroclor-1232 on rear column due to M3

AR12422N2 Aroclor-1242 on rear column due to M3

AR12423MN Decachlorobiphenyl on front column due to M3

AR12423N2 Aroclor-1242 on rear column due to M3

AR12423NT Aroclor-1242 on rear column due to M3

AR12423NU Aroclor-1242 on rear column due to M3

AR12425M2 Aroclor-1242 on front column due to M3

AR12483MN Decachlorobiphenyl on front column due to M3

AR12485M2 Aroclor-1248 on front column due to M3

AR12543MN Aroclor-1254 on front column , Decachlorobiphenyl on

front column due to M3

AR16603MN Decachlorobiphenyl on front column , Aroclor-1260 on rear column , Decachlorobiphenyl on rear column due to M3

AR16603NJ Aroclor-1016 on front column due to M3

AR16603NK Aroclor-1260 on front column due to M3

AR16603NT Aroclor-1016 on front column due to M3

SD-80987-111414-DD-008 (N2193-08A) Aroclor-1242 on front column due to M3

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.

A handwritten signature in black ink, appearing to be 'J. H. L.', is written over a horizontal line.

Signed:_____

Date:_____12/22/2014_____



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 1 of 2):

- 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 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 an aldol condensation by-product.



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 2 of 2):

- 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.
- L NYSDEC qualifier: Result is biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.



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

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111414-
DD-001

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2193-01A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6202F.D/E2N6202R.D
% Moisture: 45 Decanted: (Y/N) N Date Received: 11/15/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	300	U
11104-28-2	Aroclor-1221	300	U
11141-16-5	Aroclor-1232	300	U
53469-21-9	Aroclor-1242	1300	
12672-29-6	Aroclor-1248	300	U
11097-69-1	Aroclor-1254	480	
11096-82-5	Aroclor-1260	300	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111414-
DD-002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2193-02A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6203F.D/E2N6203R.D
% Moisture: 46 Decanted: (Y/N) N Date Received: 11/15/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	300	U
11104-28-2	Aroclor-1221	300	U
11141-16-5	Aroclor-1232	300	U
53469-21-9	Aroclor-1242	1700	
12672-29-6	Aroclor-1248	300	U
11097-69-1	Aroclor-1254	620	
11096-82-5	Aroclor-1260	300	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111414-
DD-003

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2193-03A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6571F.D/E2N6571R.D
% Moisture: 40 Decanted: (Y/N) N Date Received: 11/15/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	55	U
11104-28-2	Aroclor-1221	55	U
11141-16-5	Aroclor-1232	55	U
53469-21-9	Aroclor-1242	55	U
12672-29-6	Aroclor-1248	55	U
11097-69-1	Aroclor-1254	95	
11096-82-5	Aroclor-1260	55	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111414-
DD-006

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2193-06A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6232F.D/E2N6232R.D
% Moisture: 47 Decanted: (Y/N) N Date Received: 11/15/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 20.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	1200	U
11104-28-2	Aroclor-1221	1200	U
11141-16-5	Aroclor-1232	1200	U
53469-21-9	Aroclor-1242	12000	
12672-29-6	Aroclor-1248	1200	U
11097-69-1	Aroclor-1254	2100	P
11096-82-5	Aroclor-1260	1200	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111414-
DD-007

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2193-07A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6597F.D/E2N6597R.D
% Moisture: 45 Decanted: (Y/N) N Date Received: 11/15/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/10/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	800	
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	320	
11096-82-5	Aroclor-1260	170	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111414-
DD-008

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2193-08A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6737F.D/E2N6737R.D
% Moisture: 38 Decanted: (Y/N) N Date Received: 11/15/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	52	U
11104-28-2	Aroclor-1221	52	U
11141-16-5	Aroclor-1232	52	U
53469-21-9	Aroclor-1242	120	P
12672-29-6	Aroclor-1248	52	U
11097-69-1	Aroclor-1254	52	U
11096-82-5	Aroclor-1260	52	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111414-
DD-011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2193-11A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6116F.D/E2N6116R.D
% Moisture: 34 Decanted: (Y/N) N Date Received: 11/15/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80074

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80074
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6108F.D/E2N6108R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80074(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80074
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6111F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	130	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80074(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80074
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6111R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	130	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80074(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80074
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6112F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	140	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	140	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80074(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80074
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6112R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	140	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	150	

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80074	97	97	96	104			0
02	LCS-80074	97	98	96	104			0
03	LCSD-80074	110	113	108	113			0
04	SD-80987-111 414-DD-011	100	94	96	83			0
05	SD-80987-111 414-DD-001	80	69	102	97			0
06	SD-80987-111 414-DD-002	96	80	118	102			0
07	SD-80987-111 414-DD-006	90	67	109	112			0
08	SD-80987-111 414-DD-003	83	85	58 *	68			1
09	SD-80987-111 414-DD-007	102	97	77	87			0
10	SD-80987-111 414-DD-008	100	102	65	77			0

QC LIMITS
(34-147)
(60-125)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80074

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Lab Sample ID: LCS-80074 LCS Lot No.: a094177
Date Extracted: 11/18/2014 Date Analyzed (1): 12/03/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	124.4773	93	40-140
Aroclor-1260	133.3330	127.2027	95	60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/03/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	118.1408	89	40-140
Aroclor-1260	133.3330	130.5400	98	60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80074

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Lab Sample ID: LCSD-80074 LCS Lot No.: a094177
Date Extracted: 11/18/2014 Date Analyzed (1): 12/03/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	139.1849	104	40-140	11	30
Aroclor-1260	133.3330	140.8690	106	60-130	11	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/03/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	135.2306	101	40-140	13	30
Aroclor-1260	133.3330	145.9421	109	60-130	11	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 0 out of 4 outside limits.

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80074

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2193 Mod. Ref No.: _____ SDG No.: SN2193
Lab File ID: E2N6108F.D / E2N6108R.D Lab Sample ID: MB-80074
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/18/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/03/2014 Date Analyzed (2): 12/03/2014
Time Analyzed (1): 12:35 Time Analyzed (2): 12:35
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80074	LCS-80074	12/03/2014	12/03/2014
02	LCSD-80074	LCSD-80074	12/03/2014	12/03/2014
03	SD-80987-111 414-DD-011	N2193-11A	12/03/2014	12/03/2014
04	SD-80987-111 414-DD-001	N2193-01A	12/04/2014	12/04/2014
05	SD-80987-111 414-DD-002	N2193-02A	12/04/2014	12/04/2014
06	SD-80987-111 414-DD-006	N2193-06A	12/04/2014	12/04/2014
07	SD-80987-111 414-DD-003	N2193-03A	12/09/2014	12/09/2014
08	SD-80987-111 414-DD-007	N2193-07A	12/10/2014	12/10/2014
09	SD-80987-111 414-DD-008	N2193-08A	12/12/2014	12/12/2014

COMMENTS:

Report Date:
31-Dec-14 10:05



☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2201
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
N2201-01	SD-80987-111514-DD-012	Soil	15-Nov-14 08:30	18-Nov-14 09:50
N2201-02	SD-80987-111514-DD-013	Soil	15-Nov-14 08:35	18-Nov-14 09:50
N2201-03	SD-80987-111514-DD-014	Soil	15-Nov-14 08:40	18-Nov-14 09:50
N2201-04	SD-80987-111514-DD-015	Soil	15-Nov-14 08:45	18-Nov-14 09:50
N2201-05	SD-80987-111514-DD-016	Soil	15-Nov-14 08:50	18-Nov-14 09:50
N2201-06	SD-80987-111514-DD-017	Soil	15-Nov-14 09:15	18-Nov-14 09:50
N2201-07	SD-80987-111514-DD-018	Soil	15-Nov-14 09:20	18-Nov-14 09:50
N2201-08	SD-80987-111514-DD-019	Soil	15-Nov-14 09:25	18-Nov-14 09:50
N2201-09	SD-80987-111514-DD-020	Soil	15-Nov-14 09:30	18-Nov-14 09:50
N2201-10	SD-80987-111514-DD-021	Soil	15-Nov-14 09:35	18-Nov-14 09:50
N2201-11	SD-80987-111514-DD-022	Soil	15-Nov-14 09:40	18-Nov-14 09:50
N2201-12	SD-80987-111514-DD-023	Soil	15-Nov-14 10:15	18-Nov-14 09:50
N2201-13	SD-80987-111514-DD-024	Soil	15-Nov-14 10:20	18-Nov-14 09:50
N2201-14	SD-80987-111514-DD-025	Soil	15-Nov-14 10:25	18-Nov-14 09:50
N2201-15	SD-80987-111514-DD-026	Soil	15-Nov-14 10:30	18-Nov-14 09:50
N2201-16	SD-80987-111514-DD-027	Soil	15-Nov-14 10:35	18-Nov-14 09:50
N2201-17	SD-80987-111514-DD-028	Soil	15-Nov-14 10:40	18-Nov-14 09:50
N2201-18	SD-80987-111514-DD-029	Soil	15-Nov-14 10:45	18-Nov-14 09:50
N2201-19	SD-80987-111514-DD-030	Soil	15-Nov-14 11:15	18-Nov-14 09:50
N2201-20	SD-80987-111514-DD-031	Soil	15-Nov-14 11:20	18-Nov-14 09:50
N2201-21	SD-80987-111514-DD-032	Soil	15-Nov-14 11:25	18-Nov-14 09:50
N2201-22	SD-80987-111514-DD-033	Soil	15-Nov-14 11:30	18-Nov-14 09:50
N2201-23	SD-80987-111514-DD-034	Soil	15-Nov-14 11:55	18-Nov-14 09:50
N2201-24	EB-80987-111514-DD-035	Aqueous	15-Nov-14 12:00	18-Nov-14 09:50
N2201-25	SD-80987-111514-DD-036	Soil	15-Nov-14 13:20	18-Nov-14 09:50
N2201-26	SD-80987-111514-DD-037	Soil	15-Nov-14 13:25	18-Nov-14 09:50
N2201-27	SD-80987-111514-DD-038	Soil	15-Nov-14 13:30	18-Nov-14 09:50
N2201-28	SD-80987-111514-DD-039	Soil	15-Nov-14 13:35	18-Nov-14 09:50
N2201-29	SD-80987-111514-DD-040	Soil	15-Nov-14 14:15	18-Nov-14 09:50
N2201-30	SD-80987-111514-DD-041	Soil	15-Nov-14 14:20	18-Nov-14 09:50
N2201-31	SD-80987-111514-DD-042	Soil	15-Nov-14 14:25	18-Nov-14 09:50
N2201-32	EB-80987-111514-DD-043	Aqueous	15-Nov-14 14:45	18-Nov-14 09:50
N2201-33	SD-80987-111614-DD-044	Soil	16-Nov-14 08:30	18-Nov-14 09:50
N2201-34	SD-80987-111614-DD-045	Soil	16-Nov-14 08:35	18-Nov-14 09:50
N2201-35	SD-80987-111614-DD-046	Soil	16-Nov-14 09:25	18-Nov-14 09:50
N2201-36	SD-80987-111614-DD-047	Soil	16-Nov-14 09:30	18-Nov-14 09:50
N2201-37	SD-80987-111614-DD-048	Soil	16-Nov-14 11:10	18-Nov-14 09:50
N2201-38	SD-80987-111614-DD-049	Soil	16-Nov-14 13:40	18-Nov-14 09:50
N2201-39	SD-80987-111614-DD-050	Soil	16-Nov-14 14:40	18-Nov-14 09:50
N2201-40	SD-80987-111614-DD-051	Soil	16-Nov-14 13:10	18-Nov-14 09:50

Report Date:
31-Dec-14 10:05



- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2201
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>

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 requirements have been met.

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
Rhode Island	LA100301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033



Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** Data Summary Pack ***

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2201

Client ID: CRA

Case:

HC Due: 12/16/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J"., Samples -37, 38 and 39 taken off hold per client request 11/24., samples 07,14,20,34,26 taken off hold 12/9

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2201-01A	SD-80987-111514-DD-012	11/15/2014 08:30	11/18/2014	Soil	PMoist	/			Y		C4
N2201-01A	SD-80987-111514-DD-012	11/15/2014 08:30	11/18/2014	Soil	SW8082_S	/			Y		C4
N2201-02A	SD-80987-111514-DD-013	11/15/2014 08:35	11/18/2014	Soil	PMoist	/		Y			C4
N2201-02A	SD-80987-111514-DD-013	11/15/2014 08:35	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-03A	SD-80987-111514-DD-014	11/15/2014 08:40	11/18/2014	Soil	PMoist	/		Y			C4
N2201-03A	SD-80987-111514-DD-014	11/15/2014 08:40	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-04A	SD-80987-111514-DD-015	11/15/2014 08:45	11/18/2014	Soil	PMoist	/		Y			C4
N2201-04A	SD-80987-111514-DD-015	11/15/2014 08:45	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-05A	SD-80987-111514-DD-016	11/15/2014 08:50	11/18/2014	Soil	PMoist	/		Y			C4
N2201-05A	SD-80987-111514-DD-016	11/15/2014 08:50	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-06A	SD-80987-111514-DD-017	11/15/2014 09:15	11/18/2014	Soil	PMoist	/					C4
N2201-06A	SD-80987-111514-DD-017	11/15/2014 09:15	11/18/2014	Soil	SW8082_S	/					C4
N2201-07A	SD-80987-111514-DD-018	11/15/2014 09:20	11/18/2014	Soil	PMoist	/					C4
N2201-07A	SD-80987-111514-DD-018	11/15/2014 09:20	11/18/2014	Soil	SW8082_S	/					C4
N2201-08A	SD-80987-111514-DD-019	11/15/2014 09:25	11/18/2014	Soil	PMoist	/		Y			C4
N2201-08A	SD-80987-111514-DD-019	11/15/2014 09:25	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-09A	SD-80987-111514-DD-020	11/15/2014 09:30	11/18/2014	Soil	PMoist	/		Y			C4
N2201-09A	SD-80987-111514-DD-020	11/15/2014 09:30	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-10A	SD-80987-111514-DD-021	11/15/2014 09:35	11/18/2014	Soil	PMoist	/		Y			C4
N2201-10A	SD-80987-111514-DD-021	11/15/2014 09:35	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-11A	SD-80987-111514-DD-022	11/15/2014 09:40	11/18/2014	Soil	PMoist	/		Y			C4

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. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2201

Client ID: CRA

Case:

HC Due: 12/16/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J"., Samples -37, 38 and 39 taken off hold per client request 11/24., samples 07,14,20,34,26 taken off hold 12/9

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2201-11A	SD-80987-111514-DD-022	11/15/2014 09:40	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-12A	SD-80987-111514-DD-023	11/15/2014 10:15	11/18/2014	Soil	PMoist	/					C4
N2201-12A	SD-80987-111514-DD-023	11/15/2014 10:15	11/18/2014	Soil	SW8082_S	/					C4
N2201-13A	SD-80987-111514-DD-024	11/15/2014 10:20	11/18/2014	Soil	PMoist	/					C4
N2201-13A	SD-80987-111514-DD-024	11/15/2014 10:20	11/18/2014	Soil	SW8082_S	/					C4
N2201-14A	SD-80987-111514-DD-025	11/15/2014 10:25	11/18/2014	Soil	PMoist	/					C4
N2201-14A	SD-80987-111514-DD-025	11/15/2014 10:25	11/18/2014	Soil	SW8082_S	/					C4
N2201-15A	SD-80987-111514-DD-026	11/15/2014 10:30	11/18/2014	Soil	PMoist	/		Y			C4
N2201-15A	SD-80987-111514-DD-026	11/15/2014 10:30	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-16A	SD-80987-111514-DD-027	11/15/2014 10:35	11/18/2014	Soil	PMoist	/		Y			C4
N2201-16A	SD-80987-111514-DD-027	11/15/2014 10:35	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-17A	SD-80987-111514-DD-028	11/15/2014 10:40	11/18/2014	Soil	PMoist	/		Y			C4
N2201-17A	SD-80987-111514-DD-028	11/15/2014 10:40	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-18A	SD-80987-111514-DD-029	11/15/2014 10:45	11/18/2014	Soil	PMoist	/		Y			C4
N2201-18A	SD-80987-111514-DD-029	11/15/2014 10:45	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-19A	SD-80987-111514-DD-030	11/15/2014 11:15	11/18/2014	Soil	PMoist	/			Y		C4
N2201-19A	SD-80987-111514-DD-030	11/15/2014 11:15	11/18/2014	Soil	SW8082_S	/			Y		C4
N2201-20A	SD-80987-111514-DD-031	11/15/2014 11:20	11/18/2014	Soil	PMoist	/					C4
N2201-20A	SD-80987-111514-DD-031	11/15/2014 11:20	11/18/2014	Soil	SW8082_S	/					C4
N2201-21A	SD-80987-111514-DD-032	11/15/2014 11:25	11/18/2014	Soil	PMoist	/		Y			C4
N2201-21A	SD-80987-111514-DD-032	11/15/2014 11:25	11/18/2014	Soil	SW8082_S	/		Y			C4

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. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2201

Client ID: CRA

Case:

HC Due: 12/16/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J", Samples -37, 38 and 39 taken off hold per client request 11/24., samples 07,14,20,34,26 taken off hold 12/9

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2201-22A	SD-80987-111514-DD-033	11/15/2014 11:30	11/18/2014	Soil	PMoist	/		Y			C4
N2201-22A	SD-80987-111514-DD-033	11/15/2014 11:30	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-23A	SD-80987-111514-DD-034	11/15/2014 11:55	11/18/2014	Soil	ASTMD5321_S	/ GEO--Sub to GeoTesting					SUB
N2201-23B	SD-80987-111514-DD-034	11/15/2014 11:55	11/18/2014	Soil	LK_TOC_S	/ SPECTRUM--Sub to Agawam					SUB
N2201-24A	EB-80987-111514-DD-035	11/15/2014 12:00	11/18/2014	Aqueous	SM5310B_TOC_W	/ SPECTRUM--Sub to Agawam					SUB
N2201-24B	EB-80987-111514-DD-035	11/15/2014 12:00	11/18/2014	Aqueous	SW8082_W	/					C4
N2201-25A	SD-80987-111514-DD-036	11/15/2014 13:20	11/18/2014	Soil	ASTMD5321_S	/ GEO--Sub to GeoTesting					SUB
N2201-25B	SD-80987-111514-DD-036	11/15/2014 13:20	11/18/2014	Soil	LK_TOC_S	/ SPECTRUM--Sub to Agawam					SUB
N2201-26A	SD-80987-111514-DD-037	11/15/2014 13:25	11/18/2014	Soil	PMoist	/					C4
N2201-26A	SD-80987-111514-DD-037	11/15/2014 13:25	11/18/2014	Soil	SW8082_S	/					C4
N2201-27A	SD-80987-111514-DD-038	11/15/2014 13:30	11/18/2014	Soil	PMoist	/		Y			C4
N2201-27A	SD-80987-111514-DD-038	11/15/2014 13:30	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-28A	SD-80987-111514-DD-039	11/15/2014 13:35	11/18/2014	Soil	PMoist	/		Y			C4
N2201-28A	SD-80987-111514-DD-039	11/15/2014 13:35	11/18/2014	Soil	SW8082_S	/		Y			C4
N2201-29A	SD-80987-111514-DD-040	11/15/2014 14:15	11/18/2014	Soil	PMoist	/					C4
N2201-29A	SD-80987-111514-DD-040	11/15/2014 14:15	11/18/2014	Soil	SW8082_S	/					C4
N2201-30A	SD-80987-111514-DD-041	11/15/2014 14:20	11/18/2014	Soil	PMoist	/					C4
N2201-30A	SD-80987-111514-DD-041	11/15/2014 14:20	11/18/2014	Soil	SW8082_S	/					C4
N2201-31A	SD-80987-111514-DD-042	11/15/2014 14:25	11/18/2014	Soil	PMoist	/		Y			C4
N2201-31A	SD-80987-111514-DD-042	11/15/2014 14:25	11/18/2014	Soil	SW8082_S	/		Y			C4

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. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2201

Client ID: CRA

Case:

HC Due: 12/16/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J", Samples -37, 38 and 39 taken off hold per client request 11/24., samples 07,14,20,34,26 taken off hold 12/9

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2201-32A	EB-80987-111514-DD-043	11/15/2014 14:45	11/18/2014	Aqueous	SM5310B_TOC_W	/ SPECTRUM--Sub to Agawam					SUB
N2201-32B	EB-80987-111514-DD-043	11/15/2014 14:45	11/18/2014	Aqueous	SW8082_W	/					C4
N2201-33A	SD-80987-111614-DD-044	11/16/2014 08:30	11/18/2014	Soil	PMoist	/					C4
N2201-33A	SD-80987-111614-DD-044	11/16/2014 08:30	11/18/2014	Soil	SW8082_S	/					C4
N2201-34A	SD-80987-111614-DD-045	11/16/2014 08:35	11/18/2014	Soil	PMoist	/					C4
N2201-34A	SD-80987-111614-DD-045	11/16/2014 08:35	11/18/2014	Soil	SW8082_S	/					C4
N2201-35A	SD-80987-111614-DD-046	11/16/2014 09:25	11/18/2014	Soil	PMoist	/					C4
N2201-35A	SD-80987-111614-DD-046	11/16/2014 09:25	11/18/2014	Soil	SW8082_S	/					C4
N2201-36A	SD-80987-111614-DD-047	11/16/2014 09:30	11/18/2014	Soil	PMoist	/					C4
N2201-36A	SD-80987-111614-DD-047	11/16/2014 09:30	11/18/2014	Soil	SW8082_S	/					C4
N2201-37A	SD-80987-111614-DD-048	11/16/2014 11:10	11/18/2014	Soil	PMoist	/					C4
N2201-37A	SD-80987-111614-DD-048	11/16/2014 11:10	11/18/2014	Soil	SW8082_S	/					C4
N2201-38A	SD-80987-111614-DD-049	11/16/2014 13:40	11/18/2014	Soil	PMoist	/					C4
N2201-38A	SD-80987-111614-DD-049	11/16/2014 13:40	11/18/2014	Soil	SW8082_S	/					C4
N2201-39A	SD-80987-111614-DD-050	11/16/2014 14:40	11/18/2014	Soil	PMoist	/					C4
N2201-39A	SD-80987-111614-DD-050	11/16/2014 14:40	11/18/2014	Soil	SW8082_S	/					C4
N2201-40A	SD-80987-111614-DD-051	11/16/2014 13:10	11/18/2014	Soil	ASTMD5321_S	/ GEO--Sub to GeoTesting					SUB
N2201-40B	SD-80987-111614-DD-051	11/16/2014 13:10	11/18/2014	Soil	LK_TOC_S	/ SPECTRUM--Sub to Agawam					SUB

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

*** PCB Organics ***

REPORT NARRATIVE

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

Client : Conestoga-Rovers & Associates

Project: Friedrichsohn Cooperage Site

Laboratory Workorder / SDG #: N2201

SW846 8082A, PCB by GC-ECD

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 8082A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510C
Soil Samples were prepared following procedures in laboratory test code: SW3550B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E2
Instrument Type: GC-ECD

Description: HP5890 II +
Manufacturer: Hewlett-Packard
Model: 5890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest
capillary column.
GC Column used: 30 m X 0.53 mm ID [0.42 um thickness] CLPPestII
capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

SD-80987-111514-DD-025 (N2201-14A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Tetrachloro-m-xylene on front column at 821% with criteria of (34-147).

SD-80987-111514-DD-026 (N2201-15A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 128% with criteria of (60-125).

SD-80987-111514-DD-027 (N2201-16A), recovery is below criteria for Decachlorobiphenyl on front column at 56% with criteria of (60-125).

SD-80987-111514-DD-030 (N2201-19A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111514-DD-030 (N2201-19AMS) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene

on front column at 0% with criteria of (34-147).

SD-80987-111514-DD-030 (N2201-19AMSD) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

EB-80987-111514-DD-043 (N2201-32B), recovery is below criteria for Decachlorobiphenyl on rear column at 34% with criteria of (40-135) and Decachlorobiphenyl on front column at 35% with criteria of (40-135).

SD-80987-111614-DD-044 (N2201-33A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111614-DD-045 (N2201-34A), recovery is below criteria for Decachlorobiphenyl on front column at 54% with criteria of (60-125).

D. Spikes:

1. Laboratory Control Spikes (LCS):

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

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: SD-80987-111514-DD-012 (N2201-01AMS), SD-80987-111514-DD-012 (N2201-01AMSD), SD-80987-111514-DD-030 (N2201-19AMS) and SD-80987-111514-DD-030 (N2201-19AMSD).

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

SD-80987-111514-DD-012 (N2201-01AMS), recovery is above criteria for Aroclor-1016 on rear column at 232% with criteria of (40-140), Aroclor-1016 on front column at 320% with criteria of (40-140), Aroclor-1260 on rear column at 139% with criteria of (60-130) and Aroclor-1260 on front column at 134% with criteria of (60-130).

SD-80987-111514-DD-012 (N2201-01AMSD), recovery is above criteria for Aroclor-1016 on rear column at 198% with criteria of (40-140) and Aroclor-1016 on front column at 302% with criteria of (40-140).

SD-80987-111514-DD-030 (N2201-19AMS), recovery is above criteria for Aroclor-1016 on rear column at 21721% with criteria of (40-140), Aroclor-1016 on front column at 13851% with criteria of (40-140), Aroclor-1260 on rear column at 1212% with criteria of (60-130) and Aroclor-1260 on front column at 1505% with criteria of (60-130).

SD-80987-111514-DD-030 (N2201-19AMSD), recovery is above criteria for Aroclor-1016 on rear column at 23914% with criteria of (40-140), Aroclor-1016 on front column at 15186% with criteria of (40-140), Aroclor-1260 on rear column at 1013% with criteria of (60-130) and Aroclor-1260 on front column at 1673% with criteria of (60-130).

Replicate RPDs were within the advisory QC limits.

E. Dilutions:

The following samples were analyzed at dilution:

SD-80987-111514-DD-017 (N2201-06A) : Dilution Factor: 2
SD-80987-111514-DD-023 (N2201-12A) : Dilution Factor: 2
SD-80987-111514-DD-024 (N2201-13A) : Dilution Factor: 2
SD-80987-111514-DD-025 (N2201-14A) : Dilution Factor: 20
SD-80987-111514-DD-026 (N2201-15A) : Dilution Factor: 20
SD-80987-111514-DD-030 (N2201-19A) : Dilution Factor: 50
SD-80987-111514-DD-030 (N2201-19AMS) : Dilution Factor: 50
SD-80987-111514-DD-030 (N2201-19AMSD) : Dilution Factor: 50
SD-80987-111514-DD-031 (N2201-20A) : Dilution Factor: 2
SD-80987-111514-DD-037 (N2201-26A) : Dilution Factor: 5
SD-80987-111514-DD-038 (N2201-27A) : Dilution Factor: 10
SD-80987-111614-DD-044 (N2201-33A) : Dilution Factor: 40
SD-80987-111614-DD-046 (N2201-35A) : Dilution Factor: 5
SD-80987-111614-DD-048 (N2201-37A) : Dilution Factor: 2

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than

40%.

No other unusual occurrences were noted during sample analysis.

G. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or falling baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The following samples were manually integrated:

AR12326M2 Aroclor-1232 on rear column due to M3

AR12422N2 Aroclor-1242 on rear column due to M3

AR12423MN Decachlorobiphenyl on front column due to M3

AR12423N2 Aroclor-1242 on rear column due to M3

AR12423NT Aroclor-1242 on rear column due to M3

AR12423NU Aroclor-1242 on rear column due to M3

AR12425M2 Aroclor-1242 on front column due to M3

AR12483MN Decachlorobiphenyl on front column due to M3

AR12485M2 Aroclor-1248 on front column due to M3

AR12543MN Aroclor-1254 on front column , Decachlorobiphenyl on front column due to M3

AR16603MN Decachlorobiphenyl on front column , Aroclor-1260 on rear column , Decachlorobiphenyl on rear column due to M3

AR16603NJ Aroclor-1016 on front column due to M3

AR16603NK Aroclor-1260 on front column due to M3

AR16603NT Aroclor-1016 on front column due to M3

SD-80987-111514-DD-025 (N2201-14A) Tetrachloro-m-xylene on rear column due to M3

SD-80987-111514-DD-026 (N2201-15A) Tetrachloro-m-xylene on rear column due to M3

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.

A handwritten signature in black ink, appearing to be 'JFW', is written over a horizontal line.

Signed: _____

Date: _____ 12/30/2014 _____



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 1 of 2):

- 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 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 an aldol condensation by-product.



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 2 of 2):

- 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.
- L NYSDEC qualifier: Result is biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.



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

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-012

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-01A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6124F.D/E2N6124R.D

% Moisture: 44 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	58	U
11104-28-2	Aroclor-1221	58	U
11141-16-5	Aroclor-1232	58	U
53469-21-9	Aroclor-1242	670	
12672-29-6	Aroclor-1248	58	U
11097-69-1	Aroclor-1254	240	
11096-82-5	Aroclor-1260	58	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-017

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-06A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6233F.D/E2N6233R.D

% Moisture: 48 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	130	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	130	U
53469-21-9	Aroclor-1242	1100	
12672-29-6	Aroclor-1248	130	U
11097-69-1	Aroclor-1254	220	P
11096-82-5	Aroclor-1260	130	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-07A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6573F.D/E2N6573R.D

% Moisture: 37 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	51	U
11104-28-2	Aroclor-1221	51	U
11141-16-5	Aroclor-1232	51	U
53469-21-9	Aroclor-1242	99	
12672-29-6	Aroclor-1248	51	U
11097-69-1	Aroclor-1254	51	U
11096-82-5	Aroclor-1260	51	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-023

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-12A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6206F.D/E2N6206R.D

% Moisture: 56 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	150	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	150	U
53469-21-9	Aroclor-1242	1000	
12672-29-6	Aroclor-1248	150	U
11097-69-1	Aroclor-1254	210	P
11096-82-5	Aroclor-1260	150	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-024

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-13A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6207F.D/E2N6207R.D
% Moisture: 57 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	150	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	150	U
53469-21-9	Aroclor-1242	890	
12672-29-6	Aroclor-1248	150	U
11097-69-1	Aroclor-1254	210	
11096-82-5	Aroclor-1260	150	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-025

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-14A
 Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6595F.D/E2N6595R.D
 % Moisture: 49 Decanted: (Y/N) N Date Received: 11/18/2014
 Extraction: (Type) SONC Date Extracted: 11/18/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/10/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 20.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	1300	U
11104-28-2	Aroclor-1221	1300	U
11141-16-5	Aroclor-1232	1300	U
53469-21-9	Aroclor-1242	11000	P
12672-29-6	Aroclor-1248	1300	U
11097-69-1	Aroclor-1254	1200	PJ
11096-82-5	Aroclor-1260	1300	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-026

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-15A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6738F.D/E2N6738R.D
% Moisture: 47 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 20.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	1300	U
11104-28-2	Aroclor-1221	1300	U
11141-16-5	Aroclor-1232	1300	U
53469-21-9	Aroclor-1242	11000	P
12672-29-6	Aroclor-1248	1300	U
11097-69-1	Aroclor-1254	2600	P
11096-82-5	Aroclor-1260	1300	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-027

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-16A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6891F.D/E2N6891R.D
% Moisture: 34 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	49	U
11104-28-2	Aroclor-1221	49	U
11141-16-5	Aroclor-1232	49	U
53469-21-9	Aroclor-1242	140	
12672-29-6	Aroclor-1248	49	U
11097-69-1	Aroclor-1254	49	U
11096-82-5	Aroclor-1260	49	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-028

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-17A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N7059F.D/E2N7059R.D
% Moisture: 37 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	52	U
11104-28-2	Aroclor-1221	52	U
11141-16-5	Aroclor-1232	52	U
53469-21-9	Aroclor-1242	59	
12672-29-6	Aroclor-1248	52	U
11097-69-1	Aroclor-1254	52	U
11096-82-5	Aroclor-1260	52	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-19A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6208F.D/E2N6208R.D
% Moisture: 51 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 50.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	3300	U
11104-28-2	Aroclor-1221	3300	U
11141-16-5	Aroclor-1232	3300	U
53469-21-9	Aroclor-1242	29000	P
12672-29-6	Aroclor-1248	3300	U
11097-69-1	Aroclor-1254	4900	P
11096-82-5	Aroclor-1260	3300	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-031

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-20A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6596F.D/E2N6596R.D

% Moisture: 36 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/10/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	1100	
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	170	P
11096-82-5	Aroclor-1260	100	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-032

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-21A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6739F.D/E2N6739R.D

% Moisture: 25 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	43	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	43	U
11096-82-5	Aroclor-1260	43	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB-80987-111514-
DD-035

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: N2201-24B
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6120F.D/E2N6120R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: 11/18/2014
Extraction: (Type) SEPF Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-037

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-26A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6234F.D/E2N6234R.D
% Moisture: 60 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	420	U
11104-28-2	Aroclor-1221	420	U
11141-16-5	Aroclor-1232	420	U
53469-21-9	Aroclor-1242	3800	P
12672-29-6	Aroclor-1248	420	U
11097-69-1	Aroclor-1254	680	P
11096-82-5	Aroclor-1260	420	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-038

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-27A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6892F.D/E2N6892R.D

% Moisture: 35 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	510	U
11104-28-2	Aroclor-1221	510	U
11141-16-5	Aroclor-1232	510	U
53469-21-9	Aroclor-1242	2300	P
12672-29-6	Aroclor-1248	510	U
11097-69-1	Aroclor-1254	510	U
11096-82-5	Aroclor-1260	510	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-039

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-28A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N7060F.D/E2N7060R.D

% Moisture: 16 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-040

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-29A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6142F.D/E2N6142R.D

% Moisture: 28 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	45	U
11104-28-2	Aroclor-1221	45	U
11141-16-5	Aroclor-1232	45	U
53469-21-9	Aroclor-1242	45	U
12672-29-6	Aroclor-1248	45	U
11097-69-1	Aroclor-1254	45	U
11096-82-5	Aroclor-1260	45	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-041

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-30A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6143F.D/E2N6143R.D

% Moisture: 29 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	46	U
11104-28-2	Aroclor-1221	46	U
11141-16-5	Aroclor-1232	46	U
53469-21-9	Aroclor-1242	95	P
12672-29-6	Aroclor-1248	46	U
11097-69-1	Aroclor-1254	46	U
11096-82-5	Aroclor-1260	46	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB-80987-111514-
DD-043

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: N2201-32B
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6121F.D/E2N6121R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: 11/18/2014
Extraction: (Type) SEPF Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111614-
DD-044

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-33A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6235F.D/E2N6235R.D

% Moisture: 53 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 40.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	2800	U
11104-28-2	Aroclor-1221	2800	U
11141-16-5	Aroclor-1232	2800	U
53469-21-9	Aroclor-1242	17000	P
12672-29-6	Aroclor-1248	2800	U
11097-69-1	Aroclor-1254	3200	P
11096-82-5	Aroclor-1260	2800	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111614-
DD-045

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-34A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6576F.D/E2N6576R.D

% Moisture: 29 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/10/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
12674-11-2	Aroclor-1016	46		U
11104-28-2	Aroclor-1221	46		U
11141-16-5	Aroclor-1232	46		U
53469-21-9	Aroclor-1242	370		P
12672-29-6	Aroclor-1248	46		U
11097-69-1	Aroclor-1254	72		
11096-82-5	Aroclor-1260	46		U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111614-
DD-046

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-35A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6236F.D/E2N6236R.D

% Moisture: 47 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	310	U
11104-28-2	Aroclor-1221	310	U
11141-16-5	Aroclor-1232	310	U
53469-21-9	Aroclor-1242	3000	
12672-29-6	Aroclor-1248	310	U
11097-69-1	Aroclor-1254	540	P
11096-82-5	Aroclor-1260	310	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111614-
DD-047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-36A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6577F.D/E2N6577R.D

% Moisture: 22 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/10/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
12674-11-2	Aroclor-1016	42		U
11104-28-2	Aroclor-1221	42		U
11141-16-5	Aroclor-1232	42		U
53469-21-9	Aroclor-1242	270		
12672-29-6	Aroclor-1248	42		U
11097-69-1	Aroclor-1254	52		P
11096-82-5	Aroclor-1260	42		U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111614-
DD-048

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-37A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6237F.D/E2N6237R.D

% Moisture: 18 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	80	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	80	U
53469-21-9	Aroclor-1242	670	P
12672-29-6	Aroclor-1248	80	U
11097-69-1	Aroclor-1254	92	P
11096-82-5	Aroclor-1260	80	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111614-
DD-049

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-38A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6147F.D/E2N6147R.D

% Moisture: 15 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
12674-11-2	Aroclor-1016	38		U
11104-28-2	Aroclor-1221	38		U
11141-16-5	Aroclor-1232	38		U
53469-21-9	Aroclor-1242	38		U
12672-29-6	Aroclor-1248	38		U
11097-69-1	Aroclor-1254	38		U
11096-82-5	Aroclor-1260	38		U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111614-
DD-050

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-39A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6148F.D/E2N6148R.D

% Moisture: 19 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	220	P
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80075

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80075

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6122F.D/E2N6122R.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80076

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80076
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6138F.D/E2N6138R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80082

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-80082

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6117F.D/E2N6117R.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80075(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80075
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6123F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	130	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80075(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80075
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6123R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	140	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80076(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80076
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6139F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	97	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	110	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80076(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80076
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6139R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	110	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	110	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80082(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80082

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6118F.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.8	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.0	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80082(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80082
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6118R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.8	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.0	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80076(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80076

Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6140F.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	110	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80076(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80076
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6140R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80082(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80082

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6119F.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.4	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.0	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80082(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80082

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6119R.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
12674-11-2	Aroclor-1016	3.4	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	2.9	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-012MS(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-01AMS
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6125F.D
% Moisture: 44 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
12674-11-2	Aroclor-1016	750	
11104-28-2	Aroclor-1221	58	U
11141-16-5	Aroclor-1232	58	U
53469-21-9	Aroclor-1242	1000	E
12672-29-6	Aroclor-1248	58	U
11097-69-1	Aroclor-1254	370	
11096-82-5	Aroclor-1260	310	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-012MS(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-01AMS

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6125R.D

% Moisture: 44 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	540	
11104-28-2	Aroclor-1221	58	U
11141-16-5	Aroclor-1232	58	U
53469-21-9	Aroclor-1242	1000	E
12672-29-6	Aroclor-1248	58	U
11097-69-1	Aroclor-1254	440	
11096-82-5	Aroclor-1260	330	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-012MSD(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-01AMSD
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6126F.D
% Moisture: 44 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	710	P
11104-28-2	Aroclor-1221	58	U
11141-16-5	Aroclor-1232	58	U
53469-21-9	Aroclor-1242	900	
12672-29-6	Aroclor-1248	58	U
11097-69-1	Aroclor-1254	320	
11096-82-5	Aroclor-1260	290	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-012MSD(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-01AMSD
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6126R.D
% Moisture: 44 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/03/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	470	P
11104-28-2	Aroclor-1221	58	U
11141-16-5	Aroclor-1232	58	U
53469-21-9	Aroclor-1242	950	E
12672-29-6	Aroclor-1248	58	U
11097-69-1	Aroclor-1254	390	
11096-82-5	Aroclor-1260	300	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-030MS(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-19AMS

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6209F.D

% Moisture: 51 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	37000	P
11104-28-2	Aroclor-1221	3300	U
11141-16-5	Aroclor-1232	3300	U
53469-21-9	Aroclor-1242	25000	P
12672-29-6	Aroclor-1248	3300	U
11097-69-1	Aroclor-1254	7900	P
11096-82-5	Aroclor-1260	4100	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-030MS(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-19AMS
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6209R.D
% Moisture: 51 Decanted: (Y/N) N Date Received: 11/18/2014
Extraction: (Type) SONC Date Extracted: 11/18/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 50.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
12674-11-2	Aroclor-1016	59000	EP
11104-28-2	Aroclor-1221	3300	U
11141-16-5	Aroclor-1232	3300	U
53469-21-9	Aroclor-1242	38000	P
12672-29-6	Aroclor-1248	3300	U
11097-69-1	Aroclor-1254	4600	P
11096-82-5	Aroclor-1260	3300	J

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-030MSD(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-19AMSD

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6210F.D

% Moisture: 51 Decanted: (Y/N) N Date Received: 11/18/2014

Extraction: (Type) SONC Date Extracted: 11/18/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	41000	P
11104-28-2	Aroclor-1221	3400	U
11141-16-5	Aroclor-1232	3400	U
53469-21-9	Aroclor-1242	27000	P
12672-29-6	Aroclor-1248	3400	U
11097-69-1	Aroclor-1254	8000	P
11096-82-5	Aroclor-1260	4600	P

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111514-
DD-030MSD(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2201-19AMSD
 Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6210R.D
 % Moisture: 51 Decanted: (Y/N) N Date Received: 11/18/2014
 Extraction: (Type) SONC Date Extracted: 11/18/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 50.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
12674-11-2	Aroclor-1016	65000	EP
11104-28-2	Aroclor-1221	3400	U
11141-16-5	Aroclor-1232	3400	U
53469-21-9	Aroclor-1242	41000	P
12672-29-6	Aroclor-1248	3400	U
11097-69-1	Aroclor-1254	4700	P
11096-82-5	Aroclor-1260	2800	PJ

2Q - FORM II ARO-1
WATER AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80082	78	77	67	71			0
02	LCS-80082	78	78	69	73			0
03	LCSD-80082	76	76	79	72			0
04	EB-80987-111 514-DD-035	76	76	41	44			0
05	EB-80987-111 514-DD-043	65	65	35 *	34 *			2

TCX = Tetrachloro-m-xylene
 DCB = Decachlorobiphenyl

QC LIMITS
 (34-137)
 (40-135)

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80075	96	98	95	100			0
02	LCS-80075	102	104	106	107			0
03	SD-80987-111 514-DD-012	80	78	70	77			0
04	SD-80987-111 514-DD-012MS	102	99	93	94			0
05	SD-80987-111 514-DD-012MS D	106	104	96	95			0
06	MB-80076	91	92	87	90			0
07	LCS-80076	89	90	101	90			0
08	LCSD-80076	95	96	105	96			0
09	SD-80987-111 514-DD-040	74	71	72	69			0
10	SD-80987-111 514-DD-041	103	110	93	94			0
11	SD-80987-111 614-DD-049	79	78	82	69			0
12	SD-80987-111 614-DD-050	82	77	77	69			0
13	SD-80987-111 514-DD-023	96	90	112	97			0
14	SD-80987-111 514-DD-024	96	89	108	95			0
15	SD-80987-111 514-DD-030	0 D	0 D	0 D	0 D			4
16	SD-80987-111 514-DD-030MS	0 D	0 D	0 D	0 D			4
17	SD-80987-111 514-DD-030MS D	0 D	0 D	0 D	0 D			4

QC LIMITS

(34-147)

(60-125)

TCX = Tetrachloro-m-xylene

DCB = Decachlorobiphenyl

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
18	SD-80987-111 514-DD-017	93	86	104	96			0
19	SD-80987-111 514-DD-037	73	59	107	88			0
20	SD-80987-111 614-DD-044	0 D	0 D	0 D	0 D			4
21	SD-80987-111 614-DD-046	88	66	112	95			0
22	SD-80987-111 614-DD-048	112	77	94	85			0
23	SD-80987-111 514-DD-018	85	90	63	71			0
24	SD-80987-111 614-DD-045	84	85	54 *	65			1
25	SD-80987-111 614-DD-047	131	136	91	96			0
26	SD-80987-111 514-DD-025	821 D	80	89	100			1
27	SD-80987-111 514-DD-031	108	98	78	87			0
28	SD-80987-111 514-DD-026	119	93	103	128 D			1
29	SD-80987-111 514-DD-032	79	85	66	72			0
30	SD-80987-111 514-DD-027	90	93	56 *	75			1
31	SD-80987-111 514-DD-038	108	95	104	107			0
32	SD-80987-111 514-DD-028	108	115	98	90			0
33	SD-80987-111 514-DD-039	96	102	88	83			0

QC LIMITS

TCX = Tetrachloro-m-xylene

(34-147)

DCB = Decachlorobiphenyl

(60-125)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

som14.10.02.1616

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix Spike - EPA Sample No.: SD-80987-111514-DD-012

Instrument ID: E2 GC Column : CLPPest ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	234.5586	0.0000	749.5947	320	*	40-140
AR1260	234.5586	0.0000	314.1509	134	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	234.5586	707.6916	302	*	6		0-30	40-140
AR1260	234.5586	285.5082	122		10		0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 3 out of 4 outside limits

COMMENTS: _____

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix Spike - EPA Sample No.: SD-80987-111514-DD-012

Instrument ID: E2 GC Column : CLPPestII ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	234.5586	0.0000	543.9717	232	*	40-140
AR1260	234.5586	0.0000	325.4378	139	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	234.5586	465.2108	198	*	16		0-30	40-140
AR1260	234.5586	296.8127	127		9		0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 3 out of 4 outside limits

COMMENTS: _____

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix Spike - EPA Sample No.: SD-80987-111514-DD-030

Instrument ID: E2 GC Column : CLPPest ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	269.5804	0.0000	37340.7815	13851	*	40-140
AR1260	269.5804	0.0000	4058.2170	1505	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	273.1628	41481.1508	15186	*	9		0-30	40-140
AR1260	273.1628	4568.6646	1673	*	11		0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Matrix Spike - EPA Sample No.: SD-80987-111514-DD-030

Instrument ID: E2 GC Column : CLPPestII ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	269.5804	0.0000	58556.5265	21721	*	40-140
AR1260	269.5804	0.0000	3267.0815	1212	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	273.1628	65325.0950	23914	*	10		0-30	40-140
AR1260	273.1628	2766.9866	1013	*	18		0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80075

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab Sample ID: LCS-80075 LCS Lot No.: a094177
Date Extracted: 11/18/2014 Date Analyzed (1): 12/03/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	133.5764	100	40-140
Aroclor-1260	133.3330	134.6432	101	60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/03/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	129.4770	97	40-140
Aroclor-1260	133.3330	140.2619	105	60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80076

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab Sample ID: LCS-80076 LCS Lot No.: a094177
Date Extracted: 11/18/2014 Date Analyzed (1): 12/03/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	96.7221	73	40-140
Aroclor-1260	133.3330	109.5084	82	60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/03/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	109.9195	82	40-140
Aroclor-1260	133.3330	113.9059	85	60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80082

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab Sample ID: LCS-80082 LCS Lot No.: a094177
Date Extracted: 11/19/2014 Date Analyzed (1): 12/03/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.8496	96	25-145
Aroclor-1260	4.0000	2.9752	74	30-145

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/03/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.7977	95	25-145
Aroclor-1260	4.0000	2.9570	74	30-145

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80076

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab Sample ID: LCSD-80076 LCS Lot No.: a094177
Date Extracted: 11/18/2014 Date Analyzed (1): 12/03/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	112.1945	84	40-140	14	30
Aroclor-1260	133.3330	122.3215	92	60-130	11	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/03/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	120.1876	90	40-140	9.0	30
Aroclor-1260	133.3330	123.2012	92	60-130	8.0	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 0 out of 4 outside limits.

COMMENTS:

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80082

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab Sample ID: LCSD-80082 LCS Lot No.: a094177
Date Extracted: 11/19/2014 Date Analyzed (1): 12/03/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.4189	85	25-145	12	30
Aroclor-1260	4.0000	3.0292	76	30-145	3.0	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/03/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.4441	86	25-145	10	30
Aroclor-1260	4.0000	2.9383	73	30-145	1.0	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 0 out of 4 outside limits.

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80082

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab File ID: E2N6117F.D / E2N6117R.D Lab Sample ID: MB-80082
Matrix: (SOIL/SED/WATER) WATER Extraction: (Type) SEPF Date Extracted: 11/19/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/03/2014 Date Analyzed (2): 12/03/2014
Time Analyzed (1): 14:47 Time Analyzed (2): 14:47
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80082	LCS-80082	12/03/2014	12/03/2014
02	LCSD-80082	LCSD-80082	12/03/2014	12/03/2014
03	EB-80987-111 514-DD-035	N2201-24B	12/03/2014	12/03/2014
04	EB-80987-111 514-DD-043	N2201-32B	12/03/2014	12/03/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80075

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Lab File ID: E2N6122F.D / E2N6122R.D Lab Sample ID: MB-80075

Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/18/2014

Sulfur Cleanup: (Y/N) Y GPC Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

Date Analyzed (1): 12/03/2014 Date Analyzed (2): 12/03/2014

Time Analyzed (1): 16:01 Time Analyzed (2): 16:01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80075	LCS-80075	12/03/2014	12/03/2014
02	SD-80987-111 514-DD-012	N2201-01A	12/03/2014	12/03/2014
03	SD-80987-111 514-DD-012MS	N2201-01AMS	12/03/2014	12/03/2014
04	SD-80987-111 514-DD-012MS D	N2201-01AMSD	12/03/2014	12/03/2014
05	SD-80987-111 514-DD-023	N2201-12A	12/04/2014	12/04/2014
06	SD-80987-111 514-DD-024	N2201-13A	12/04/2014	12/04/2014
07	SD-80987-111 514-DD-030	N2201-19A	12/04/2014	12/04/2014
08	SD-80987-111 514-DD-030MS	N2201-19AMS	12/04/2014	12/04/2014
09	SD-80987-111 514-DD-030MS D	N2201-19AMSD	12/04/2014	12/04/2014
10	SD-80987-111 514-DD-017	N2201-06A	12/04/2014	12/04/2014
11	SD-80987-111 514-DD-018	N2201-07A	12/09/2014	12/09/2014
12	SD-80987-111 514-DD-025	N2201-14A	12/10/2014	12/10/2014
13	SD-80987-111 514-DD-031	N2201-20A	12/10/2014	12/10/2014

COMMENTS:

4F - FORM IV ARO
AROCOLOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80075

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab File ID: E2N6122F.D / E2N6122R.D Lab Sample ID: MB-80075
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/18/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/03/2014 Date Analyzed (2): 12/03/2014
Time Analyzed (1): 16:01 Time Analyzed (2): 16:01
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
14	SD-80987-111 514-DD-026	N2201-15A	12/12/2014	12/12/2014
15	SD-80987-111 514-DD-027	N2201-16A	12/17/2014	12/17/2014
16	SD-80987-111 514-DD-028	N2201-17A	12/22/2014	12/22/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80076

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201

Lab File ID: E2N6138F.D / E2N6138R.D Lab Sample ID: MB-80076

Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/18/2014

Sulfur Cleanup: (Y/N) Y GPC Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

Date Analyzed (1): 12/03/2014 Date Analyzed (2): 12/03/2014

Time Analyzed (1): 19:57 Time Analyzed (2): 19:57

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80076	LCS-80076	12/03/2014	12/03/2014
02	LCSD-80076	LCSD-80076	12/03/2014	12/03/2014
03	SD-80987-111 514-DD-040	N2201-29A	12/03/2014	12/03/2014
04	SD-80987-111 514-DD-041	N2201-30A	12/03/2014	12/03/2014
05	SD-80987-111 614-DD-049	N2201-38A	12/03/2014	12/03/2014
06	SD-80987-111 614-DD-050	N2201-39A	12/03/2014	12/03/2014
07	SD-80987-111 514-DD-037	N2201-26A	12/04/2014	12/04/2014
08	SD-80987-111 614-DD-044	N2201-33A	12/04/2014	12/04/2014
09	SD-80987-111 614-DD-046	N2201-35A	12/04/2014	12/04/2014
10	SD-80987-111 614-DD-048	N2201-37A	12/04/2014	12/04/2014
11	SD-80987-111 614-DD-045	N2201-34A	12/10/2014	12/10/2014
12	SD-80987-111 614-DD-047	N2201-36A	12/10/2014	12/10/2014
13	SD-80987-111 514-DD-032	N2201-21A	12/12/2014	12/12/2014
14	SD-80987-111 514-DD-038	N2201-27A	12/17/2014	12/17/2014

COMMENTS:

4F - FORM IV ARO
AROCOLOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80076

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2201 Mod. Ref No.: _____ SDG No.: SN2201
Lab File ID: E2N6138F.D / E2N6138R.D Lab Sample ID: MB-80076
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/18/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/03/2014 Date Analyzed (2): 12/03/2014
Time Analyzed (1): 19:57 Time Analyzed (2): 19:57
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
15	SD-80987-111 514-DD-039	N2201-28A	12/22/2014	12/22/2014

COMMENTS:



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** Wet Chemistry ***

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SB99974

Client: Spectrum Analytical, Inc. - North Kingstown, RI

Project: Friedrichsohn Cooperage Site / N2201

SDG #: 99974

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1428033: The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

D. Duplicates:

A duplicate was analyzed.

In batch 1428033 from source sample SD-80987-111514-DD-036 (SB99974-03).

All method criteria were met.

E. Samples:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1428033, sample SD-80987-111514-DD-036 (SB99974-03): This sample was analyzed in quadruplicate. The % RSD is 14.44799.

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SB99974

Client: Spectrum Analytical, Inc. - North Kingstown, RI

Project: Friedrichsohn Cooperage Site / N2201

SDG #: 99974

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to SM 5310B.

IV. PREPARATION

Aqueous samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze SM 5310B:

TOC1 details: Teledyne Tekmar Apollo 9000

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1427936: The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met.

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

SD-80987-111514-DD-034

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
 Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
 Project Number: N2201 Received: 11/18/14 15:40
 Matrix: Soil Laboratory ID: SB99974-01 File ID: 11251130
 Sampled: 11/15/14 11:55 Prepared: 11/25/14 10:00 Analyzed: 11/25/14 11:39
 % Solids: Preparation: General Preparation Initial/Final: 0.0031 g / 1 ml
 Batch: 1428033 Sequence: S413552 Calibration: 1405043
 Instrument: TOC2
 Reported to: MRL

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	86700	1	579	1290	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

SD-80987-111514-DD-036

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
 Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
 Project Number: N2201 Received: 11/18/14 15:40
 Matrix: Soil Laboratory ID: SB99974-03 File ID: 11251148
 Sampled: 11/15/14 13:20 Prepared: 11/25/14 10:00 Analyzed: 11/25/14 11:56
 % Solids: Preparation: General Preparation Initial/Final: 0.0107 g / 1 ml
 Batch: 1428033 Sequence: S413552 Calibration: 1405043
 Instrument: TOC2
 Reported to: MRL

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	16100	1	168	374	

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

SD-80987-111614-DD-051

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
 Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
 Project Number: N2201 Received: 11/18/14 15:40
 Matrix: Soil Laboratory ID: SB99974-05 File ID: 11251219
 Sampled: 11/16/14 13:10 Prepared: 11/25/14 10:00 Analyzed: 11/25/14 12:25
 % Solids: Preparation: General Preparation Initial/Final: 0.0132 g / 1 ml
 Batch: 1428033 Sequence: S413552 Calibration: 1405043
 Instrument: TOC2
 Reported to: MRL

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	3170	1	136	303	

FORM I - INORGANIC ANALYSIS DATA SHEET
SM 5310B

EB-80987-111514-DD-035

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
Project Number: N2201 Received: 11/18/14 15:40
Matrix: Aqueous Laboratory ID: SB99974-02 File ID: 11241018-027
Sampled: 11/15/14 12:00 Prepared: 11/24/14 10:00 Analyzed: 11/24/14 21:07
% Solids: Preparation: General Preparation Initial/Final: 40 ml / 40 ml
Batch: 1427936 Sequence: S413536 Calibration: 1408052
Instrument: TOC1
Reported to: MRL

CAS NO.	Analyte	Result (mg/l)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	0.423	1	0.283	1.00	J

FORM I - INORGANIC ANALYSIS DATA SHEET
SM 5310B

EB-80987-111514-DD-043

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
Project Number: N2201 Received: 11/18/14 15:40
Matrix: Aqueous Laboratory ID: SB99974-04 File ID: 11241018-028
Sampled: 11/15/14 14:45 Prepared: 11/24/14 10:00 Analyzed: 11/24/14 21:31
% Solids: Preparation: General Preparation Initial/Final: 40 ml / 40 ml
Batch: 1427936 Sequence: S413536 Calibration: 1408052
Instrument: TOC1
Reported to: MRL

CAS NO.	Analyte	Result (mg/l)	Dilution Factor	MDL	MRL	Q
NA	Total Organic Carbon	1.72	1	0.283	1.00	



SPECTRUM ANALYTICAL, INC.

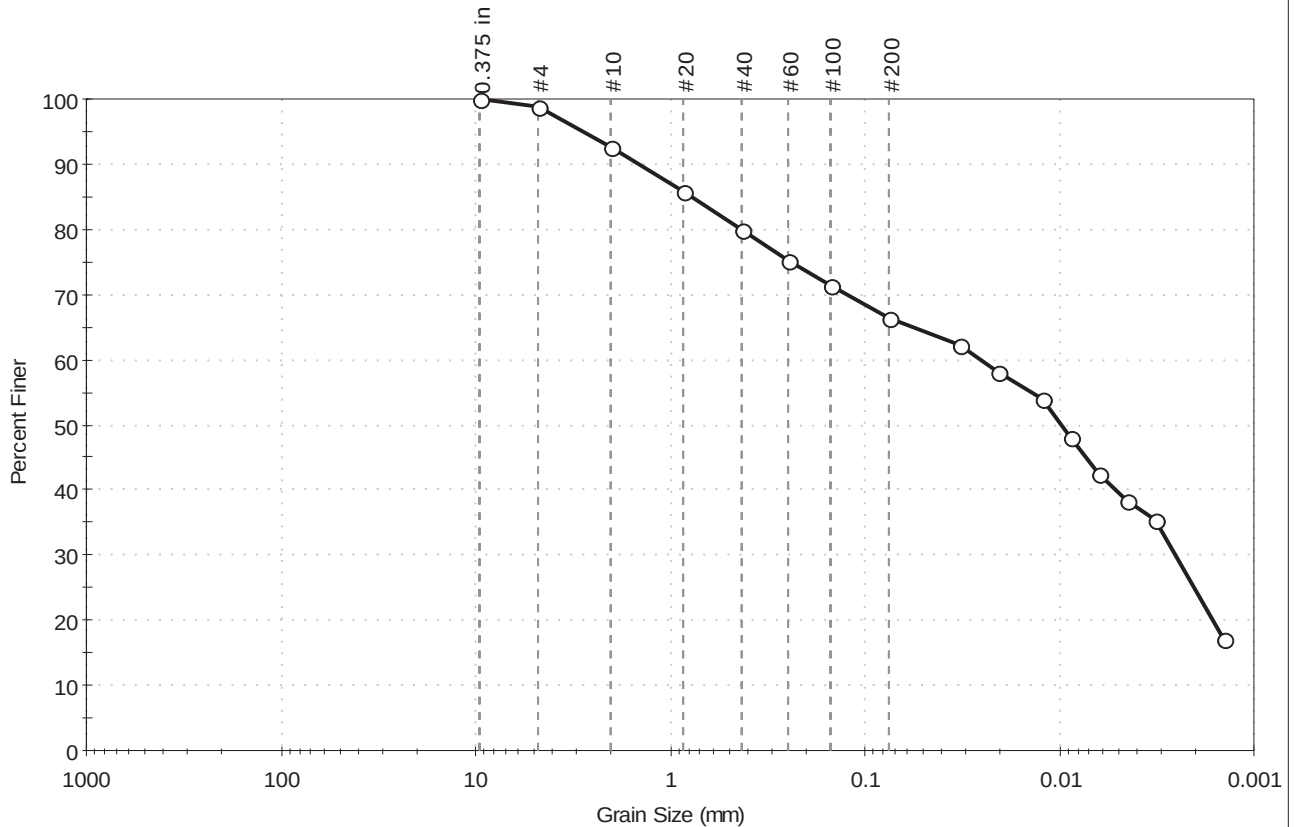
Featuring

HANIBAL TECHNOLOGY

*** Wet Chemistry ***

Client:	Spectrum Analytical, Inc.	Project No:	GTX-302575
Project:	Friedrichsohn Cooperage Site	Tested By:	jbr
Location:	---	Checked By:	emm
Boring ID:	SD-80987	Sample Type:	jar
Sample ID:	111514-DD-034	Test Date:	11/26/14
Depth:	---	Test Id:	315449
Test Comment:	---		
Sample Description:	Moist, very dark gray sandy silt		
Sample Comment:	---		

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	1.3	32.5	66.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	93		
#20	0.85	86		
#40	0.42	80		
#60	0.25	75		
#100	0.15	71		
#200	0.075	66		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0328	62		
---	0.0209	58		
---	0.0122	54		
---	0.0087	48		
---	0.0062	43		
---	0.0045	38		
---	0.0032	35		
---	0.0014	17		

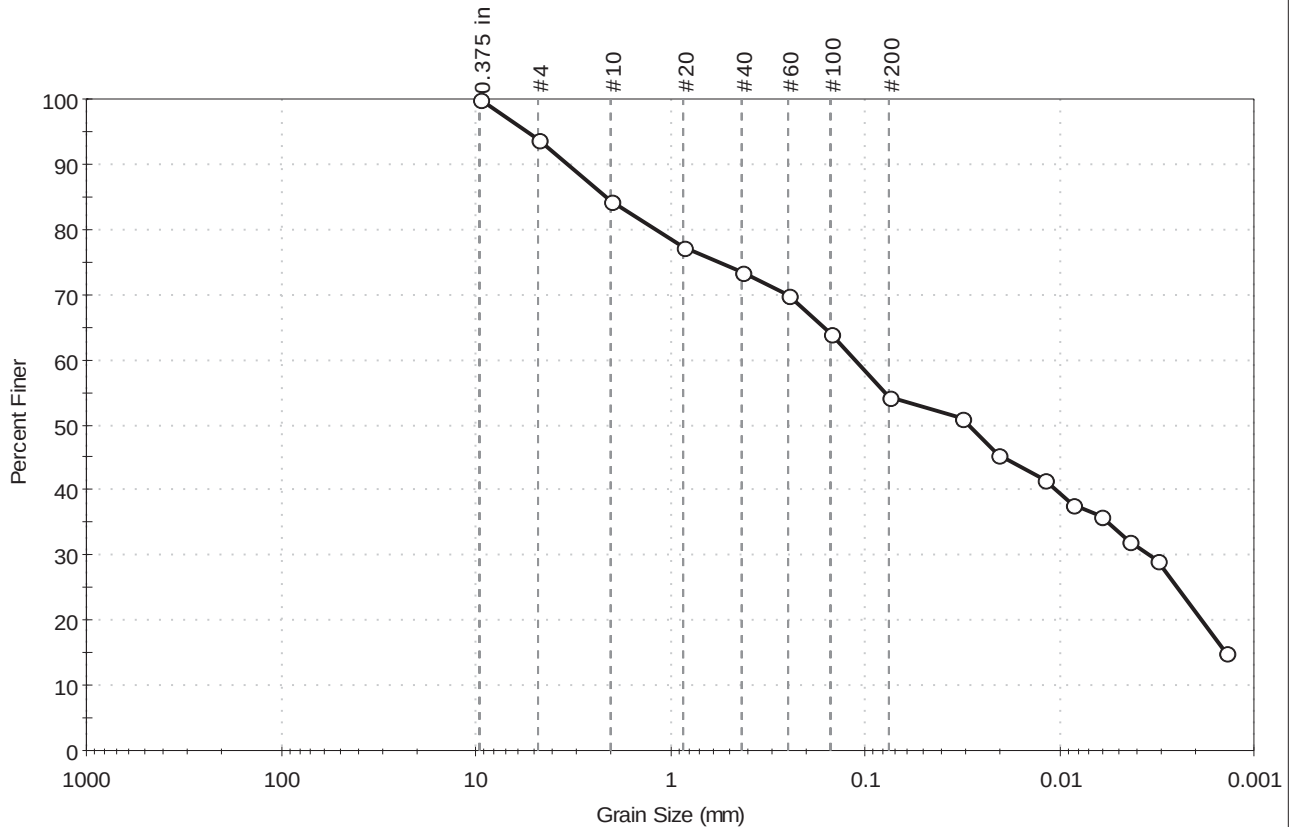
Coefficients	
D ₈₅ = 0.7803 mm	D ₃₀ = 0.0025 mm
D ₆₀ = 0.0255 mm	D ₁₅ = N/A
D ₅₀ = 0.0097 mm	D ₁₀ = N/A
C _u = N/A	C _c = N/A

Classification	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

Sample / Test Description	
Sand/Gravel Particle Shape	: ROUNDED
Sand/Gravel Hardness	: HARD
Dispersion Device	: Apparatus A - Mech Mixer
Dispersion Period	: 1 minute
Specific Gravity	: 2.65
Separation of Sample	: #200 Sieve

Client:	Spectrum Analytical, Inc.	Project No:	GTX-302575
Project:	Friedrichsohn Cooperage Site	Tested By:	jbr
Location:	---	Checked By:	emm
Boring ID:	SD-80987	Sample Type:	jar
Sample ID:	111514-DD-036	Test Date:	11/26/14
Depth:	---	Test Id:	315450
Test Comment:	---		
Sample Description:	Moist, olive gray sandy silt		
Sample Comment:	---		

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	6.2	39.5	54.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	94		
#10	2.00	84		
#20	0.85	77		
#40	0.42	73		
#60	0.25	70		
#100	0.15	64		
#200	0.075	54		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0316	51		
---	0.0205	45		
---	0.0120	42		
---	0.0086	38		
---	0.0061	36		
---	0.0044	32		
---	0.0031	29		
---	0.0014	15		

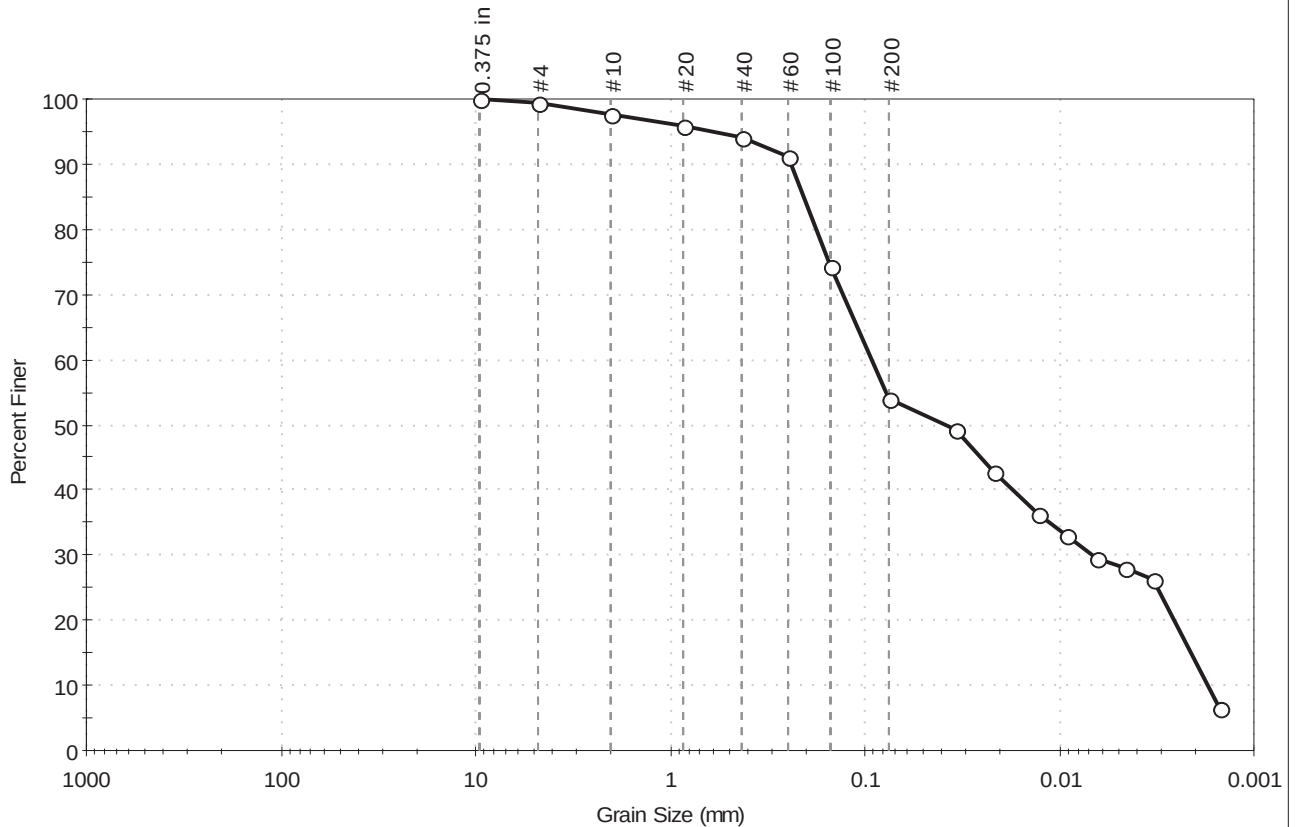
Coefficients	
D ₈₅ = 2.1309 mm	D ₃₀ = 0.0034 mm
D ₆₀ = 0.1125 mm	D ₁₅ = N/A
D ₅₀ = 0.0291 mm	D ₁₀ = N/A
C _u = N/A	C _c = N/A

Classification	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

Sample / Test Description	
Sand/Gravel Particle Shape	: ROUNDED
Sand/Gravel Hardness	: HARD
Dispersion Device	: Apparatus A - Mech Mixer
Dispersion Period	: 1 minute
Specific Gravity	: 2.65
Separation of Sample	: #200 Sieve

Client:	Spectrum Analytical, Inc.	Project No:	GTX-302575
Project:	Friedrichsohn Cooperage Site	Tested By:	jbr
Location:	---	Checked By:	emm
Boring ID:	SD-80987	Sample Type:	jar
Sample ID:	111614-DD-051	Test Date:	11/26/14
Depth:	---	Test Id:	315451
Test Comment:	---		
Sample Description:	Moist, dark olive gray sandy silt		
Sample Comment:	---		

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.6	45.5	53.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	98		
#20	0.85	96		
#40	0.42	94		
#60	0.25	91		
#100	0.15	74		
#200	0.075	54		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0344	49		
---	0.0218	43		
---	0.0129	36		
---	0.0091	33		
---	0.0065	30		
---	0.0046	28		
---	0.0033	26		
---	0.0015	7		

Coefficients

D ₈₅ = 0.2070 mm	D ₃₀ = 0.0067 mm
D ₆₀ = 0.0924 mm	D ₁₅ = 0.0021 mm
D ₅₀ = 0.0382 mm	D ₁₀ = 0.0017 mm
C _u = 54.353	C _c = 0.286

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---
 Sand/Gravel Hardness : ---
 Dispersion Device : Apparatus A - Mech Mixer
 Dispersion Period : 1 minute
 Specific Gravity : 2.65
 Separation of Sample: #200 Sieve

Report Date:
31-Dec-14 08:39



☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2217
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
N2217-01	SD-80987-111814-DD-052	Soil	18-Nov-14 08:00	19-Nov-14 10:15
N2217-02	SD-80987-111814-DD-053	Soil	18-Nov-14 08:05	19-Nov-14 10:15
N2217-03	SD-80987-111814-DD-054	Soil	18-Nov-14 08:35	19-Nov-14 10:15
N2217-04	SD-80987-111814-DD-055	Soil	18-Nov-14 09:15	19-Nov-14 10:15
N2217-05	SD-80987-111814-DD-056	Soil	18-Nov-14 09:20	19-Nov-14 10:15
N2217-06	SD-80987-111814-DD-057	Soil	18-Nov-14 09:30	19-Nov-14 10:15
N2217-07	SD-80987-111814-DD-058	Soil	18-Nov-14 09:35	19-Nov-14 10:15
N2217-08	SD-80987-111814-DD-059	Soil	18-Nov-14 09:40	19-Nov-14 10:15
N2217-09	SD-80987-111814-DD-060	Soil	18-Nov-14 09:45	19-Nov-14 10:15
N2217-10	SD-80987-111814-DD-061	Soil	18-Nov-14 10:20	19-Nov-14 10:15
N2217-11	SD-80987-111814-DD-062	Soil	18-Nov-14 10:25	19-Nov-14 10:15
N2217-12	SD-80987-111814-DD-063	Soil	18-Nov-14 10:30	19-Nov-14 10:15
N2217-13	SD-80987-111814-DD-064	Soil	18-Nov-14 10:40	19-Nov-14 10:15
N2217-14	EB-80987-111814-DD-065	Aqueous	18-Nov-14 10:45	19-Nov-14 10:15
N2217-15	SD-80987-111814-DD-066	Soil	18-Nov-14 10:55	19-Nov-14 10:15
N2217-16	SD-80987-111814-DD-067	Soil	18-Nov-14 11:00	19-Nov-14 10:15
N2217-17	SD-80987-111814-DD-068	Soil	18-Nov-14 11:05	19-Nov-14 10:15
N2217-18	SD-80987-111814-DD-069	Soil	18-Nov-14 11:10	19-Nov-14 10:15
N2217-19	SD-80987-111814-DD-070	Soil	18-Nov-14 13:00	19-Nov-14 10:15
N2217-20	SD-80987-111814-DD-071	Soil	18-Nov-14 13:05	19-Nov-14 10:15
N2217-21	SD-80987-111814-DD-072	Soil	18-Nov-14 13:10	19-Nov-14 10:15
N2217-22	SD-80987-111814-DD-073	Soil	18-Nov-14 13:15	19-Nov-14 10:15
N2217-23	SD-80987-111814-DD-074	Soil	18-Nov-14 13:30	19-Nov-14 10:15
N2217-24	SD-80987-111814-DD-075	Soil	18-Nov-14 13:35	19-Nov-14 10:15
N2217-25	SD-80987-111814-DD-076	Soil	18-Nov-14 13:40	19-Nov-14 10:15
N2217-26	SD-80987-111814-DD-077	Soil	18-Nov-14 13:45	19-Nov-14 10:15
N2217-27	SD-80987-111814-DD-078	Soil	18-Nov-14 13:55	19-Nov-14 10:15
N2217-28	SD-80987-111814-DD-079	Soil	18-Nov-14 14:20	19-Nov-14 10:15
N2217-29	EB-80987-111814-DD-080	Aqueous	18-Nov-14 14:40	19-Nov-14 10:15

Report Date:
31-Dec-14 08:39



- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2217
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>

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 requirements have been met.

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
Rhode Island	LA100301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033



Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** Data Summary Pack ***

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2217

Client ID: CRA

Case:

HC Due: 12/01/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J". Samples 03 and 28 taken off hold per client request 11/24, samples 01,04,06,10,11,15,19 and 23 taken off hold per client request 11/26

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2217-01A	SD-80987-111814-DD-052	11/18/2014 08:00	11/19/2014	Soil	PMoist	/					D4
N2217-01A	SD-80987-111814-DD-052	11/18/2014 08:00	11/19/2014	Soil	SW8082_S	/					D4
N2217-02A	SD-80987-111814-DD-053	11/18/2014 08:05	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-02A	SD-80987-111814-DD-053	11/18/2014 08:05	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-03A	SD-80987-111814-DD-054	11/18/2014 08:35	11/19/2014	Soil	PMoist	/					D4
N2217-03A	SD-80987-111814-DD-054	11/18/2014 08:35	11/19/2014	Soil	SW8082_S	/					D4
N2217-04A	SD-80987-111814-DD-055	11/18/2014 09:15	11/19/2014	Soil	PMoist	/			Y		D4
N2217-04A	SD-80987-111814-DD-055	11/18/2014 09:15	11/19/2014	Soil	SW8082_S	/			Y		D4
N2217-05A	SD-80987-111814-DD-056	11/18/2014 09:20	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-05A	SD-80987-111814-DD-056	11/18/2014 09:20	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-06A	SD-80987-111814-DD-057	11/18/2014 09:30	11/19/2014	Soil	PMoist	/					D4
N2217-06A	SD-80987-111814-DD-057	11/18/2014 09:30	11/19/2014	Soil	SW8082_S	/					D4
N2217-07A	SD-80987-111814-DD-058	11/18/2014 09:35	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-07A	SD-80987-111814-DD-058	11/18/2014 09:35	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-08A	SD-80987-111814-DD-059	11/18/2014 09:40	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-08A	SD-80987-111814-DD-059	11/18/2014 09:40	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-09A	SD-80987-111814-DD-060	11/18/2014 09:45	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-09A	SD-80987-111814-DD-060	11/18/2014 09:45	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-10A	SD-80987-111814-DD-061	11/18/2014 10:20	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /					D4
N2217-10A	SD-80987-111814-DD-061	11/18/2014 10:20	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /					D4
N2217-11A	SD-80987-111814-DD-062	11/18/2014 10:25	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /					D4

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

HT = Test logged in but has been placed on hold

12/02/2014 13:54

Lab Client Rep: Agnes R Huntley

Page 01 of 03

N2217

Page 1 of 85

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2217

Client ID: CRA

Case:

HC Due: 12/01/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J". Samples 03 and 28 taken off hold per client request 11/24, samples 01,04,06,10,11,15,19 and 23 taken off hold per client request 11/26

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2217-11A	SD-80987-111814-DD-062	11/18/2014 10:25	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /					D4
N2217-12A	SD-80987-111814-DD-063	11/18/2014 10:30	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-12A	SD-80987-111814-DD-063	11/18/2014 10:30	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-13A	SD-80987-111814-DD-064	11/18/2014 10:40	11/19/2014	Soil	ASTMD5321_S	/ GEO--Sub to GeoTesting					SUB
N2217-13B	SD-80987-111814-DD-064	11/18/2014 10:40	11/19/2014	Soil	LK_TOC_S	/ SPECTRUM--Sub to Agawam					SUB
N2217-14A	EB-80987-111814-DD-065	11/18/2014 10:45	11/19/2014	Aqueous	SM5310B_TOC_W	/ SPECTRUM--Sub to Agawam					SUB
N2217-14B	EB-80987-111814-DD-065	11/18/2014 10:45	11/19/2014	Aqueous	SW8082_W	/					D4
N2217-15A	SD-80987-111814-DD-066	11/18/2014 10:55	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /					D4
N2217-15A	SD-80987-111814-DD-066	11/18/2014 10:55	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /					D4
N2217-16A	SD-80987-111814-DD-067	11/18/2014 11:00	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-16A	SD-80987-111814-DD-067	11/18/2014 11:00	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-17A	SD-80987-111814-DD-068	11/18/2014 11:05	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-17A	SD-80987-111814-DD-068	11/18/2014 11:05	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-18A	SD-80987-111814-DD-069	11/18/2014 11:10	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-18A	SD-80987-111814-DD-069	11/18/2014 11:10	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-19A	SD-80987-111814-DD-070	11/18/2014 13:00	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /			Y		D4
N2217-19A	SD-80987-111814-DD-070	11/18/2014 13:00	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /			Y		D4
N2217-20A	SD-80987-111814-DD-071	11/18/2014 13:05	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-20A	SD-80987-111814-DD-071	11/18/2014 13:05	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-21A	SD-80987-111814-DD-072	11/18/2014 13:10	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4

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

HT = Test logged in but has been placed on hold

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2217

Client ID: CRA

Case:

HC Due: 12/01/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4073689

Comments: Report "J". Samples 03 and 28 taken off hold per client request 11/24, samples 01,04,06,10,11,15,19 and 23 taken off hold per client request 11/26

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2217-21A	SD-80987-111814-DD-072	11/18/2014 13:10	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-22A	SD-80987-111814-DD-073	11/18/2014 13:15	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-22A	SD-80987-111814-DD-073	11/18/2014 13:15	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-23A	SD-80987-111814-DD-074	11/18/2014 13:30	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /					D4
N2217-23A	SD-80987-111814-DD-074	11/18/2014 13:30	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /					D4
N2217-24A	SD-80987-111814-DD-075	11/18/2014 13:35	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-24A	SD-80987-111814-DD-075	11/18/2014 13:35	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-25A	SD-80987-111814-DD-076	11/18/2014 13:40	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-25A	SD-80987-111814-DD-076	11/18/2014 13:40	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-26A	SD-80987-111814-DD-077	11/18/2014 13:45	11/19/2014	Soil	PMoist	EXTRACT AND HOLD /		Y			D4
N2217-26A	SD-80987-111814-DD-077	11/18/2014 13:45	11/19/2014	Soil	SW8082_S	EXTRACT AND HOLD /		Y			D4
N2217-27A	SD-80987-111814-DD-078	11/18/2014 13:55	11/19/2014	Soil	ASTMD5321_S	/ GEO--Sub to GeoTesting					SUB
N2217-27B	SD-80987-111814-DD-078	11/18/2014 13:55	11/19/2014	Soil	LK_TOC_S	/ SPECTRUM--Sub to Agawam					SUB
N2217-28A	SD-80987-111814-DD-079	11/18/2014 14:20	11/19/2014	Soil	PMoist	/					D4
N2217-28A	SD-80987-111814-DD-079	11/18/2014 14:20	11/19/2014	Soil	SW8082_S	/					D4
N2217-29A	EB-80987-111814-DD-080	11/18/2014 14:40	11/19/2014	Aqueous	SM5310B_TOC_W	/ SPECTRUM--Sub to Agawam					SUB
N2217-29B	EB-80987-111814-DD-080	11/18/2014 14:40	11/19/2014	Aqueous	SW8082_W	/					D4

F = 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

*** PCB Organics ***

REPORT NARRATIVE

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

Client : Conestoga-Rovers & Associates

Project: Friedrichsohn Cooperage Site

Laboratory Workorder / SDG #: N2217

SW846 8082A, PCB by GC-ECD

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 8082A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510C
Soil Samples were prepared following procedures in laboratory test code: SW3550B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E2
Instrument Type: GC-ECD

Description: HP5890 II +
Manufacturer: Hewlett-Packard
Model: 5890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest
capillary column.
GC Column used: 30 m X 0.53 mm ID [0.42 um thickness] CLPPestII
capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

SD-80987-111814-DD-052 (N2217-01A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-053 (N2217-02A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-055 (N2217-04A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-055 (N2217-04AMS) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl

on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-055 (N2217-04AMSD) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-056 (N2217-05A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-057 (N2217-06A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-058 (N2217-07A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-059 (N2217-08A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Tetrachloro-m-xylene on front column at 249% with criteria of (34-147).

SD-80987-111814-DD-061 (N2217-10A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-062 (N2217-11A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl

on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-063 (N2217-12A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-070 (N2217-19A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-070 (N2217-19AMS) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-070 (N2217-19AMSD) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-071 (N2217-20A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-072 (N2217-21A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-073 (N2217-22A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-074 (N2217-23A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-076 (N2217-25A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 125% with criteria of (60-125), Decachlorobiphenyl on front column at 132% with criteria of (60-125) and Tetrachloro-m-xylene on front column at 289% with criteria of (34-147).

SD-80987-111814-DD-077 (N2217-26A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111814-DD-079 (N2217-28A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 240% with criteria of (60-125), recovery is below criteria for and Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147).

EB-80987-111814-DD-080 (N2217-29B), recovery is below criteria for Decachlorobiphenyl on rear column at 39% with criteria of (40-135).

D. Spikes:

1. Laboratory Control Spikes (LCS):

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

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: SD-80987-111814-DD-

055 (N2217-04AMS), SD-80987-111814-DD-055 (N2217-04AMSD), SD-80987-111814-DD-070 (N2217-19AMS) and SD-80987-111814-DD-070 (N2217-19AMSD).

Please note due to the dilution factors the MS/MSD recoveries are out of QC limits.

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

SD-80987-111814-DD-055 (N2217-04AMS), recovery is below criteria for Aroclor-1016 on rear column at 0% with criteria of (40-140), Aroclor-1016 on front column at 0% with criteria of (40-140), Aroclor-1260 on rear column at 0% with criteria of (60-130) and Aroclor-1260 on front column at 0% with criteria of (60-130).

SD-80987-111814-DD-055 (N2217-04AMSD), recovery is below criteria for Aroclor-1016 on rear column at 0% with criteria of (40-140), Aroclor-1016 on front column at 0% with criteria of (40-140), Aroclor-1260 on rear column at 0% with criteria of (60-130) and Aroclor-1260 on front column at 0% with criteria of (60-130).

SD-80987-111814-DD-070 (N2217-19AMS), recovery is below criteria for Aroclor-1016 on rear column at 0% with criteria of (40-140), Aroclor-1016 on front column at 0% with criteria of (40-140), Aroclor-1260 on rear column at 0% with criteria of (60-130) and Aroclor-1260 on front column at 0% with criteria of (60-130).

SD-80987-111814-DD-070 (N2217-19AMSD), recovery is below criteria for Aroclor-1016 on rear column at 0% with criteria of (40-140), Aroclor-1016 on front column at 0% with criteria of (40-140), Aroclor-1260 on rear column at 0% with criteria of (60-130) and Aroclor-1260 on front column at 0% with criteria of (60-130).

Replicate RPDs were within the advisory QC limits.

E. Dilutions:

The following samples were analyzed at dilution:

SD-80987-111814-DD-052 (N2217-01A) : Dilution Factor: 5000
SD-80987-111814-DD-053 (N2217-02A) : Dilution Factor: 100
SD-80987-111814-DD-055 (N2217-04A) : Dilution Factor: 200
SD-80987-111814-DD-055 (N2217-04AMS) : Dilution Factor: 200
SD-80987-111814-DD-055 (N2217-04AMSD) : Dilution Factor: 200
SD-80987-111814-DD-056 (N2217-05A) : Dilution Factor: 500
SD-80987-111814-DD-057 (N2217-06A) : Dilution Factor: 10000

SD-80987-111814-DD-058 (N2217-07A) : Dilution Factor: 200
 SD-80987-111814-DD-059 (N2217-08A) : Dilution Factor: 10
 SD-80987-111814-DD-061 (N2217-10A) : Dilution Factor: 100
 SD-80987-111814-DD-062 (N2217-11A) : Dilution Factor: 100
 SD-80987-111814-DD-063 (N2217-12A) : Dilution Factor: 100
 SD-80987-111814-DD-070 (N2217-19A) : Dilution Factor: 500
 SD-80987-111814-DD-070 (N2217-19AMS) : Dilution Factor: 500
 SD-80987-111814-DD-070 (N2217-19AMSD) : Dilution Factor: 500
 SD-80987-111814-DD-071 (N2217-20A) : Dilution Factor: 200000
 SD-80987-111814-DD-072 (N2217-21A) : Dilution Factor: 1000
 SD-80987-111814-DD-073 (N2217-22A) : Dilution Factor: 10000
 SD-80987-111814-DD-074 (N2217-23A) : Dilution Factor: 1000
 SD-80987-111814-DD-075 (N2217-24A) : Dilution Factor: 20
 SD-80987-111814-DD-076 (N2217-25A) : Dilution Factor: 20
 SD-80987-111814-DD-077 (N2217-26A) : Dilution Factor: 100
 SD-80987-111814-DD-079 (N2217-28A) : Dilution Factor: 25

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

G. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or falling baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The following samples were manually integrated:

AR12326M2 Aroclor-1232 on rear column due to M3

AR12422N2 Aroclor-1242 on rear column due to M3

AR12423MN Decachlorobiphenyl on front column due to M3

AR12423N2 Aroclor-1242 on rear column due to M3

AR12423NT Aroclor-1242 on rear column due to M3

AR12423NU Aroclor-1242 on rear column due to M3

AR12423NV Aroclor-1242 on rear column due to M3

AR12423NW Aroclor-1242 on rear column due to M3

AR12425M2 Aroclor-1242 on front column due to M3

AR12483MN Decachlorobiphenyl on front column due to M3

AR12485M2 Aroclor-1248 on front column due to M3

AR12543MN Aroclor-1254 on front column , Decachlorobiphenyl on front column due to M3

AR16603MN Decachlorobiphenyl on front column , Aroclor-1260 on rear column , Decachlorobiphenyl on rear column due to M3

AR16603NH Aroclor-1016 on front column due to M2

AR16603NJ Aroclor-1016 on front column due to M3

AR16603NK Aroclor-1260 on front column due to M3

AR16603NT Aroclor-1016 on front column due to M3

SD-80987-111814-DD-052 (N2217-01A) Aroclor-1242 on rear column , Aroclor-1242 on front column due to M3

SD-80987-111814-DD-055 (N2217-04A) Aroclor-1242 on front column due to M3

SD-80987-111814-DD-055 (N2217-04AMS) Aroclor-1242 on rear column , Aroclor-1242 on front column due to M3

SD-80987-111814-DD-055 (N2217-04AMSD) Aroclor-1242 on front column due to M3

SD-80987-111814-DD-056 (N2217-05A) Aroclor-1242 on rear column due to M3

SD-80987-111814-DD-058 (N2217-07A) Aroclor-1242 on rear column due to M3

SD-80987-111814-DD-059 (N2217-08A) Aroclor-1242 on front column due to M3

SD-80987-111814-DD-071 (N2217-20A) Aroclor-1242 on rear column due to M3

SD-80987-111814-DD-074 (N2217-23A) Aroclor-1242 on rear column , Aroclor-1242 on front column due to M3

SD-80987-111814-DD-075 (N2217-24A) Aroclor-1242 on rear column , Tetrachloro-m-xylene on rear column due to M3

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.

A handwritten signature in black ink, appearing to be 'J. H. P.', written over a horizontal line.

Signed:_____

Date:_____12/30/2014_____



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 1 of 2):

- 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 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 an aldol condensation by-product.



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 2 of 2):

- 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.
- L NYSDEC qualifier: Result is biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.



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

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-052

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-01A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6527F.D/E2N6527R.D

% Moisture: 46 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	300000	U
11104-28-2	Aroclor-1221	300000	U
11141-16-5	Aroclor-1232	300000	U
53469-21-9	Aroclor-1242	3200000	P
12672-29-6	Aroclor-1248	300000	U
11097-69-1	Aroclor-1254	300000	U
11096-82-5	Aroclor-1260	300000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-053

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-02A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6740F.D/E2N6740R.D
% Moisture: 27 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 100.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	4500	U
11104-28-2	Aroclor-1221	4500	U
11141-16-5	Aroclor-1232	4500	U
53469-21-9	Aroclor-1242	32000	P
12672-29-6	Aroclor-1248	4500	U
11097-69-1	Aroclor-1254	6800	P
11096-82-5	Aroclor-1260	4500	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-054

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-03A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6163F.D/E2N6163R.D
% Moisture: 19 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	120	
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-055

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-04A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6528F.D/E2N6528R.D
% Moisture: 19 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	8000	U
11104-28-2	Aroclor-1221	8000	U
11141-16-5	Aroclor-1232	8000	U
53469-21-9	Aroclor-1242	28000	P
12672-29-6	Aroclor-1248	8000	U
11097-69-1	Aroclor-1254	8000	U
11096-82-5	Aroclor-1260	8000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-056

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-05A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6772F.D/E2N6772R.D
% Moisture: 25 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/15/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	22000	U
11104-28-2	Aroclor-1221	22000	U
11141-16-5	Aroclor-1232	22000	U
53469-21-9	Aroclor-1242	140000	
12672-29-6	Aroclor-1248	22000	U
11097-69-1	Aroclor-1254	29000	
11096-82-5	Aroclor-1260	22000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-057

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-06A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6544F.D/E2N6544R.D

% Moisture: 29 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	460000	U
11104-28-2	Aroclor-1221	460000	U
11141-16-5	Aroclor-1232	460000	U
53469-21-9	Aroclor-1242	5500000	
12672-29-6	Aroclor-1248	460000	U
11097-69-1	Aroclor-1254	500000	P
11096-82-5	Aroclor-1260	460000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-058

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-07A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6744F.D/E2N6744R.D

% Moisture: 32 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	9500	U
11104-28-2	Aroclor-1221	9500	U
11141-16-5	Aroclor-1232	9500	U
53469-21-9	Aroclor-1242	79000	P
12672-29-6	Aroclor-1248	9500	U
11097-69-1	Aroclor-1254	14000	
11096-82-5	Aroclor-1260	9500	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-059

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-08A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6893F.D/E2N6893R.D
% Moisture: 26 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	450	U
11104-28-2	Aroclor-1221	450	U
11141-16-5	Aroclor-1232	450	U
53469-21-9	Aroclor-1242	2800	P
12672-29-6	Aroclor-1248	450	U
11097-69-1	Aroclor-1254	450	U
11096-82-5	Aroclor-1260	450	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-060

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-09A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N7061F.D/E2N7061R.D
% Moisture: 17 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	380	
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	44	
11096-82-5	Aroclor-1260	39	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-061

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-10A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6530F.D/E2N6530R.D

% Moisture: 26 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 100.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	4400	U
11104-28-2	Aroclor-1221	4400	U
11141-16-5	Aroclor-1232	4400	U
53469-21-9	Aroclor-1242	25000	P
12672-29-6	Aroclor-1248	4400	U
11097-69-1	Aroclor-1254	5400	
11096-82-5	Aroclor-1260	4400	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-062

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-11A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6531F.D/E2N6531R.D
% Moisture: 21 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 100.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	4100	U
11104-28-2	Aroclor-1221	4100	U
11141-16-5	Aroclor-1232	4100	U
53469-21-9	Aroclor-1242	21000	P
12672-29-6	Aroclor-1248	4100	U
11097-69-1	Aroclor-1254	4100	U
11096-82-5	Aroclor-1260	4100	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-063

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-12A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6745F.D/E2N6745R.D
% Moisture: 21 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 100.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	4200	U
11104-28-2	Aroclor-1221	4200	U
11141-16-5	Aroclor-1232	4200	U
53469-21-9	Aroclor-1242	44000	P
12672-29-6	Aroclor-1248	4200	U
11097-69-1	Aroclor-1254	9800	
11096-82-5	Aroclor-1260	4200	U

1H - FORM I ARO
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB-80987-111814-
 DD-065

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: N2217-14B
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5827F.D/E2N5827R.D
 % Moisture: _____ Decanted: (Y/N) _____ Date Received: 11/19/2014
 Extraction: (Type) SEPF Date Extracted: 11/20/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-066

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-15A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6469F.D/E2N6469R.D
% Moisture: 25 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/08/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
12674-11-2	Aroclor-1016	43		U
11104-28-2	Aroclor-1221	43		U
11141-16-5	Aroclor-1232	43		U
53469-21-9	Aroclor-1242	140		P
12672-29-6	Aroclor-1248	43		U
11097-69-1	Aroclor-1254	43		U
11096-82-5	Aroclor-1260	43		U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-19A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6532F.D/E2N6532R.D

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	24000	U
11104-28-2	Aroclor-1221	24000	U
11141-16-5	Aroclor-1232	24000	U
53469-21-9	Aroclor-1242	220000	P
12672-29-6	Aroclor-1248	24000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-071

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-20A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6773F.D/E2N6773R.D
% Moisture: 34 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/15/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	9900000	U
11104-28-2	Aroclor-1221	9900000	U
11141-16-5	Aroclor-1232	9900000	U
53469-21-9	Aroclor-1242	50000000	
12672-29-6	Aroclor-1248	9900000	U
11097-69-1	Aroclor-1254	9900000	U
11096-82-5	Aroclor-1260	9900000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-072

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-21A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6894F.D/E2N6894R.D

% Moisture: 37 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/20/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	52000	U
11104-28-2	Aroclor-1221	52000	U
11141-16-5	Aroclor-1232	52000	U
53469-21-9	Aroclor-1242	580000	
12672-29-6	Aroclor-1248	52000	U
11097-69-1	Aroclor-1254	120000	P
11096-82-5	Aroclor-1260	52000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-073

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-22A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N7062F.D/E2N7062R.D

% Moisture: 28 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/20/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	460000	U
11104-28-2	Aroclor-1221	460000	U
11141-16-5	Aroclor-1232	460000	U
53469-21-9	Aroclor-1242	4300000	
12672-29-6	Aroclor-1248	460000	U
11097-69-1	Aroclor-1254	470000	
11096-82-5	Aroclor-1260	460000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-074

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-23A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6533F.D/E2N6533R.D
% Moisture: 25 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	43000	U
11104-28-2	Aroclor-1221	43000	U
11141-16-5	Aroclor-1232	43000	U
53469-21-9	Aroclor-1242	140000	P
12672-29-6	Aroclor-1248	43000	U
11097-69-1	Aroclor-1254	43000	U
11096-82-5	Aroclor-1260	43000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-075

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-24A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6747F.D/E2N6747R.D

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/20/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	950	U
11104-28-2	Aroclor-1221	950	U
11141-16-5	Aroclor-1232	950	U
53469-21-9	Aroclor-1242	7700	
12672-29-6	Aroclor-1248	950	U
11097-69-1	Aroclor-1254	950	U
11096-82-5	Aroclor-1260	950	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-076

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-25A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6895F.D/E2N6895R.D
% Moisture: 21 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 20.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	820	U
11104-28-2	Aroclor-1221	820	U
11141-16-5	Aroclor-1232	820	U
53469-21-9	Aroclor-1242	7900	
12672-29-6	Aroclor-1248	820	U
11097-69-1	Aroclor-1254	820	U
11096-82-5	Aroclor-1260	820	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-077

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-26A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N7063F.D/E2N7063R.D
% Moisture: 20 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 100.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	4100	U
11104-28-2	Aroclor-1221	4100	U
11141-16-5	Aroclor-1232	4100	U
53469-21-9	Aroclor-1242	24000	
12672-29-6	Aroclor-1248	4100	U
11097-69-1	Aroclor-1254	4100	U
11096-82-5	Aroclor-1260	4100	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-079

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-28A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6216F.D/E2N6216R.D
% Moisture: 43 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 25.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	1400	U
11104-28-2	Aroclor-1221	1400	U
11141-16-5	Aroclor-1232	1400	U
53469-21-9	Aroclor-1242	1400	U
12672-29-6	Aroclor-1248	1400	U
11097-69-1	Aroclor-1254	14000	
11096-82-5	Aroclor-1260	6400	

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB-80987-111814-
DD-080

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: N2217-29B
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5828F.D/E2N5828R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: 11/19/2014
Extraction: (Type) SEPF Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	Q
		(ug/L or ug/Kg) ug/L	
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80096

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80096
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6161F.D/E2N6161R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80099

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80099
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6157F.D/E2N6157R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-80113
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5824F.D/E2N5824R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80096(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80096
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6162F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	100	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80096(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80096
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6162R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	96	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80099(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80099
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6158F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

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AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80099(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80099
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6158R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80113(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80113
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5825F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.8	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.6	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80113(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80113
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5825R.D
 % Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
 Extraction: (Type) SEPF Date Extracted: 11/20/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.6	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.5	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80099(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80099
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6159F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80099(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80099
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6159R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	110	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80113(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80113
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5826F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.5	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.4	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80113(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80113
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5826R.D
 % Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
 Extraction: (Type) SEPF Date Extracted: 11/20/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.3	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.3	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-055MS(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-04AMS
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6741F.D
% Moisture: 19 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
12674-11-2	Aroclor-1016	8100	U
11104-28-2	Aroclor-1221	8100	U
11141-16-5	Aroclor-1232	8100	U
53469-21-9	Aroclor-1242	43000	
12672-29-6	Aroclor-1248	8100	U
11097-69-1	Aroclor-1254	8100	U
11096-82-5	Aroclor-1260	8100	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-055MS(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-04AMS

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6741R.D

% Moisture: 19 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	8100	U
11104-28-2	Aroclor-1221	8100	U
11141-16-5	Aroclor-1232	8100	U
53469-21-9	Aroclor-1242	56000	
12672-29-6	Aroclor-1248	8100	U
11097-69-1	Aroclor-1254	8100	U
11096-82-5	Aroclor-1260	8100	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-055MSD(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-04AMSD

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6742F.D

% Moisture: 19 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	8000	U
11104-28-2	Aroclor-1221	8000	U
11141-16-5	Aroclor-1232	8000	U
53469-21-9	Aroclor-1242	41000	P
12672-29-6	Aroclor-1248	8000	U
11097-69-1	Aroclor-1254	8000	U
11096-82-5	Aroclor-1260	8000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-055MSD(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-04AMSD

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6742R.D

% Moisture: 19 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	8000	U
11104-28-2	Aroclor-1221	8000	U
11141-16-5	Aroclor-1232	8000	U
53469-21-9	Aroclor-1242	120000	P
12672-29-6	Aroclor-1248	8000	U
11097-69-1	Aroclor-1254	8000	U
11096-82-5	Aroclor-1260	8000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-070MS(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-19AMS

Sample wt/vol: 30 (g/mL) G Lab File ID: E2N7064F.D

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/19/2014

Extraction: (Type) SONC Date Extracted: 11/19/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	24000	U
11104-28-2	Aroclor-1221	24000	U
11141-16-5	Aroclor-1232	24000	U
53469-21-9	Aroclor-1242	140000	
12672-29-6	Aroclor-1248	24000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-070MS(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-19AMS
 Sample wt/vol: 30 (g/mL) G Lab File ID: E2N7064R.D
 % Moisture: 31 Decanted: (Y/N) N Date Received: 11/19/2014
 Extraction: (Type) SONC Date Extracted: 11/19/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	24000	U
11104-28-2	Aroclor-1221	24000	U
11141-16-5	Aroclor-1232	24000	U
53469-21-9	Aroclor-1242	170000	
12672-29-6	Aroclor-1248	24000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-070MSD(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-19AMSD
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N7065F.D
% Moisture: 31 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	24000	U
11104-28-2	Aroclor-1221	24000	U
11141-16-5	Aroclor-1232	24000	U
53469-21-9	Aroclor-1242	140000	P
12672-29-6	Aroclor-1248	24000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111814-
DD-070MSD(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2217-19AMSD
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N7065R.D
% Moisture: 31 Decanted: (Y/N) N Date Received: 11/19/2014
Extraction: (Type) SONC Date Extracted: 11/19/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
12674-11-2	Aroclor-1016	24000	U
11104-28-2	Aroclor-1221	24000	U
11141-16-5	Aroclor-1232	24000	U
53469-21-9	Aroclor-1242	210000	P
12672-29-6	Aroclor-1248	24000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

2Q - FORM II ARO-1
WATER AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80113	84	88	78	78			0
02	LCS-80113	87	89	80	77			0
03	LCSD-80113	81	85	75	74			0
04	EB-80987-111 814-DD-065	79	83	47	46			0
05	EB-80987-111 814-DD-080	66	68	40	39 *			1

TCX = Tetrachloro-m-xylene
 DCB = Decachlorobiphenyl

QC LIMITS
 (34-137)
 (40-135)

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80099	89	91	91	93			0
02	LCS-80099	92	92	95	96			0
03	LCSD-80099	87	87	93	95			0
04	MB-80096	87	84	86	80			0
05	LCS-80096	92	90	84	82			0
06	SD-80987-111 814-DD-054	91	88	82	70			0
07	SD-80987-111 814-DD-079	135	0 D	118	240 D			2
08	SD-80987-111 814-DD-066	99	99	77	73			0
09	SD-80987-111 814-DD-052	0 D	0 D	0 D	0 D			4
10	SD-80987-111 814-DD-055	0 D	0 D	0 D	0 D			4
11	SD-80987-111 814-DD-061	0 D	0 D	0 D	0 D			4
12	SD-80987-111 814-DD-062	0 D	0 D	0 D	0 D			4
13	SD-80987-111 814-DD-070	0 D	0 D	0 D	0 D			4
14	SD-80987-111 814-DD-074	0 D	0 D	0 D	0 D			4
15	SD-80987-111 814-DD-057	0 D	0 D	0 D	0 D			4
16	SD-80987-111 814-DD-053	0 D	0 D	0 D	0 D			4
17	SD-80987-111 814-DD-055MS	0 D	0 D	0 D	0 D			4

QC LIMITS
(34-147)
(60-125)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
18	SD-80987-111 814-DD-055MS D	0 D	0 D	0 D	0 D			4
19	SD-80987-111 814-DD-058	0 D	0 D	0 D	0 D			4
20	SD-80987-111 814-DD-063	0 D	0 D	0 D	0 D			4
21	SD-80987-111 814-DD-075	136	81	100	104			0
22	SD-80987-111 814-DD-056	0 D	0 D	0 D	0 D			4
23	SD-80987-111 814-DD-071	0 D	0 D	0 D	0 D			4
24	SD-80987-111 814-DD-059	249 D	94	96	105			1
25	SD-80987-111 814-DD-072	0 D	0 D	0 D	0 D			4
26	SD-80987-111 814-DD-076	289 D	108	132 D	125 D			3
27	SD-80987-111 814-DD-060	132	142	117	114			0
28	SD-80987-111 814-DD-073	0 D	0 D	0 D	0 D			4
29	SD-80987-111 814-DD-077	0 D	0 D	0 D	0 D			4
30	SD-80987-111 814-DD-070MS	0 D	0 D	0 D	0 D			4
31	SD-80987-111 814-DD-070MS D	0 D	0 D	0 D	0 D			4

QC LIMITS
(34-147)
(60-125)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix Spike - EPA Sample No.: SD-80987-111814-DD-055

Instrument ID: E2 GC Column : CLPPest ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	163.8520	0.0000	0.0000	0	*	40-140
AR1260	163.8520	0.0000	0.0000	0	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	161.7032	0.0000	0	*			0-30	40-140
AR1260	161.7032	0.0000	0	*			0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix Spike - EPA Sample No.: SD-80987-111814-DD-055

Instrument ID: E2 GC Column : CLPPestII ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	163.8520	0.0000	0.0000	0	*	40-140
AR1260	163.8520	0.0000	0.0000	0	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	161.7032	0.0000	0	*			0-30	40-140
AR1260	161.7032	0.0000	0	*			0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix Spike - EPA Sample No.: SD-80987-111814-DD-070

Instrument ID: E2 GC Column : CLPPest ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	192.5569	0.0000	0.0000	0	*	40-140
AR1260	192.5569	0.0000	0.0000	0	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	190.6504	0.0000	0	*			0-30	40-140
AR1260	190.6504	0.0000	0	*			0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217

Matrix Spike - EPA Sample No.: SD-80987-111814-DD-070

Instrument ID: E2 GC Column : CLPPestII ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	192.5569	0.0000	0.0000	0	*	40-140
AR1260	192.5569	0.0000	0.0000	0	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	190.6504	0.0000	0	*			0-30	40-140
AR1260	190.6504	0.0000	0	*			0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80096

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab Sample ID: LCS-80096 LCS Lot No.: a094177
Date Extracted: 11/19/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC	#	QC LIMITS
Aroclor-1016	133.3330	132.3685	99		40-140
Aroclor-1260	133.3330	99.9120	75		60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC	#	QC LIMITS
Aroclor-1016	133.3330	118.3197	89		40-140
Aroclor-1260	133.3330	96.3994	72		60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80099

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab Sample ID: LCS-80099 LCS Lot No.: a094177
Date Extracted: 11/20/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	129.3243	97	40-140
Aroclor-1260	133.3330	120.9095	91	60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	115.4901	87	40-140
Aroclor-1260	133.3330	123.4729	93	60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab Sample ID: LCS-80113 LCS Lot No.: a094177
Date Extracted: 11/20/2014 Date Analyzed (1): 11/25/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.7564	94	25-145
Aroclor-1260	4.0000	3.5966	90	30-145

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 11/25/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.6257	91	25-145
Aroclor-1260	4.0000	3.5147	88	30-145

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80099

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab Sample ID: LCSD-80099 LCS Lot No.: a094177
Date Extracted: 11/20/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	124.5987	93	40-140	4.0	30
Aroclor-1260	133.3330	120.6849	91	60-130	0	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	112.1284	84	40-140	4.0	30
Aroclor-1260	133.3330	122.7626	92	60-130	1.0	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 0 out of 4 outside limits.

COMMENTS:

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab Sample ID: LCSD-80113 LCS Lot No.: a094177
Date Extracted: 11/20/2014 Date Analyzed (1): 11/25/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.5329	88	25-145	7.0	30
Aroclor-1260	4.0000	3.3937	85	30-145	6.0	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 11/25/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.2828	82	25-145	10	30
Aroclor-1260	4.0000	3.3455	84	30-145	5.0	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 0 out of 4 outside limits.

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab File ID: E2N5824F.D / E2N5824R.D Lab Sample ID: MB-80113
Matrix: (SOIL/SED/WATER) WATER Extraction: (Type) SEPF Date Extracted: 11/20/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 11/25/2014 Date Analyzed (2): 11/25/2014
Time Analyzed (1): 18:24 Time Analyzed (2): 18:24
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80113	LCS-80113	11/25/2014	11/25/2014
02	LCSD-80113	LCSD-80113	11/25/2014	11/25/2014
03	EB-80987-111 814-DD-065	N2217-14B	11/25/2014	11/25/2014
04	EB-80987-111 814-DD-080	N2217-29B	11/25/2014	11/25/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80096

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab File ID: E2N6161F.D / E2N6161R.D Lab Sample ID: MB-80096
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/19/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 1:33 Time Analyzed (2): 1:33
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80096	LCS-80096	12/04/2014	12/04/2014
02	SD-80987-111 814-DD-054	N2217-03A	12/04/2014	12/04/2014
03	SD-80987-111 814-DD-066	N2217-15A	12/08/2014	12/08/2014
04	SD-80987-111 814-DD-052	N2217-01A	12/09/2014	12/09/2014
05	SD-80987-111 814-DD-055	N2217-04A	12/09/2014	12/09/2014
06	SD-80987-111 814-DD-061	N2217-10A	12/09/2014	12/09/2014
07	SD-80987-111 814-DD-062	N2217-11A	12/09/2014	12/09/2014
08	SD-80987-111 814-DD-070	N2217-19A	12/09/2014	12/09/2014
09	SD-80987-111 814-DD-057	N2217-06A	12/09/2014	12/09/2014
10	SD-80987-111 814-DD-053	N2217-02A	12/12/2014	12/12/2014
11	SD-80987-111 814-DD-055MS	N2217-04AMS	12/12/2014	12/12/2014
12	SD-80987-111 814-DD-055MS D	N2217-04AMSD	12/12/2014	12/12/2014
13	SD-80987-111 814-DD-058	N2217-07A	12/12/2014	12/12/2014
14	SD-80987-111 814-DD-063	N2217-12A	12/12/2014	12/12/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80096

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2217 Mod. Ref No.: _____ SDG No.: SN2217
Lab File ID: E2N6161F.D / E2N6161R.D Lab Sample ID: MB-80096
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/19/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup: (Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 1:33 Time Analyzed (2): 1:33
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
15	SD-80987-111 814-DD-056	N2217-05A	12/15/2014	12/15/2014
16	SD-80987-111 814-DD-071	N2217-20A	12/15/2014	12/15/2014
17	SD-80987-111 814-DD-059	N2217-08A	12/17/2014	12/17/2014
18	SD-80987-111 814-DD-060	N2217-09A	12/22/2014	12/22/2014
19	SD-80987-111 814-DD-070MS	N2217-19AMS	12/22/2014	12/22/2014
20	SD-80987-111 814-DD-070MS D	N2217-19AMSD	12/22/2014	12/22/2014

COMMENTS:



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** Wet Chemistry ***

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC00036

Client: Spectrum Analytical, Inc. - North Kingstown, RI

Project: Friedrichsohn Cooperage Site / N2217

SDG #: 00036

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1428033: The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met.

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC00036

Client: Spectrum Analytical, Inc. - North Kingstown, RI

Project: Friedrichsohn Cooperage Site / N2217

SDG #: 00036

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to SM 5310B.

IV. PREPARATION

Aqueous samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze SM 5310B:

TOC1 details: Teledyne Tekmar Apollo 9000

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1427936: The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met.

FORM I - INORGANIC ANALYSIS DATA SHEET

Lloyd Kahn

SD-80987-111815-DD-045

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
 Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
 Project Number: N2201 Received: 00205203 04:39
 Matrix: Soil Laboratory ID: SC99974-90 File ID: 002070%
 Sampled: 00208203 09:39 Prepared: 002203 09:99 Analyzed: 002203 07:2%
 6 Solids: Preparation: General Preparation Initial/Final: 9.903 g z 0 ml
 / atch: 0328977 Sequence: S307002 Calibration: 039037
 Instrument: TOC2
 Reported to: MRL

CAS NOQ	Analyte	Result m(g / k	Dilution Factor	MDL	MRL	3
NA	Total Organic Carbon	08099	0	028	284	

FORM I - INORGANIC ANALYSIS DATA SHEET

SD-80987-111815-DD-078

Lloyd Kahn

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
 Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
 Project Number: N2201 Received: 00205203 04:39
 Matrix: Soil Laboratory ID: SC99974-97 File ID: 0020721
 Sampled: 00208203 07:00 Prepared: 002203 09:99 Analyzed: 002203 07:77
 6 Solids: Preparation: General Preparation Initial/Final: 9.904%g z0 ml
 / atch: 0328977 Sequence: S307002 Calibration: 039037
 Instrument: TOC2
 Reported to: MRL

CAS NOQ	Analyte	Result m(g / k	Dilution Factor	MDL	MRL	3
NA	Total Organic Carbon	04%	0	095	232	

FORM I - INORGANIC ANALYSIS DATA SHEET
SM 5610B

EB-80987-111815-DD-045

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
 Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
 Project Number: N2201 Received: 00205203 04:39
 Matrix: Aqueous Laboratory ID: SC99974-92 File ID: 00230908-925
 Sampled: 00208203 09:30 Prepared: 00223203 09:99 Analyzed: 00223203 20:00
 6 Solids: Preparation: General Preparation Initial/Final: 39 ml / 39 ml
 / batch: 0321574 Sequence: S307274 Calibration: 039892
 Instrument: TOC0
 Reported to: MRL

CAS NO	Analyte	Result (mg/L)	Dilution Factor	MDL	MRL	3
NA	Total Organic Carbon	9.28%	0	9.287	0.99	J

FORM I - INORGANIC ANALYSIS DATA SHEET
SM 5610B

EB-80987-111815-DD-080

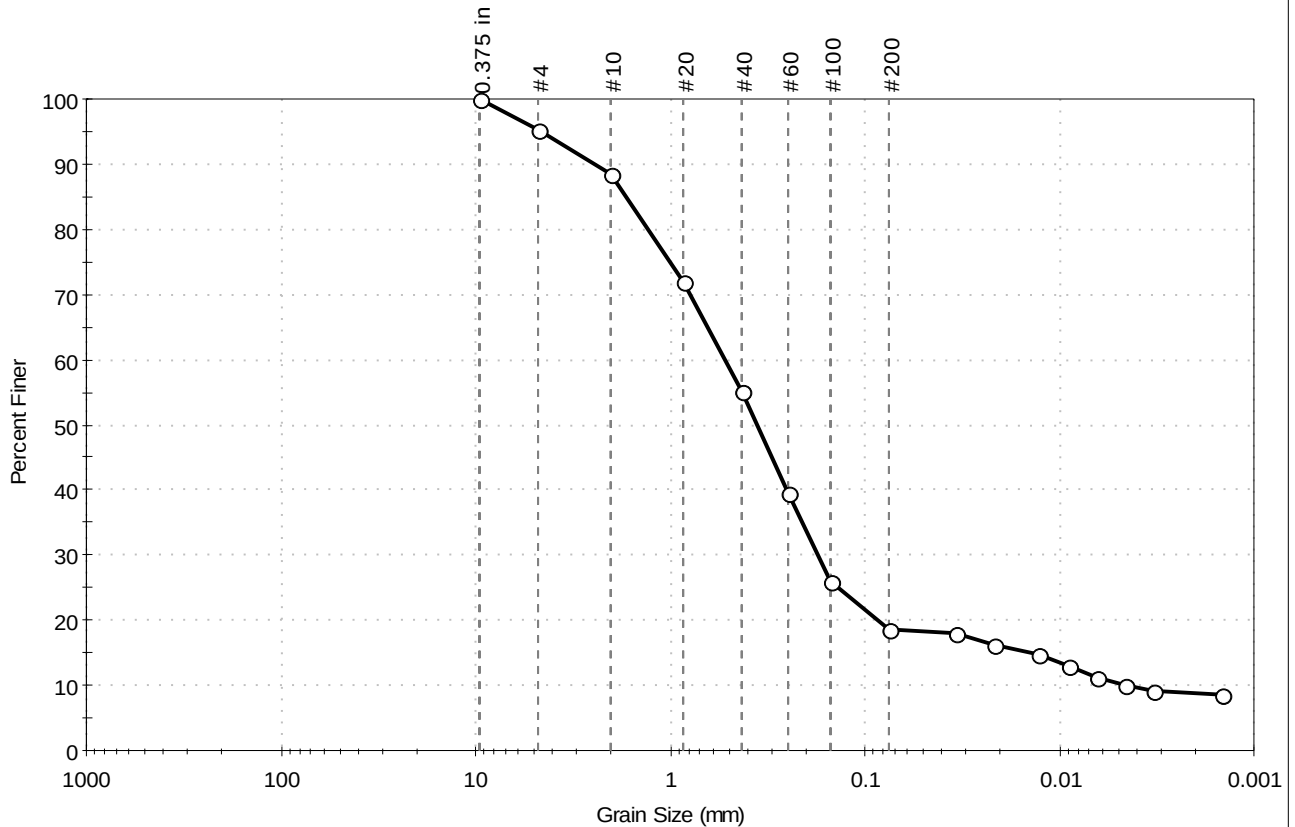
Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 99974
 Client: Spectrum Analytical, Inc. - North Kingstown, RI Project: Friedrichsohn Cooperage Site
 Project Number: N2201 Received: 00205203 04:39
 Matrix: Aqueous Laboratory ID: SC99974-93 File ID: 00230908-979
 Sampled: 00208203 03:39 Prepared: 00223203 09:99 Analyzed: 00223203 22:08
 6 Solids: Preparation: General Preparation Initial/Final: 39 ml / 39 ml
 / atch: 0321574 Sequence: S307274 Calibration: 039892
 Instrument: TOC0
 Reported to: MRL

CAS NO	Analyte	Result (mg/L)	Dilution Factor	MDL	MRL	3
NA	Total Organic Carbon	9.789	0	9.287	0.99	J



Client:	Spectrum Analytical, Inc.	Project No:	GTX-302575
Project:	Friedrichsohn Cooperage Site	Tested By:	jbr
Location:	---	Checked By:	emm
Boring ID:	SD-80987	Sample Type:	jar
Sample ID:	111814-DD-064	Test Date:	11/26/14
Depth:	---	Test Id:	315639
Test Comment:	---		
Sample Description:	Moist, very dark brown silty sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	4.7	76.8	18.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	95		
#10	2.00	88		
#20	0.85	72		
#40	0.42	55		
#60	0.25	40		
#100	0.15	26		
#200	0.075	19		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0342	18		
---	0.0218	16		
---	0.0127	15		
---	0.0091	13		
---	0.0065	11		
---	0.0046	10		
---	0.0033	9		
---	0.0015	8		

Coefficients

D ₈₅ = 1.6669 mm	D ₃₀ = 0.1751 mm
D ₆₀ = 0.5186 mm	D ₁₅ = 0.0142 mm
D ₅₀ = 0.3569 mm	D ₁₀ = 0.0044 mm
C _u = 117.864	C _c = 13.437

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

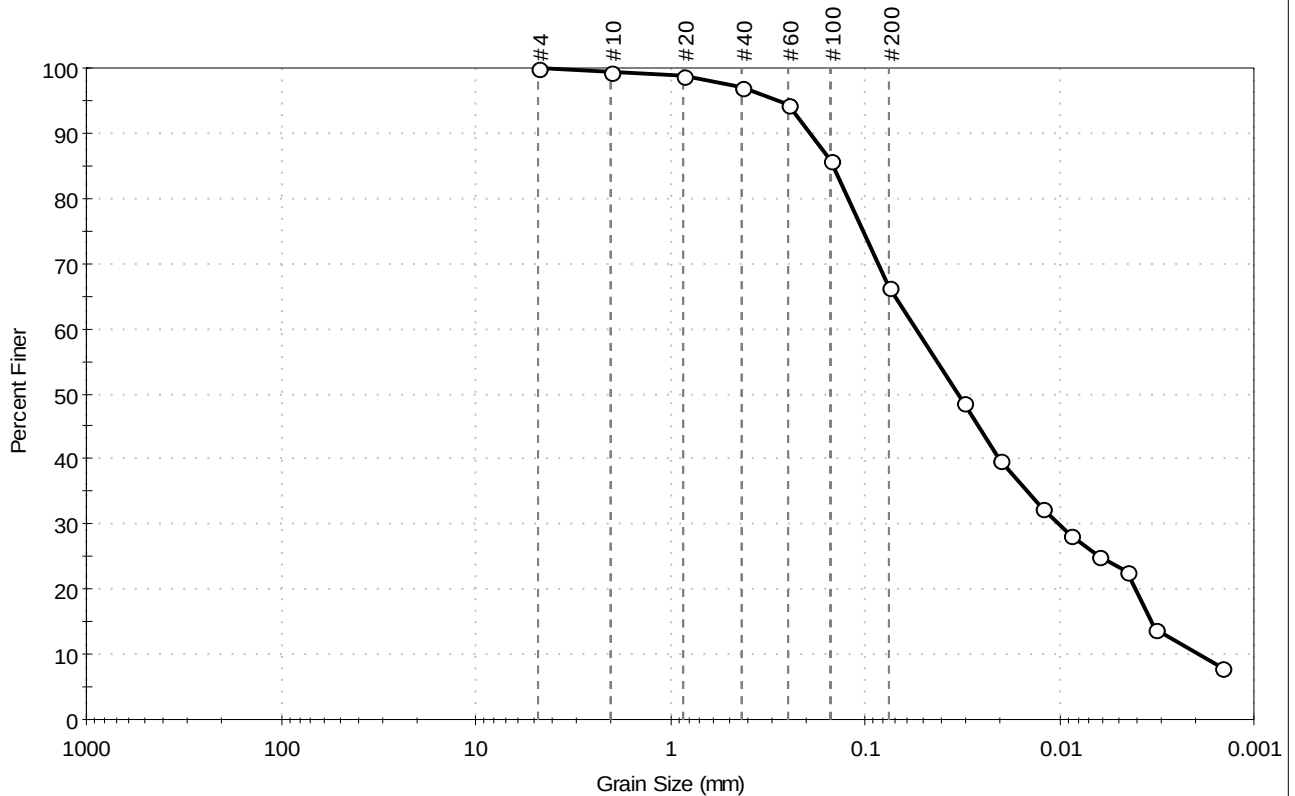
Specific Gravity : 2.65

Separation of Sample: #200 Sieve



Client:	Spectrum Analytical, Inc.	Project No:	GTX-302575
Project:	Friedrichsohn Cooperage Site	Tested By:	jbr
Location:	---	Checked By:	emm
Boring ID:	SD-80987	Sample Type:	jar
Sample ID:	111814-DD-078	Test Date:	11/26/14
Depth:	---	Test Id:	315640
Test Comment:	---		
Sample Description:	Moist, olive gray sandy silt		
Sample Comment:	---		

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	33.6	66.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	97		
#60	0.25	94		
#100	0.15	86		
#200	0.075	66		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0311	49		
---	0.0205	40		
---	0.0122	32		
---	0.0087	28		
---	0.0063	25		
---	0.0044	23		
---	0.0032	14		
---	0.0015	8		

Coefficients	
D ₈₅ = 0.1452 mm	D ₃₀ = 0.0100 mm
D ₆₀ = 0.0546 mm	D ₁₅ = 0.0033 mm
D ₅₀ = 0.0332 mm	D ₁₀ = 0.0019 mm
C _u = 28.737	C _c = 0.964

Classification	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

Sample / Test Description	
Sand/Gravel Particle Shape	---
Sand/Gravel Hardness	---
Dispersion Device	Apparatus A - Mech Mixer
Dispersion Period	1 minute
Specific Gravity	2.65
Separation of Sample	#200 Sieve

Report Date:
31-Dec-14 08:58



☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2230
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
N2230-01	SD-80987-111914-DD-081	Soil	19-Nov-14 08:00	20-Nov-14 09:30
N2230-02	SD-80987-111914-DD-082	Soil	19-Nov-14 08:05	20-Nov-14 09:30
N2230-03	SD-80987-111914-DD-083	Soil	19-Nov-14 08:10	20-Nov-14 09:30
N2230-04	SD-80987-111914-DD-084	Soil	19-Nov-14 08:40	20-Nov-14 09:30
N2230-05	SD-80987-111914-DD-085	Soil	19-Nov-14 09:00	20-Nov-14 09:30
N2230-06	SD-80987-111914-DD-086	Soil	19-Nov-14 09:05	20-Nov-14 09:30
N2230-07	SD-80987-111914-DD-087	Soil	19-Nov-14 09:10	20-Nov-14 09:30
N2230-08	SD-80987-111914-DD-088	Soil	19-Nov-14 09:15	20-Nov-14 09:30
N2230-09	SD-80987-111914-DD-089	Soil	19-Nov-14 10:00	20-Nov-14 09:30
N2230-10	SD-80987-111914-DD-090	Soil	19-Nov-14 10:25	20-Nov-14 09:30
N2230-11	SD-80987-111914-DD-091	Soil	19-Nov-14 10:30	20-Nov-14 09:30
N2230-12	SD-80987-111914-DD-092	Soil	19-Nov-14 10:35	20-Nov-14 09:30
N2230-13	SD-80987-111914-DD-093	Soil	19-Nov-14 10:40	20-Nov-14 09:30
N2230-14	SD-80987-111914-DD-094	Soil	19-Nov-14 11:00	20-Nov-14 09:30
N2230-15	SD-80987-111914-DD-095	Soil	19-Nov-14 11:05	20-Nov-14 09:30
N2230-16	SD-80987-111914-DD-096	Soil	19-Nov-14 11:10	20-Nov-14 09:30
N2230-17	SD-80987-111914-DD-097	Soil	19-Nov-14 11:15	20-Nov-14 09:30
N2230-18	SD-80987-111914-DD-098	Soil	19-Nov-14 11:55	20-Nov-14 09:30
N2230-19	SD-80987-111914-DD-099	Soil	19-Nov-14 12:00	20-Nov-14 09:30
N2230-20	EB-80987-111914-DD-100	Aqueous	19-Nov-14 12:05	20-Nov-14 09:30
N2230-21	SD-80987-111914-DD-101	Soil	19-Nov-14 13:30	20-Nov-14 09:30
N2230-22	SD-80987-111914-DD-102	Soil	19-Nov-14 13:35	20-Nov-14 09:30
N2230-23	SD-80987-111914-DD-103	Soil	19-Nov-14 13:40	20-Nov-14 09:30
N2230-24	SD-80987-111914-DD-104	Soil	19-Nov-14 13:50	20-Nov-14 09:30
N2230-25	SD-80987-111914-DD-105	Soil	19-Nov-14 13:45	20-Nov-14 09:30
N2230-26	SD-80987-111914-DD-106	Soil	19-Nov-14 14:00	20-Nov-14 09:30
N2230-27	SD-80987-111914-DD-107	Soil	19-Nov-14 14:05	20-Nov-14 09:30
N2230-28	SD-80987-111914-DD-108	Soil	19-Nov-14 14:30	20-Nov-14 09:30

Report Date:
31-Dec-14 08:58



- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2230
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>

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 requirements have been met.

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
Rhode Island	LA100301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033



Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** Data Summary Pack ***

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2230

Client ID: CRA

Case:

HC Due: 12/02/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4068085

Comments: Report "J", samples 04,09 and 28 taken off hold per client request on 11/24

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2230-01A	SD-80987-111914-DD-081	11/19/2014 08:00	11/20/2014	Soil	PMoist	/		Y			N3
N2230-01A	SD-80987-111914-DD-081	11/19/2014 08:00	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-02A	SD-80987-111914-DD-082	11/19/2014 08:05	11/20/2014	Soil	PMoist	/		Y			N3
N2230-02A	SD-80987-111914-DD-082	11/19/2014 08:05	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-03A	SD-80987-111914-DD-083	11/19/2014 08:10	11/20/2014	Soil	PMoist	/		Y			N3
N2230-03A	SD-80987-111914-DD-083	11/19/2014 08:10	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-04A	SD-80987-111914-DD-084	11/19/2014 08:40	11/20/2014	Soil	PMoist	/					N3
N2230-04A	SD-80987-111914-DD-084	11/19/2014 08:40	11/20/2014	Soil	SW8082_S	/					N3
N2230-05A	SD-80987-111914-DD-085	11/19/2014 09:00	11/20/2014	Soil	PMoist	/		Y			N3
N2230-05A	SD-80987-111914-DD-085	11/19/2014 09:00	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-06A	SD-80987-111914-DD-086	11/19/2014 09:05	11/20/2014	Soil	PMoist	/		Y			N3
N2230-06A	SD-80987-111914-DD-086	11/19/2014 09:05	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-07A	SD-80987-111914-DD-087	11/19/2014 09:10	11/20/2014	Soil	PMoist	/		Y			N3
N2230-07A	SD-80987-111914-DD-087	11/19/2014 09:10	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-08A	SD-80987-111914-DD-088	11/19/2014 09:15	11/20/2014	Soil	PMoist	/		Y			N3
N2230-08A	SD-80987-111914-DD-088	11/19/2014 09:15	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-09A	SD-80987-111914-DD-089	11/19/2014 10:00	11/20/2014	Soil	PMoist	/					N3
N2230-09A	SD-80987-111914-DD-089	11/19/2014 10:00	11/20/2014	Soil	SW8082_S	/					N3
N2230-10A	SD-80987-111914-DD-090	11/19/2014 10:25	11/20/2014	Soil	PMoist	/		Y	Y		N3
N2230-10A	SD-80987-111914-DD-090	11/19/2014 10:25	11/20/2014	Soil	SW8082_S	/		Y	Y		N3
N2230-11A	SD-80987-111914-DD-091	11/19/2014 10:30	11/20/2014	Soil	PMoist	/		Y			N3

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. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2230

Client ID: CRA

Case:

HC Due: 12/02/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4068085

Comments: Report "J"., samples 04,09 and 28 taken off hold per client request on 11/24

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2230-11A	SD-80987-111914-DD-091	11/19/2014 10:30	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-12A	SD-80987-111914-DD-092	11/19/2014 10:35	11/20/2014	Soil	PMoist	/		Y			N3
N2230-12A	SD-80987-111914-DD-092	11/19/2014 10:35	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-13A	SD-80987-111914-DD-093	11/19/2014 10:40	11/20/2014	Soil	PMoist	/		Y			N3
N2230-13A	SD-80987-111914-DD-093	11/19/2014 10:40	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-14A	SD-80987-111914-DD-094	11/19/2014 11:00	11/20/2014	Soil	PMoist	/		Y			N3
N2230-14A	SD-80987-111914-DD-094	11/19/2014 11:00	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-15A	SD-80987-111914-DD-095	11/19/2014 11:05	11/20/2014	Soil	PMoist	/		Y			N3
N2230-15A	SD-80987-111914-DD-095	11/19/2014 11:05	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-16A	SD-80987-111914-DD-096	11/19/2014 11:10	11/20/2014	Soil	PMoist	/		Y			N3
N2230-16A	SD-80987-111914-DD-096	11/19/2014 11:10	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-17A	SD-80987-111914-DD-097	11/19/2014 11:15	11/20/2014	Soil	PMoist	/		Y			N3
N2230-17A	SD-80987-111914-DD-097	11/19/2014 11:15	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-18A	SD-80987-111914-DD-098	11/19/2014 11:55	11/20/2014	Soil	PMoist	/					N3
N2230-18A	SD-80987-111914-DD-098	11/19/2014 11:55	11/20/2014	Soil	SW8082_S	/					N3
N2230-19A	SD-80987-111914-DD-099	11/19/2014 12:00	11/20/2014	Soil	PMoist	/		Y			N3
N2230-19A	SD-80987-111914-DD-099	11/19/2014 12:00	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-20A	EB-80987-111914-DD-100	11/19/2014 12:05	11/20/2014	Aqueous	SM5310B_TOC_W	/ Sub to Agawam					SUB
N2230-20B	EB-80987-111914-DD-100	11/19/2014 12:05	11/20/2014	Aqueous	SW8082_W	/					N3
N2230-21A	SD-80987-111914-DD-101	11/19/2014 13:30	11/20/2014	Soil	PMoist	/		Y			N3
N2230-21A	SD-80987-111914-DD-101	11/19/2014 13:30	11/20/2014	Soil	SW8082_S	/		Y			N3

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. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2230

Client ID: CRA

Case:

HC Due: 12/02/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4068085

Comments: Report "J", samples 04,09 and 28 taken off hold per client request on 11/24

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2230-22A	SD-80987-111914-DD-102	11/19/2014 13:35	11/20/2014	Soil	PMoist	/		Y			N3
N2230-22A	SD-80987-111914-DD-102	11/19/2014 13:35	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-23A	SD-80987-111914-DD-103	11/19/2014 13:40	11/20/2014	Soil	PMoist	/		Y			N3
N2230-23A	SD-80987-111914-DD-103	11/19/2014 13:40	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-24A	SD-80987-111914-DD-104	11/19/2014 13:50	11/20/2014	Soil	PMoist	/		Y			N3
N2230-24A	SD-80987-111914-DD-104	11/19/2014 13:50	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-25A	SD-80987-111914-DD-105	11/19/2014 13:45	11/20/2014	Soil	PMoist	/		Y			N3
N2230-25A	SD-80987-111914-DD-105	11/19/2014 13:45	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-26A	SD-80987-111914-DD-106	11/19/2014 14:00	11/20/2014	Soil	PMoist	/		Y			N3
N2230-26A	SD-80987-111914-DD-106	11/19/2014 14:00	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-27A	SD-80987-111914-DD-107	11/19/2014 14:05	11/20/2014	Soil	PMoist	/		Y			N3
N2230-27A	SD-80987-111914-DD-107	11/19/2014 14:05	11/20/2014	Soil	SW8082_S	/		Y			N3
N2230-28A	SD-80987-111914-DD-108	11/19/2014 14:30	11/20/2014	Soil	PMoist	/					N3
N2230-28A	SD-80987-111914-DD-108	11/19/2014 14:30	11/20/2014	Soil	SW8082_S	/					N3

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

*** PCB Organics ***

REPORT NARRATIVE

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

Client : Conestoga-Rovers & Associates

Project: Friedrichsohn Cooperage Site

Laboratory Workorder / SDG #: N2230

SW846 8082A, PCB by GC-ECD

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 8082A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510C
Soil Samples were prepared following procedures in laboratory test code: SW3550B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E2
Instrument Type: GC-ECD

Description: HP5890 II +
Manufacturer: Hewlett-Packard
Model: 5890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest
capillary column.
GC Column used: 30 m X 0.53 mm ID [0.42 um thickness] CLPPestII
capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

SD-80987-111914-DD-081 (N2230-01A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-082 (N2230-02A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-083 (N2230-03A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 140% with criteria of (60-125), Decachlorobiphenyl on front column at 137% with criteria of (60-125) and Tetrachloro-m-xylene on front column at 234% with criteria of (34-147).

SD-80987-111914-DD-084 (N2230-04A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 177% with criteria of (60-125) and

Decachlorobiphenyl on front column at 287% with criteria of (60-125).

SD-80987-111914-DD-085 (N2230-05A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-086 (N2230-06A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-087 (N2230-07A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-090 (N2230-10A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-090 (N2230-10AMS) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-090 (N2230-10AMSD) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-091 (N2230-11A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl

on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-092 (N2230-12A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-093 (N2230-13A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-094 (N2230-14A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-095 (N2230-15A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-097 (N2230-17A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 133% with criteria of (60-125) and Decachlorobiphenyl on front column at 132% with criteria of (60-125).

SD-80987-111914-DD-098 (N2230-18A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

EB-80987-111914-DD-100 (N2230-20B), recovery is below criteria for Decachlorobiphenyl on rear column at 36% with criteria of (40-135)

and Decachlorobiphenyl on front column at 36% with criteria of (40-135).

SD-80987-111914-DD-101 (N2230-21A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-102 (N2230-22A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-103 (N2230-23A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-104 (N2230-24A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-105 (N2230-25A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-106 (N2230-26A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl on rear column at 0% with criteria of (60-125), Decachlorobiphenyl on front column at 0% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 0% with criteria of (34-147).

SD-80987-111914-DD-107 (N2230-27A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Decachlorobiphenyl

on rear column at 56% with criteria of (60-125).

SD-80987-111914-DD-108 (N2230-28A), recovery is above criteria for Tetrachloro-m-xylene on rear column at 149% with criteria of (34-147) Tetrachloro-m-xylene on front column at 282% with criteria of (34-147).

D. Spikes:

1. Laboratory Control Spikes (LCS):

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

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: SD-80987-111914-DD-090 (N2230-10AMS) and SD-80987-111914-DD-090 (N2230-10AMSD).

Please note due to the dilution factors the MS/MSD recoveries are out of the QC limits.

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

SD-80987-111914-DD-090 (N2230-10AMS), recovery is below criteria for Aroclor-1016 on rear column at 0% with criteria of (40-140), Aroclor-1016 on front column at 0% with criteria of (40-140), Aroclor-1260 on rear column at 0% with criteria of (60-130) and Aroclor-1260 on front column at 0% with criteria of (60-130).

SD-80987-111914-DD-090 (N2230-10AMSD), recovery is below criteria for Aroclor-1016 on rear column at 0% with criteria of (40-140), Aroclor-1016 on front column at 0% with criteria of (40-140), Aroclor-1260 on rear column at 0% with criteria of (60-130) and Aroclor-1260 on front column at 0% with criteria of (60-130).

Replicate RPDs were within the advisory QC limits.

E. Dilutions:

The following samples were analyzed at dilution:

SD-80987-111914-DD-081 (N2230-01A) : Dilution Factor: 500
SD-80987-111914-DD-082 (N2230-02A) : Dilution Factor: 200
SD-80987-111914-DD-083 (N2230-03A) : Dilution Factor: 20

SD-80987-111914-DD-084 (N2230-04A) : Dilution Factor: 50
 SD-80987-111914-DD-085 (N2230-05A) : Dilution Factor: 1000
 SD-80987-111914-DD-086 (N2230-06A) : Dilution Factor: 1000
 SD-80987-111914-DD-087 (N2230-07A) : Dilution Factor: 500
 SD-80987-111914-DD-088 (N2230-08A) : Dilution Factor: 10
 SD-80987-111914-DD-089 (N2230-09A) : Dilution Factor: 2
 SD-80987-111914-DD-090 (N2230-10A) : Dilution Factor: 1000
 SD-80987-111914-DD-090 (N2230-10AMS) : Dilution Factor: 1000
 SD-80987-111914-DD-090 (N2230-10AMSD) : Dilution Factor: 1000
 SD-80987-111914-DD-091 (N2230-11A) : Dilution Factor: 1000
 SD-80987-111914-DD-092 (N2230-12A) : Dilution Factor: 200
 SD-80987-111914-DD-093 (N2230-13A) : Dilution Factor: 100
 SD-80987-111914-DD-094 (N2230-14A) : Dilution Factor: 1000
 SD-80987-111914-DD-095 (N2230-15A) : Dilution Factor: 200
 SD-80987-111914-DD-096 (N2230-16A) : Dilution Factor: 20
 SD-80987-111914-DD-097 (N2230-17A) : Dilution Factor: 10
 SD-80987-111914-DD-098 (N2230-18A) : Dilution Factor: 25
 SD-80987-111914-DD-099 (N2230-19A) : Dilution Factor: 10
 SD-80987-111914-DD-101 (N2230-21A) : Dilution Factor: 250
 SD-80987-111914-DD-102 (N2230-22A) : Dilution Factor: 200
 SD-80987-111914-DD-103 (N2230-23A) : Dilution Factor: 400
 SD-80987-111914-DD-104 (N2230-24A) : Dilution Factor: 1000
 SD-80987-111914-DD-105 (N2230-25A) : Dilution Factor: 1000
 SD-80987-111914-DD-106 (N2230-26A) : Dilution Factor: 50
 SD-80987-111914-DD-107 (N2230-27A) : Dilution Factor: 2

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

G. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution

- M3 rising or falling baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The following samples were manually integrated:

AR12326M2 Aroclor-1232 on rear column due to M3

AR12422N2 Aroclor-1242 on rear column due to M3

AR12423MN Decachlorobiphenyl on front column due to M3

AR12423N2 Aroclor-1242 on rear column due to M3

AR12423NT Aroclor-1242 on rear column due to M3

AR12423NU Aroclor-1242 on rear column due to M3

AR12423NV Aroclor-1242 on rear column due to M3

AR12423NW Aroclor-1242 on rear column due to M3

AR12425M2 Aroclor-1242 on front column due to M3

AR12483MN Decachlorobiphenyl on front column due to M3

AR12485M2 Aroclor-1248 on front column due to M3

AR12543MN Aroclor-1254 on front column , Decachlorobiphenyl on front column due to M3

AR16603MN Decachlorobiphenyl on front column , Aroclor-1260 on rear column , Decachlorobiphenyl on rear column due to M3

AR16603NJ Aroclor-1016 on front column due to M3

AR16603NK Aroclor-1260 on front column due to M3

AR16603NT Aroclor-1016 on front column due to M3

SD-80987-111914-DD-081 (N2230-01A) Aroclor-1242 on rear column due to M3

SD-80987-111914-DD-082 (N2230-02A) Aroclor-1242 on rear

column due to M3

SD-80987-111914-DD-083 (N2230-03A) Aroclor-1242 on rear
column due to M3

SD-80987-111914-DD-085 (N2230-05A) Aroclor-1242 on rear
column due to M3

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.

A handwritten signature in black ink, appearing to be 'TJH' with a large loop at the end.

Signed: _____

Date: _____ 12/30/2014 _____



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 1 of 2):

- 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 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 an aldol condensation by-product.



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 2 of 2):

- 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.
- L NYSDEC qualifier: Result is biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.



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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

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-081

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6534F.D/E2N6534R.D

% Moisture: 28 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	23000	U
11104-28-2	Aroclor-1221	23000	U
11141-16-5	Aroclor-1232	23000	U
53469-21-9	Aroclor-1242	170000	
12672-29-6	Aroclor-1248	23000	U
11097-69-1	Aroclor-1254	23000	U
11096-82-5	Aroclor-1260	23000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-082

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-02A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6535F.D/E2N6535R.D

% Moisture: 27 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	8900	U
11104-28-2	Aroclor-1221	8900	U
11141-16-5	Aroclor-1232	8900	U
53469-21-9	Aroclor-1242	52000	P
12672-29-6	Aroclor-1248	8900	U
11097-69-1	Aroclor-1254	8900	U
11096-82-5	Aroclor-1260	8900	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-083

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-03A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6748F.D/E2N6748R.D
% Moisture: 29 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 20.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	920	U
11104-28-2	Aroclor-1221	920	U
11141-16-5	Aroclor-1232	920	U
53469-21-9	Aroclor-1242	4900	
12672-29-6	Aroclor-1248	920	U
11097-69-1	Aroclor-1254	920	U
11096-82-5	Aroclor-1260	920	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-084

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-04A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6217F.D/E2N6217R.D
% Moisture: 25 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 50.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	2200	U
11104-28-2	Aroclor-1221	2200	U
11141-16-5	Aroclor-1232	2200	U
53469-21-9	Aroclor-1242	14000	
12672-29-6	Aroclor-1248	2200	U
11097-69-1	Aroclor-1254	4500	
11096-82-5	Aroclor-1260	2200	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-085

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-05A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6536F.D/E2N6536R.D
% Moisture: 38 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	53000	U
11104-28-2	Aroclor-1221	53000	U
11141-16-5	Aroclor-1232	53000	U
53469-21-9	Aroclor-1242	690000	
12672-29-6	Aroclor-1248	53000	U
11097-69-1	Aroclor-1254	90000	P
11096-82-5	Aroclor-1260	53000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-086

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-06A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6749F.D/E2N6749R.D
% Moisture: 35 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	50000	U
11104-28-2	Aroclor-1221	50000	U
11141-16-5	Aroclor-1232	50000	U
53469-21-9	Aroclor-1242	650000	
12672-29-6	Aroclor-1248	50000	U
11097-69-1	Aroclor-1254	88000	P
11096-82-5	Aroclor-1260	50000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-087

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-07A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6896F.D/E2N6896R.D
% Moisture: 48 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 500.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	32000	U
11104-28-2	Aroclor-1221	32000	U
11141-16-5	Aroclor-1232	32000	U
53469-21-9	Aroclor-1242	160000	
12672-29-6	Aroclor-1248	32000	U
11097-69-1	Aroclor-1254	32000	U
11096-82-5	Aroclor-1260	32000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-088

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-08A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N7136F.D/E2N7136R.D
% Moisture: 49 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	650	U
11104-28-2	Aroclor-1221	650	U
11141-16-5	Aroclor-1232	650	U
53469-21-9	Aroclor-1242	3400	
12672-29-6	Aroclor-1248	650	U
11097-69-1	Aroclor-1254	1800	
11096-82-5	Aroclor-1260	650	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-089

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-09A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6239F.D/E2N6239R.D
% Moisture: 48 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	130	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	130	U
53469-21-9	Aroclor-1242	1400	
12672-29-6	Aroclor-1248	130	U
11097-69-1	Aroclor-1254	270	
11096-82-5	Aroclor-1260	130	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-090

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-10A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6537F.D/E2N6537R.D
% Moisture: 45 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	59000	U
11104-28-2	Aroclor-1221	59000	U
11141-16-5	Aroclor-1232	59000	U
53469-21-9	Aroclor-1242	390000	
12672-29-6	Aroclor-1248	59000	U
11097-69-1	Aroclor-1254	59000	U
11096-82-5	Aroclor-1260	59000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-091

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-11A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6774F.D/E2N6774R.D

% Moisture: 49 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/15/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	64000	U
11104-28-2	Aroclor-1221	64000	U
11141-16-5	Aroclor-1232	64000	U
53469-21-9	Aroclor-1242	490000	
12672-29-6	Aroclor-1248	64000	U
11097-69-1	Aroclor-1254	130000	P
11096-82-5	Aroclor-1260	64000	U

1H - FORM I ARO
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
 DD-092

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-12A
 Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6897F.D/E2N6897R.D
 % Moisture: 50 Decanted: (Y/N) N Date Received: 11/20/2014
 Extraction: (Type) SONC Date Extracted: 11/21/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	13000	U
11104-28-2	Aroclor-1221	13000	U
11141-16-5	Aroclor-1232	13000	U
53469-21-9	Aroclor-1242	110000	
12672-29-6	Aroclor-1248	13000	U
11097-69-1	Aroclor-1254	24000	P
11096-82-5	Aroclor-1260	13000	U

1H - FORM I ARO
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
 DD-093

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-13A
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N7105F.D/E2N7105R.D
 % Moisture: 38 Decanted: (Y/N) N Date Received: 11/20/2014
 Extraction: (Type) SONC Date Extracted: 11/21/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/23/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 100.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	5300	U
11104-28-2	Aroclor-1221	5300	U
11141-16-5	Aroclor-1232	5300	U
53469-21-9	Aroclor-1242	57000	
12672-29-6	Aroclor-1248	5300	U
11097-69-1	Aroclor-1254	5300	U
11096-82-5	Aroclor-1260	5300	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-094

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-14A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6538F.D/E2N6538R.D
% Moisture: 30 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	46000	U
11104-28-2	Aroclor-1221	46000	U
11141-16-5	Aroclor-1232	46000	U
53469-21-9	Aroclor-1242	240000	P
12672-29-6	Aroclor-1248	46000	U
11097-69-1	Aroclor-1254	46000	U
11096-82-5	Aroclor-1260	46000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-095

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-15A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6775F.D/E2N6775R.D

% Moisture: 48 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/15/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	13000	U
11104-28-2	Aroclor-1221	13000	U
11141-16-5	Aroclor-1232	13000	U
53469-21-9	Aroclor-1242	90000	
12672-29-6	Aroclor-1248	13000	U
11097-69-1	Aroclor-1254	18000	P
11096-82-5	Aroclor-1260	13000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-096

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-16A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6898F.D/E2N6898R.D
% Moisture: 36 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 20.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	1000	U
11104-28-2	Aroclor-1221	1000	U
11141-16-5	Aroclor-1232	1000	U
53469-21-9	Aroclor-1242	7200	
12672-29-6	Aroclor-1248	1000	U
11097-69-1	Aroclor-1254	1000	U
11096-82-5	Aroclor-1260	1000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-097

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-17A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N7106F.D/E2N7106R.D

% Moisture: 27 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/23/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	440	U
11104-28-2	Aroclor-1221	440	U
11141-16-5	Aroclor-1232	440	U
53469-21-9	Aroclor-1242	670	
12672-29-6	Aroclor-1248	440	U
11097-69-1	Aroclor-1254	440	U
11096-82-5	Aroclor-1260	440	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-098

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-18A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6219F.D/E2N6219R.D
% Moisture: 45 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 25.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	1500	U
11104-28-2	Aroclor-1221	1500	U
11141-16-5	Aroclor-1232	1500	U
53469-21-9	Aroclor-1242	17000	
12672-29-6	Aroclor-1248	1500	U
11097-69-1	Aroclor-1254	6100	
11096-82-5	Aroclor-1260	1500	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-099

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-19A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6752F.D/E2N6752R.D

% Moisture: 25 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/13/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	440	U
11104-28-2	Aroclor-1221	440	U
11141-16-5	Aroclor-1232	440	U
53469-21-9	Aroclor-1242	1500	
12672-29-6	Aroclor-1248	440	U
11097-69-1	Aroclor-1254	440	U
11096-82-5	Aroclor-1260	440	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB-80987-111914-
DD-100

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: N2230-20B
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5831F.D/E2N5831R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: 11/20/2014
Extraction: (Type) SEPF Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	Q
		(ug/L or ug/Kg) ug/L	
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-101

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-21A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6220F.D/E2N6220R.D
% Moisture: 52 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 250.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	17000	U
11104-28-2	Aroclor-1221	17000	U
11141-16-5	Aroclor-1232	17000	U
53469-21-9	Aroclor-1242	220000	
12672-29-6	Aroclor-1248	17000	U
11097-69-1	Aroclor-1254	30000	P
11096-82-5	Aroclor-1260	17000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-102

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-22A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6221F.D/E2N6221R.D

% Moisture: 52 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	14000	U
11104-28-2	Aroclor-1221	14000	U
11141-16-5	Aroclor-1232	14000	U
53469-21-9	Aroclor-1242	110000	
12672-29-6	Aroclor-1248	14000	U
11097-69-1	Aroclor-1254	14000	P
11096-82-5	Aroclor-1260	14000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-103

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-23A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6776F.D/E2N6776R.D
% Moisture: 44 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/15/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 400.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	23000	U
11104-28-2	Aroclor-1221	23000	U
11141-16-5	Aroclor-1232	23000	U
53469-21-9	Aroclor-1242	230000	
12672-29-6	Aroclor-1248	23000	U
11097-69-1	Aroclor-1254	38000	P
11096-82-5	Aroclor-1260	23000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-104

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-24A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6240F.D/E2N6240R.D
% Moisture: 45 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	59000	U
11104-28-2	Aroclor-1221	59000	U
11141-16-5	Aroclor-1232	59000	U
53469-21-9	Aroclor-1242	380000	
12672-29-6	Aroclor-1248	59000	U
11097-69-1	Aroclor-1254	67000	P
11096-82-5	Aroclor-1260	59000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-25A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6754F.D/E2N6754R.D
% Moisture: 50 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/13/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	65000	U
11104-28-2	Aroclor-1221	65000	U
11141-16-5	Aroclor-1232	65000	U
53469-21-9	Aroclor-1242	430000	
12672-29-6	Aroclor-1248	65000	U
11097-69-1	Aroclor-1254	130000	
11096-82-5	Aroclor-1260	65000	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-106

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-26A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6899F.D/E2N6899R.D
% Moisture: 41 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 50.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	2800	U
11104-28-2	Aroclor-1221	2800	U
11141-16-5	Aroclor-1232	2800	U
53469-21-9	Aroclor-1242	25000	
12672-29-6	Aroclor-1248	2800	U
11097-69-1	Aroclor-1254	4900	P
11096-82-5	Aroclor-1260	2800	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-107

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-27A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N7068F.D/E2N7068R.D

% Moisture: 38 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	280	P
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	110	U
11096-82-5	Aroclor-1260	110	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-108

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-28A
Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6175F.D/E2N6175R.D
% Moisture: 33 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	48	U
11104-28-2	Aroclor-1221	48	U
11141-16-5	Aroclor-1232	48	U
53469-21-9	Aroclor-1242	48	U
12672-29-6	Aroclor-1248	48	U
11097-69-1	Aroclor-1254	48	U
11096-82-5	Aroclor-1260	48	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-80113

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5824F.D/E2N5824R.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/20/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80128

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80128
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6164F.D/E2N6164R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80129

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80129
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6170F.D/E2N6170R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80113(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80113
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5825F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.8	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.6	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80113(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80113

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5825R.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/20/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.6	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.5	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80128(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80128
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6165F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80128(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80128
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6165R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	110	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	110	

1H - FORM I ARO
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EPA SAMPLE NO.

LCS-80129(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80129
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6171F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	100	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80129(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80129
 Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6171R.D
 % Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
 Extraction: (Type) SONC Date Extracted: 11/21/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	140	

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AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80113(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80113
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5826F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/20/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.5	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.4	

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AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80113(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80113

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N5826R.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/20/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/25/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.3	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.3	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80129(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80129
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6172F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	180	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	150	

1H - FORM I ARO
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80129(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCSD-80129
 Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6172R.D
 % Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
 Extraction: (Type) SONC Date Extracted: 11/21/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	160	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	140	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-090MS(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-10AMS

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6539F.D

% Moisture: 45 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	59000	U
11104-28-2	Aroclor-1221	59000	U
11141-16-5	Aroclor-1232	59000	U
53469-21-9	Aroclor-1242	170000	
12672-29-6	Aroclor-1248	59000	U
11097-69-1	Aroclor-1254	59000	U
11096-82-5	Aroclor-1260	59000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-090MS(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-10AMS

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2N6539R.D

% Moisture: 45 Decanted: (Y/N) N Date Received: 11/20/2014

Extraction: (Type) SONC Date Extracted: 11/21/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	59000	U
11104-28-2	Aroclor-1221	59000	U
11141-16-5	Aroclor-1232	59000	U
53469-21-9	Aroclor-1242	200000	
12672-29-6	Aroclor-1248	59000	U
11097-69-1	Aroclor-1254	59000	U
11096-82-5	Aroclor-1260	59000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-090MSD(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-10AMSD
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6540F.D
% Moisture: 45 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	59000	U
11104-28-2	Aroclor-1221	59000	U
11141-16-5	Aroclor-1232	59000	U
53469-21-9	Aroclor-1242	400000	
12672-29-6	Aroclor-1248	59000	U
11097-69-1	Aroclor-1254	59000	U
11096-82-5	Aroclor-1260	59000	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-111914-
DD-090MSD(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2230-10AMSD
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6540R.D
% Moisture: 45 Decanted: (Y/N) N Date Received: 11/20/2014
Extraction: (Type) SONC Date Extracted: 11/21/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/09/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1000.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	59000	U
11104-28-2	Aroclor-1221	59000	U
11141-16-5	Aroclor-1232	59000	U
53469-21-9	Aroclor-1242	390000	
12672-29-6	Aroclor-1248	59000	U
11097-69-1	Aroclor-1254	59000	U
11096-82-5	Aroclor-1260	59000	U

2Q - FORM II ARO-1
WATER AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80113	84	88	78	78			0
02	LCS-80113	87	89	80	77			0
03	LCSD-80113	81	85	75	74			0
04	EB-80987-111 914-DD-100	68	70	36 *	36 *			2

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

QC LIMITS
(34-137)
(40-135)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80128	98	99	96	84			0
02	LCS-80128	83	83	98	87			0
03	MB-80129	84	86	104	116			0
04	LCS-80129	100	100	122	91			0
05	LCSD-80129	110	119	115	109			0
06	SD-80987-111 914-DD-108	282 *	149 *	112	99			2
07	SD-80987-111 914-DD-084	141	81	287 D	177 D			2
08	SD-80987-111 914-DD-098	0 D	0 D	0 D	0 D			4
09	SD-80987-111 914-DD-101	0 D	0 D	0 D	0 D			4
10	SD-80987-111 914-DD-102	0 D	0 D	0 D	0 D			4
11	SD-80987-111 914-DD-089	96	87	90	94			0
12	SD-80987-111 914-DD-104	0 D	0 D	0 D	0 D			4
13	SD-80987-111 914-DD-081	0 D	0 D	0 D	0 D			4
14	SD-80987-111 914-DD-082	0 D	0 D	0 D	0 D			4
15	SD-80987-111 914-DD-085	0 D	0 D	0 D	0 D			4
16	SD-80987-111 914-DD-090	0 D	0 D	0 D	0 D			4
17	SD-80987-111 914-DD-094	0 D	0 D	0 D	0 D			4

QC LIMITS
(34-147)
(60-125)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
18	SD-80987-111 914-DD-090MS	0 D	0 D	0 D	0 D			4
19	SD-80987-111 914-DD-090MS D	0 D	0 D	0 D	0 D			4
20	SD-80987-111 914-DD-083	234 D	115	137 D	140 D			3
21	SD-80987-111 914-DD-086	0 D	0 D	0 D	0 D			4
22	SD-80987-111 914-DD-099	134	96	97	114			0
23	SD-80987-111 914-DD-105	0 D	0 D	0 D	0 D			4
24	SD-80987-111 914-DD-091	0 D	0 D	0 D	0 D			4
25	SD-80987-111 914-DD-095	0 D	0 D	0 D	0 D			4
26	SD-80987-111 914-DD-103	0 D	0 D	0 D	0 D			4
27	SD-80987-111 914-DD-087	0 D	0 D	0 D	0 D			4
28	SD-80987-111 914-DD-092	0 D	0 D	0 D	0 D			4
29	SD-80987-111 914-DD-096	128	92	84	96			0
30	SD-80987-111 914-DD-106	0 D	0 D	0 D	0 D			4
31	SD-80987-111 914-DD-107	54	55	61	56 D			1
32	SD-80987-111 914-DD-093	0 D	0 D	0 D	0 D			4

QC LIMITS

(34-147)

(60-125)

TCX = Tetrachloro-m-xylene

DCB = Decachlorobiphenyl

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
33	SD-80987-111 914-DD-097	130	116	132 D	133 D			2
34	SD-80987-111 914-DD-088	111	116	105	111			0

QC LIMITS
(34-147)
(60-125)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix Spike - EPA Sample No.: SD-80987-111914-DD-090

Instrument ID: E2 GC Column : CLPPest ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	237.5141	0.0000	0.0000	0	*	40-140
AR1260	237.5141	0.0000	0.0000	0	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	238.2980	0.0000	0	*			0-30	40-140
AR1260	238.2980	0.0000	0	*			0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230

Matrix Spike - EPA Sample No.: SD-80987-111914-DD-090

Instrument ID: E2 GC Column : CLPPestII ID: 0.53 (mm)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS %REC	#	QC. LIMITS REC.
AR1016	237.5141	0.0000	0.0000	0	*	40-140
AR1260	237.5141	0.0000	0.0000	0	*	60-130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
AR1016	238.2980	0.0000	0	*			0-30	40-140
AR1260	238.2980	0.0000	0	*			0-30	60-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 4 out of 4 outside limits

COMMENTS: _____

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab Sample ID: LCS-80113 LCS Lot No.: a094177
Date Extracted: 11/20/2014 Date Analyzed (1): 11/25/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.7564	94	25-145
Aroclor-1260	4.0000	3.5966	90	30-145

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 11/25/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.6257	91	25-145
Aroclor-1260	4.0000	3.5147	88	30-145

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80128

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab Sample ID: LCS-80128 LCS Lot No.: a094177
Date Extracted: 11/21/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	123.1285	92	40-140
Aroclor-1260	133.3330	116.9418	88	60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	113.1179	85	40-140
Aroclor-1260	133.3330	113.0609	85	60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80129

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab Sample ID: LCS-80129 LCS Lot No.: a094177
Date Extracted: 11/21/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	130.4316	98	40-140
Aroclor-1260	133.3330	102.2390	77	60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	126.7002	95	40-140
Aroclor-1260	133.3330	138.7245	104	60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab Sample ID: LCSD-80113 LCS Lot No.: a094177
Date Extracted: 11/20/2014 Date Analyzed (1): 11/25/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.5329	88	25-145	7.0	30
Aroclor-1260	4.0000	3.3937	85	30-145	6.0	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 11/25/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.2828	82	25-145	10	30
Aroclor-1260	4.0000	3.3455	84	30-145	5.0	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 0 out of 4 outside limits.

COMMENTS:

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80129

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab Sample ID: LCSD-80129 LCS Lot No.: a094177
Date Extracted: 11/21/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	182.6050	137	40-140	33 *	30
Aroclor-1260	133.3330	146.1159	110	60-130	35 *	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	133.3330	158.0095	119	40-140	22	30
Aroclor-1260	133.3330	142.2491	107	60-130	3.0	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 2 out of 4 outside limits.

COMMENTS:

4F - FORM IV ARO
AROCOLOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab File ID: E2N5824F.D / E2N5824R.D Lab Sample ID: MB-80113
Matrix: (SOIL/SED/WATER) WATER Extraction: (Type) SEPF Date Extracted: 11/20/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 11/25/2014 Date Analyzed (2): 11/25/2014
Time Analyzed (1): 18:24 Time Analyzed (2): 18:24
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80113	LCS-80113	11/25/2014	11/25/2014
02	LCSD-80113	LCSD-80113	11/25/2014	11/25/2014
03	EB-80987-111 914-DD-100	N2230-20B	11/25/2014	11/25/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80128

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab File ID: E2N6164F.D / E2N6164R.D Lab Sample ID: MB-80128
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/21/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup: (Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 2:16 Time Analyzed (2): 2:16
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80128	LCS-80128	12/04/2014	12/04/2014
02	SD-80987-111 914-DD-084	N2230-04A	12/04/2014	12/04/2014
03	SD-80987-111 914-DD-098	N2230-18A	12/04/2014	12/04/2014
04	SD-80987-111 914-DD-101	N2230-21A	12/04/2014	12/04/2014
05	SD-80987-111 914-DD-089	N2230-09A	12/04/2014	12/04/2014
06	SD-80987-111 914-DD-081	N2230-01A	12/09/2014	12/09/2014
07	SD-80987-111 914-DD-082	N2230-02A	12/09/2014	12/09/2014
08	SD-80987-111 914-DD-085	N2230-05A	12/09/2014	12/09/2014
09	SD-80987-111 914-DD-090	N2230-10A	12/09/2014	12/09/2014
10	SD-80987-111 914-DD-094	N2230-14A	12/09/2014	12/09/2014
11	SD-80987-111 914-DD-090MS	N2230-10AMS	12/09/2014	12/09/2014
12	SD-80987-111 914-DD-090MS D	N2230-10AMSD	12/09/2014	12/09/2014
13	SD-80987-111 914-DD-083	N2230-03A	12/12/2014	12/12/2014
14	SD-80987-111 914-DD-086	N2230-06A	12/12/2014	12/12/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80128

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab File ID: E2N6164F.D / E2N6164R.D Lab Sample ID: MB-80128
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/21/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup: (Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 2:16 Time Analyzed (2): 2:16
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
15	SD-80987-111 914-DD-099	N2230-19A	12/13/2014	12/13/2014
16	SD-80987-111 914-DD-091	N2230-11A	12/15/2014	12/15/2014
17	SD-80987-111 914-DD-095	N2230-15A	12/15/2014	12/15/2014
18	SD-80987-111 914-DD-087	N2230-07A	12/17/2014	12/17/2014
19	SD-80987-111 914-DD-092	N2230-12A	12/17/2014	12/17/2014
20	SD-80987-111 914-DD-096	N2230-16A	12/17/2014	12/17/2014
21	SD-80987-111 914-DD-093	N2230-13A	12/23/2014	12/23/2014
22	SD-80987-111 914-DD-097	N2230-17A	12/23/2014	12/23/2014
23	SD-80987-111 914-DD-088	N2230-08A	12/26/2014	12/26/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80129

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2230 Mod. Ref No.: _____ SDG No.: SN2230
Lab File ID: E2N6170F.D / E2N6170R.D Lab Sample ID: MB-80129
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/21/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 3:44 Time Analyzed (2): 3:44
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80129	LCS-80129	12/04/2014	12/04/2014
02	LCSD-80129	LCSD-80129	12/04/2014	12/04/2014
03	SD-80987-111 914-DD-108	N2230-28A	12/04/2014	12/04/2014
04	SD-80987-111 914-DD-102	N2230-22A	12/04/2014	12/04/2014
05	SD-80987-111 914-DD-104	N2230-24A	12/04/2014	12/04/2014
06	SD-80987-111 914-DD-105	N2230-25A	12/13/2014	12/13/2014
07	SD-80987-111 914-DD-103	N2230-23A	12/15/2014	12/15/2014
08	SD-80987-111 914-DD-106	N2230-26A	12/17/2014	12/17/2014
09	SD-80987-111 914-DD-107	N2230-27A	12/22/2014	12/22/2014

COMMENTS:

Report Date:
30-Dec-14 11:55



- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, NY 14304

Work Order: N2252
Project : Friedrichsohn Cooperage Site
Project #: 080987-001

Attn: Kathy Shaw

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
N2252-01	SD-80987-112014-DD-109	Soil	20-Nov-14 07:55	21-Nov-14 10:28
N2252-02	SD-80987-112014-DD-110	Soil	20-Nov-14 08:00	21-Nov-14 10:28
N2252-03	SD-80987-112014-DD-111	Soil	20-Nov-14 08:25	21-Nov-14 10:28
N2252-04	SD-80987-112014-DD-112	Soil	20-Nov-14 08:30	21-Nov-14 10:28
N2252-05	SD-80987-112014-DD-113	Soil	20-Nov-14 09:05	21-Nov-14 10:28
N2252-06	SD-80987-112014-DD-114	Soil	20-Nov-14 09:30	21-Nov-14 10:28
N2252-07	SD-80987-112014-DD-115	Soil	20-Nov-14 09:35	21-Nov-14 10:28
N2252-08	EB-80987-112014-DD-116	Aqueous	20-Nov-14 09:40	21-Nov-14 10:28
N2252-09	SD-80987-112014-DD-117	Soil	20-Nov-14 10:30	21-Nov-14 10:28
N2252-10	SD-80987-112014-DD-118	Soil	20-Nov-14 10:35	21-Nov-14 10:28
N2252-11	SD-80987-112014-DD-119	Soil	20-Nov-14 10:40	21-Nov-14 10:28
N2252-12	SD-80987-112014-DD-120	Soil	20-Nov-14 11:05	21-Nov-14 10:28
N2252-13	SD-80987-112014-DD-121	Soil	20-Nov-14 11:10	21-Nov-14 10:28
N2252-14	SD-80987-112014-DD-122	Soil	20-Nov-14 11:15	21-Nov-14 10:28
N2252-15	SD-80987-112014-DD-123	Soil	20-Nov-14 12:10	21-Nov-14 10:28
N2252-16	SD-80987-112014-DD-124	Soil	20-Nov-14 12:15	21-Nov-14 10:28
N2252-17	SD-80987-112014-DD-125	Soil	20-Nov-14 12:20	21-Nov-14 10:28
N2252-18	SD-80987-112014-DD-126	Soil	20-Nov-14 12:30	21-Nov-14 10:28

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 requirements have been met.

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
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033



Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director



SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

*** Data Summary Pack ***

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2252

Client ID: CRA

Case:

HC Due: 12/03/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4068085

Comments: Report "J". Samples 05 and 18 taken off hold per client request 11/24

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2252-01A	SD-80987-112014-DD-109	11/20/2014 07:55	11/21/2014	Soil	PMoist	/				Y	E2
N2252-01A	SD-80987-112014-DD-109	11/20/2014 07:55	11/21/2014	Soil	SW8082_S	/				Y	E2
N2252-02A	SD-80987-112014-DD-110	11/20/2014 08:00	11/21/2014	Soil	PMoist	/		Y			E2
N2252-02A	SD-80987-112014-DD-110	11/20/2014 08:00	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-03A	SD-80987-112014-DD-111	11/20/2014 08:25	11/21/2014	Soil	PMoist	/					E2
N2252-03A	SD-80987-112014-DD-111	11/20/2014 08:25	11/21/2014	Soil	SW8082_S	/					E2
N2252-04A	SD-80987-112014-DD-112	11/20/2014 08:30	11/21/2014	Soil	PMoist	/		Y			E2
N2252-04A	SD-80987-112014-DD-112	11/20/2014 08:30	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-05A	SD-80987-112014-DD-113	11/20/2014 09:05	11/21/2014	Soil	PMoist	/					E2
N2252-05A	SD-80987-112014-DD-113	11/20/2014 09:05	11/21/2014	Soil	SW8082_S	/					E2
N2252-06A	SD-80987-112014-DD-114	11/20/2014 09:30	11/21/2014	Soil	PMoist	/		Y			E2
N2252-06A	SD-80987-112014-DD-114	11/20/2014 09:30	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-07A	SD-80987-112014-DD-115	11/20/2014 09:35	11/21/2014	Soil	ASTMD5321_S	/ GEO--Sub to GeoTesting					SUB
N2252-07B	SD-80987-112014-DD-115	11/20/2014 09:35	11/21/2014	Soil	LK_TOC_S	/ SPECTRUM--Sub to Agawam					SUB
N2252-08A	EB-80987-112014-DD-116	11/20/2014 09:40	11/21/2014	Aqueous	SM5310B_TOC_W	/ SPECTRUM--Sub to Agawam					SUB
N2252-08B	EB-80987-112014-DD-116	11/20/2014 09:40	11/21/2014	Aqueous	SW8082_W	/					E2
N2252-09A	SD-80987-112014-DD-117	11/20/2014 10:30	11/21/2014	Soil	PMoist	/					E2
N2252-09A	SD-80987-112014-DD-117	11/20/2014 10:30	11/21/2014	Soil	SW8082_S	/					E2
N2252-10A	SD-80987-112014-DD-118	11/20/2014 10:35	11/21/2014	Soil	PMoist	/		Y			E2
N2252-10A	SD-80987-112014-DD-118	11/20/2014 10:35	11/21/2014	Soil	SW8082_S	/		Y			E2

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

HT = Test logged in but has been placed on hold

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: N2252

Client ID: CRA

Case:

HC Due: 12/03/14

Report Level: LEVEL 4

Project: Friedrichsohn Cooperage Site

SDG:

Fax Due:

Special Program:

WO Name: Friedrichsohn Cooperage Site

Fax Report: ☐

EDD: EQUIIS_4_CRA

Location: CRA_FRIEDRICHSOHN, 080987-001

PO: 4068085

Comments: Report "J". Samples 05 and 18 taken off hold per client request 11/24

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
N2252-11A	SD-80987-112014-DD-119	11/20/2014 10:40	11/21/2014	Soil	PMoist	/		Y			E2
N2252-11A	SD-80987-112014-DD-119	11/20/2014 10:40	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-12A	SD-80987-112014-DD-120	11/20/2014 11:05	11/21/2014	Soil	PMoist	/					E2
N2252-12A	SD-80987-112014-DD-120	11/20/2014 11:05	11/21/2014	Soil	SW8082_S	/					E2
N2252-13A	SD-80987-112014-DD-121	11/20/2014 11:10	11/21/2014	Soil	PMoist	/		Y			E2
N2252-13A	SD-80987-112014-DD-121	11/20/2014 11:10	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-14A	SD-80987-112014-DD-122	11/20/2014 11:15	11/21/2014	Soil	PMoist	/		Y			E2
N2252-14A	SD-80987-112014-DD-122	11/20/2014 11:15	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-15A	SD-80987-112014-DD-123	11/20/2014 12:10	11/21/2014	Soil	PMoist	/					E2
N2252-15A	SD-80987-112014-DD-123	11/20/2014 12:10	11/21/2014	Soil	SW8082_S	/					E2
N2252-16A	SD-80987-112014-DD-124	11/20/2014 12:15	11/21/2014	Soil	PMoist	/		Y			E2
N2252-16A	SD-80987-112014-DD-124	11/20/2014 12:15	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-17A	SD-80987-112014-DD-125	11/20/2014 12:20	11/21/2014	Soil	PMoist	/		Y			E2
N2252-17A	SD-80987-112014-DD-125	11/20/2014 12:20	11/21/2014	Soil	SW8082_S	/		Y			E2
N2252-18A	SD-80987-112014-DD-126	11/20/2014 12:30	11/21/2014	Soil	PMoist	/					E2
N2252-18A	SD-80987-112014-DD-126	11/20/2014 12:30	11/21/2014	Soil	SW8082_S	/					E2



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** PCB Organics ***

REPORT NARRATIVE

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

Client : Conestoga-Rovers & Associates

Project: Friedrichsohn Cooperage Site

Laboratory Workorder / SDG #: N2252

SW846 8082A, PCB by GC-ECD

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 8082A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510C
Soil Samples were prepared following procedures in laboratory test code: SW3550B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E2
Instrument Type: GC-ECD

Description: HP5890 II +
Manufacturer: Hewlett-Packard
Model: 5890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest
capillary column.
GC Column used: 30 m X 0.53 mm ID [0.42 um thickness] CLPPestII
capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

SD-80987-112014-DD-111 (N2252-03A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 135% with criteria of (60-125).

EB-80987-112014-DD-116 (N2252-08B), recovery is below criteria for Decachlorobiphenyl on rear column at 22% with criteria of (40-135) and Decachlorobiphenyl on front column at 27% with criteria of (40-135).

SD-80987-112014-DD-117 (N2252-09A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 126% with criteria of (60-125).

SD-80987-112014-DD-120 (N2252-12A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 136% with criteria of (60-125) and Decachlorobiphenyl on front column at 128% with criteria of (60-125).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC

limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Dilutions:

The following samples were analyzed at dilution:

SD-80987-112014-DD-111 (N2252-03A) : Dilution Factor: 10
SD-80987-112014-DD-117 (N2252-09A) : Dilution Factor: 5
SD-80987-112014-DD-118 (N2252-10A) : Dilution Factor: 5
SD-80987-112014-DD-119 (N2252-11A) : Dilution Factor: 10
SD-80987-112014-DD-120 (N2252-12A) : Dilution Factor: 10
SD-80987-112014-DD-121 (N2252-13A) : Dilution Factor: 10
SD-80987-112014-DD-123 (N2252-15A) : Dilution Factor: 5

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

G. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or falling baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

The following samples were manually integrated:

AR12326M2 Aroclor-1232 on rear column due to M3

AR12422N2 Aroclor-1242 on rear column due to M3

AR12423MN Decachlorobiphenyl on front column due to M3

AR12423N2 Aroclor-1242 on rear column due to M3

AR12423NT Aroclor-1242 on rear column due to M3

AR12423NU Aroclor-1242 on rear column due to M3

AR12425M2 Aroclor-1242 on front column due to M3

AR12483MN Decachlorobiphenyl on front column due to M3

AR12485M2 Aroclor-1248 on front column due to M3

AR12543MN Aroclor-1254 on front column , Decachlorobiphenyl on front column due to M3

AR16603MN Decachlorobiphenyl on front column , Aroclor-1260 on rear column , Decachlorobiphenyl on rear column due to M3

AR16603NT Aroclor-1016 on front column due to M3

SD-80987-112014-DD-111 (N2252-03A) Tetrachloro-m-xylene on rear column due to M3

SD-80987-112014-DD-118 (N2252-10A) Aroclor-1242 on rear column due to M3

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.

A handwritten signature in black ink, appearing to be 'J. H. P.', is positioned above the signature line.

Signed: _____

Date: _____ 12/30/2014 _____



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 1 of 2):

- 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 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 an aldol condensation by-product.



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Data Flag/Qualifiers (Page 2 of 2):

- 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.
- L NYSDEC qualifier: Result is biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.



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

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-109

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-01A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6191F.D/E2N6191R.D
% Moisture: 41 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	56	U
11104-28-2	Aroclor-1221	56	U
11141-16-5	Aroclor-1232	56	U
53469-21-9	Aroclor-1242	56	U
12672-29-6	Aroclor-1248	56	U
11097-69-1	Aroclor-1254	56	U
11096-82-5	Aroclor-1260	56	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-111

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-03A
Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2N6264F.D/E2N6264R.D
% Moisture: 44 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/05/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	590	U
11104-28-2	Aroclor-1221	590	U
11141-16-5	Aroclor-1232	590	U
53469-21-9	Aroclor-1242	4400	
12672-29-6	Aroclor-1248	590	U
11097-69-1	Aroclor-1254	1400	
11096-82-5	Aroclor-1260	590	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-112

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-04A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6755F.D/E2N6755R.D
% Moisture: 21 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/13/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
12674-11-2	Aroclor-1016	41		U
11104-28-2	Aroclor-1221	41		U
11141-16-5	Aroclor-1232	41		U
53469-21-9	Aroclor-1242	41		U
12672-29-6	Aroclor-1248	41		U
11097-69-1	Aroclor-1254	41		U
11096-82-5	Aroclor-1260	41		U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-113

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-05A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6193F.D/E2N6193R.D
% Moisture: 37 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	52	U
11104-28-2	Aroclor-1221	52	U
11141-16-5	Aroclor-1232	52	U
53469-21-9	Aroclor-1242	120	
12672-29-6	Aroclor-1248	52	U
11097-69-1	Aroclor-1254	52	U
11096-82-5	Aroclor-1260	52	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-114

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-06A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6900F.D/E2N6900R.D
% Moisture: 17 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	460	
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	66	P
11096-82-5	Aroclor-1260	39	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB-80987-112014-
DD-116

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: N2252-08B
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6188F.D/E2N6188R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: 11/21/2014
Extraction: (Type) SEPF Date Extracted: 11/25/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-117

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-09A
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6265F.D/E2N6265R.D
 % Moisture: 54 Decanted: (Y/N) N Date Received: 11/21/2014
 Extraction: (Type) SONC Date Extracted: 11/24/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/05/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	360	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	2900	
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	600	P
11096-82-5	Aroclor-1260	360	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-118

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-10A
Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6756F.D/E2N6756R.D
% Moisture: 54 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/13/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	360	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	1900	P
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	590	
11096-82-5	Aroclor-1260	360	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-119

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-11A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6901F.D/E2N6901R.D
% Moisture: 51 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	670	U
11104-28-2	Aroclor-1221	670	U
11141-16-5	Aroclor-1232	670	U
53469-21-9	Aroclor-1242	5400	
12672-29-6	Aroclor-1248	670	U
11097-69-1	Aroclor-1254	810	P
11096-82-5	Aroclor-1260	670	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-120

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-12A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2N6266F.D/E2N6266R.D

% Moisture: 53 Decanted: (Y/N) N Date Received: 11/21/2014

Extraction: (Type) SONC Date Extracted: 11/24/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/05/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	700	U
11104-28-2	Aroclor-1221	700	U
11141-16-5	Aroclor-1232	700	U
53469-21-9	Aroclor-1242	7900	P
12672-29-6	Aroclor-1248	700	U
11097-69-1	Aroclor-1254	990	P
11096-82-5	Aroclor-1260	700	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-121

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-13A
Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2N6757F.D/E2N6757R.D
% Moisture: 48 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/13/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	630	U
11104-28-2	Aroclor-1221	630	U
11141-16-5	Aroclor-1232	630	U
53469-21-9	Aroclor-1242	5600	
12672-29-6	Aroclor-1248	630	U
11097-69-1	Aroclor-1254	1800	
11096-82-5	Aroclor-1260	630	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-122

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-14A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6902F.D/E2N6902R.D
% Moisture: 23 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/17/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	43	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	48	P
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	43	U
11096-82-5	Aroclor-1260	43	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-123

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-15A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6267F.D/E2N6267R.D

% Moisture: 58 Decanted: (Y/N) N Date Received: 11/21/2014

Extraction: (Type) SONC Date Extracted: 11/24/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/05/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
12674-11-2	Aroclor-1016	390	U
11104-28-2	Aroclor-1221	390	U
11141-16-5	Aroclor-1232	390	U
53469-21-9	Aroclor-1242	2400	P
12672-29-6	Aroclor-1248	390	U
11097-69-1	Aroclor-1254	400	P
11096-82-5	Aroclor-1260	390	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-124

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-16A
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6758F.D/E2N6758R.D
% Moisture: 20 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/13/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
12674-11-2	Aroclor-1016	41		U
11104-28-2	Aroclor-1221	41		U
11141-16-5	Aroclor-1232	41		U
53469-21-9	Aroclor-1242	190		
12672-29-6	Aroclor-1248	41		U
11097-69-1	Aroclor-1254	68		
11096-82-5	Aroclor-1260	41		U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD-80987-112014-
DD-126

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: N2252-18A
Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2N6197F.D/E2N6197R.D
% Moisture: 26 Decanted: (Y/N) N Date Received: 11/21/2014
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
12674-11-2	Aroclor-1016	44	U
11104-28-2	Aroclor-1221	44	U
11141-16-5	Aroclor-1232	44	U
53469-21-9	Aroclor-1242	44	U
12672-29-6	Aroclor-1248	44	U
11097-69-1	Aroclor-1254	44	U
11096-82-5	Aroclor-1260	44	U

1H - FORM I ARO
AROCOLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80165

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-80165
Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2N6189F.D/E2N6189R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-80170

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-80170
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6185F.D/E2N6185R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/25/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80165(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80165
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6190F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	120	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80165(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-80165
Sample wt/vol: 30 (g/mL) G Lab File ID: E2N6190R.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SONC Date Extracted: 11/24/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	120	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	110	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80170(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80170
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6186F.D
% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
Extraction: (Type) SEPF Date Extracted: 11/25/2014
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.9	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	2.9	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-80170(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-80170

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6186R.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/25/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.2	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	2.7	

1H - FORM I ARO
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80170(1)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80170

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6187F.D

% Moisture: _____ Decanted: (Y/N) _____ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 11/25/2014

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.6	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	3.1	

1H - FORM I ARO
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-80170(2)

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-80170
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2N6187R.D
 % Moisture: _____ Decanted: (Y/N) _____ Date Received: _____
 Extraction: (Type) SEPF Date Extracted: 11/25/2014
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/04/2014
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y
 Acid Cleanup: (Y/N) Y _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	3.3	
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	2.9	

2Q - FORM II ARO-1
WATER AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80170	70	67	90	56			0
02	LCS-80170	75	74	59	66			0
03	LCSD-80170	75	74	63	62			0
04	EB-80987-112 014-DD-116	68	67	27 *	22 *			2

QC LIMITS
(34-137)
(40-135)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
 Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
 GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	MB-80165	85	86	83	82			0
02	LCS-80165	90	91	88	88			0
03	SD-80987-112 014-DD-109	88	84	75	80			0
04	SD-80987-112 014-DD-113	91	86	101	73			0
05	SD-80987-112 014-DD-126	82	82	91	85			0
06	SD-80987-112 014-DD-111	91	77	115	135 D			1
07	SD-80987-112 014-DD-117	102	89	110	126 D			1
08	SD-80987-112 014-DD-120	138	89	128 D	136 D			2
09	SD-80987-112 014-DD-123	93	79	103	112			0
10	SD-80987-112 014-DD-112	79	84	71	75			0
11	SD-80987-112 014-DD-118	90	84	88	93			0
12	SD-80987-112 014-DD-121	105	94	99	110			0
13	SD-80987-112 014-DD-124	99	101	72	78			0
14	SD-80987-112 014-DD-114	92	96	69	79			0
15	SD-80987-112 014-DD-119	114	93	98	102			0
16	SD-80987-112 014-DD-122	120	120	75	87			0

QC LIMITS
(34-147)
(60-125)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

som14.10.02.1616

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80165

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Lab Sample ID: LCS-80165 LCS Lot No.: a094177
Date Extracted: 11/24/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	125.4885	94	40-140
Aroclor-1260	133.3330	115.4693	87	60-130

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/KG)	AMOUNT RECOVERED (UG/KG)	%REC #	QC LIMITS
Aroclor-1016	133.3330	115.9048	87	40-140
Aroclor-1260	133.3330	109.1099	82	60-130

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-80170

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Lab Sample ID: LCS-80170 LCS Lot No.: a094177
Date Extracted: 11/25/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.8940	97	25-145
Aroclor-1260	4.0000	2.9478	74	30-145

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS
Aroclor-1016	4.0000	3.2031	80	25-145
Aroclor-1260	4.0000	2.6501	66	30-145

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS:

3N - FORM III ARO-3
WATER AROCLOR LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-80170

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Lab Sample ID: LCSD-80170 LCS Lot No.: a094177
Date Extracted: 11/25/2014 Date Analyzed (1): 12/04/2014
Instrument ID (1): E2 GC Column(1): CLPPest ID: 0.53 (mm)

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.6302	91	25-145	6.0	30
Aroclor-1260	4.0000	3.0779	77	30-145	4.0	30

Instrument ID (2): E2 GC Column(2): CLPPestII ID: 0.53 (mm)
Date Analyzed (2): 12/04/2014

COMPOUND	AMOUNT ADDED (UG/L)	AMOUNT RECOVERED (UG/L)	%REC #	QC LIMITS	%RPD #	RPD LIMIT
Aroclor-1016	4.0000	3.2653	82	25-145	2.0	30
Aroclor-1260	4.0000	2.8789	72	30-145	9.0	30

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

RPD: 0 out of 4 outside limits.

COMMENTS:

4F - FORM IV ARO
AROCOLOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80170

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Lab File ID: E2N6185F.D / E2N6185R.D Lab Sample ID: MB-80170
Matrix: (SOIL/SED/WATER) WATER Extraction: (Type) SEPF Date Extracted: 11/25/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 7:21 Time Analyzed (2): 7:21
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80170	LCS-80170	12/04/2014	12/04/2014
02	LCSD-80170	LCSD-80170	12/04/2014	12/04/2014
03	EB-80987-112 014-DD-116	N2252-08B	12/04/2014	12/04/2014

COMMENTS:

4F - FORM IV ARO
AROCOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80165

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Lab File ID: E2N6189F.D / E2N6189R.D Lab Sample ID: MB-80165
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/24/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 8:20 Time Analyzed (2): 8:20
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	LCS-80165	LCS-80165	12/04/2014	12/04/2014
02	SD-80987-112 014-DD-109	N2252-01A	12/04/2014	12/04/2014
03	SD-80987-112 014-DD-113	N2252-05A	12/04/2014	12/04/2014
04	SD-80987-112 014-DD-126	N2252-18A	12/04/2014	12/04/2014
05	SD-80987-112 014-DD-111	N2252-03A	12/05/2014	12/05/2014
06	SD-80987-112 014-DD-117	N2252-09A	12/05/2014	12/05/2014
07	SD-80987-112 014-DD-120	N2252-12A	12/05/2014	12/05/2014
08	SD-80987-112 014-DD-123	N2252-15A	12/05/2014	12/05/2014
09	SD-80987-112 014-DD-112	N2252-04A	12/13/2014	12/13/2014
10	SD-80987-112 014-DD-118	N2252-10A	12/13/2014	12/13/2014
11	SD-80987-112 014-DD-121	N2252-13A	12/13/2014	12/13/2014
12	SD-80987-112 014-DD-124	N2252-16A	12/13/2014	12/13/2014
13	SD-80987-112 014-DD-114	N2252-06A	12/17/2014	12/17/2014
14	SD-80987-112 014-DD-119	N2252-11A	12/17/2014	12/17/2014

COMMENTS:

4F - FORM IV ARO
AROCOLOR METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-80165

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____
Lab Code: MITKEM Case No.: N2252 Mod. Ref No.: _____ SDG No.: SN2252
Lab File ID: E2N6189F.D / E2N6189R.D Lab Sample ID: MB-80165
Matrix: (SOIL/SED/WATER) SOIL Extraction: (Type) SONC Date Extracted: 11/24/2014
Sulfur Cleanup: (Y/N) Y GPC Cleanup:(Y/N) N
Acid Cleanup: (Y/N) Y
Date Analyzed (1): 12/04/2014 Date Analyzed (2): 12/04/2014
Time Analyzed (1): 8:20 Time Analyzed (2): 8:20
Instrument ID (1): E2 Instrument ID (2): E2
GC Column(1): CLPPest ID: 0.53 (mm) GC Column(2): CLPPestII ID: 0.53 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
15	SD-80987-112 014-DD-122	N2252-14A	12/17/2014	12/17/2014

COMMENTS:



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

*** Wet Chemistry ***

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC00467

Client: Spectrum Analytical, Inc. - North Kingstown, RI

Project: Friedrichsohn Cooperage Site / N2252

SDG #: 00467

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to Lloyd Kahn.

IV. PREPARATION

Soil/Sediment samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze Lloyd Kahn:

TOC2 details: Teledyne Tekmar Apollo 9000 / TOC Boat Sampler Model 183

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met.

FORM I - INORGANIC ANALYSIS DATA SHEET

SD-80987-115014-DD-113

Lloyd Kahn

oaj dratdry: Spectrum Analytical, Inc. - Agawam, MA SG: : 9974L
b lient: Spectrum Analytical, Inc. - s drtDh ingRdwn, FI TrdNct: 2rieKricDRIdn b ddperage Site
TrdNct s umj er: s 0010 FeceiveK: 330407 34:31
MatriB: Sdil oaj dratdry IG: Sb 9974L-93 2ile IG: 30933731
SampleK: 330907 95:z1 Trepark: 300307 39:99 Analy%K: 300307 37:07
6 SdliKR: Treparatidn: : eneral Treparatidn InitialQinal: 9.998z g q3 ml
/ atcD: 3708074 Sexuence: S73z48L b alij ratidn: 379197z
InRrument: TOB 0
FepdrteKtd: MFo

CAS NO.	Analyte	Result (mg/kg)	Dilution Factor	MDL	MRL	Q
s A	Tdtal Organic b arj dn	07199	3	034	780	

CASE NARRATIVE

Spectrum Analytical, Inc. Lab Reference No. SC00467

Client: Spectrum Analytical, Inc. - North Kingstown, RI

Project: Friedrichsohn Cooperage Site / N2252

SDG #: 00467

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

III. METHODS

Analyses were performed according to SM 5310B.

IV. PREPARATION

Aqueous samples were prepared according to General Preparation.

V. INSTRUMENTATION

The following equipment was used to analyze SM 5310B:

TOC1 details: Teledyne Tekmar Apollo 9000

VI. ANALYSIS

A. Calibration:

All quality control samples were within the acceptance criteria.

B. Blanks:

All blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Samples (LCS):

All method criteria were met.

2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):

No matrix spike or matrix spike duplicates were analyzed.

3. Reference:

All method criteria were met with the following exceptions:

Total Organic Carbon in batch 1428484: The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

D. Duplicates:

No client requested duplicate. However, the method criteria may have been fulfilled with non-SDG source samples.

E. Samples:

All method criteria were met.

FORM I - INORGANIC ANALYSIS DATA SHEET

SM 3510B

EB-80987-115014-DD-116

oaj dratdry: Spectrum Analytical, Inc. - Agawam, MA SG: : 9974L
 b lient: Spectrum Analytical, Inc. - s drtDh ingRdwn, FI TrdNct: 2rieKricDRDn b ddperage Site
 TrdNct s umj er: s 0010 FeceiveK: 3304037 34:31
 MatriB: AxueduR oaj dratdry IG: Sb 9974L-90 2ile IG: 30903135-99L
 SampleK: 3309037 95:79 Trepark: 3000037 39:00 Analy%K: 3000037 3L:15
 6 SdliKR: Treparkidn: : eneral Treparkidn InitialQinal: 79 ml q79 ml
 / atcD: 3708787 Sexuence: S73zL84 b alij ratidn: 3798910
 InRrument: TOB 3
 FepdrteKtd: MFo

CAS NO.	Analyte	Result (mg/l)	Dilution Factor	MDL	MRL	Q
s A	Tdtal Organic b arj dn	9.749	3	9.08z	3.99	J



SPECTRUM ANALYTICAL, INC.

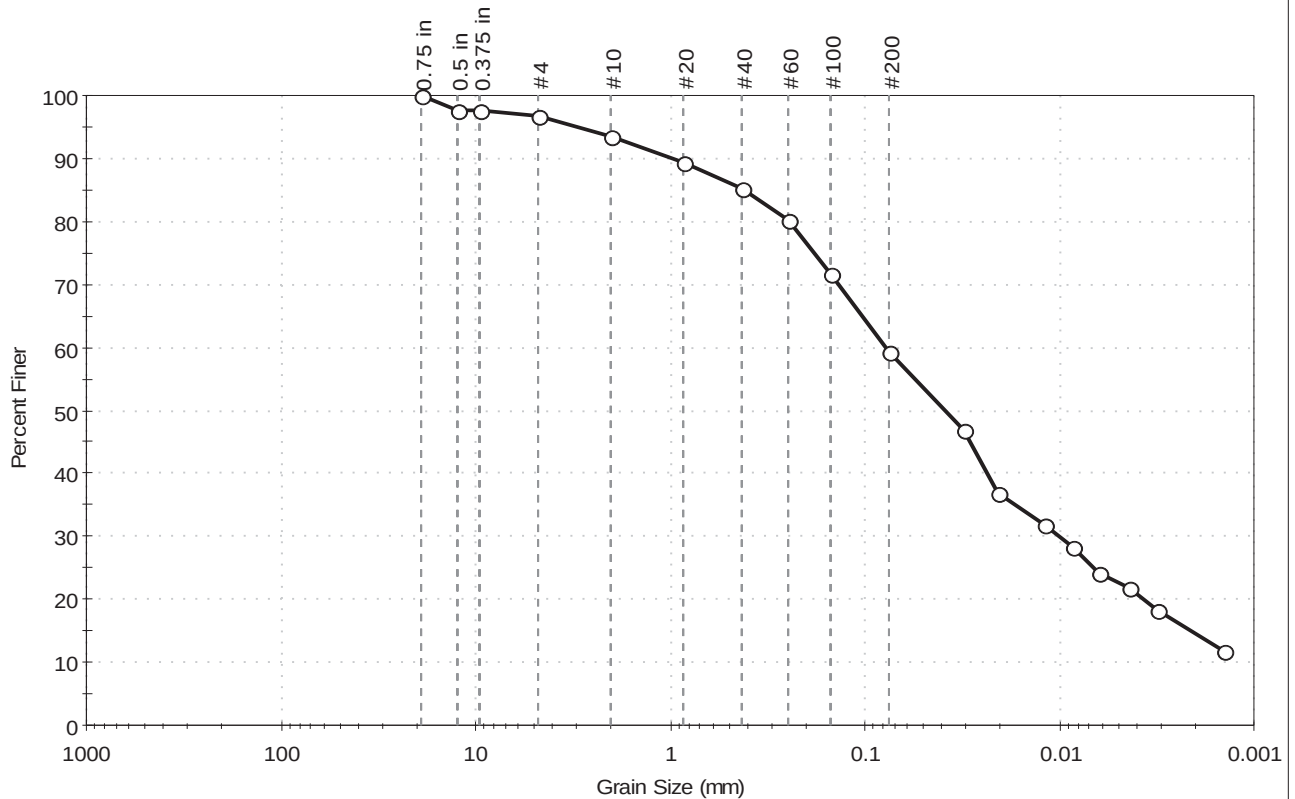
Featuring

HANIBAL TECHNOLOGY

*** Wet Chemistry ***

Client:	Spectrum Analytical, Inc.	Project No:	GTX-302575
Project:	Friedrichsohn Cooperage Site	Tested By:	jbr
Location:	---	Checked By:	emm
Boring ID:	SD-80987	Sample Type:	jar
Sample ID:	112014-DD-115	Test Date:	12/05/14
Depth:	---	Test Id:	317037
Test Comment:	---		
Sample Description:	Moist, dark gray sandy clay		
Sample Comment:	---		

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	3.4	37.4	59.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	98		
0.375 in	9.50	97		
#4	4.75	97		
#10	2.00	93		
#20	0.85	89		
#40	0.42	85		
#60	0.25	80		
#100	0.15	72		
#200	0.075	59		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0312	47		
---	0.0205	37		
---	0.0121	32		
---	0.0087	28		
---	0.0062	24		
---	0.0044	22		
---	0.0032	18		
---	0.0014	12		

Coefficients

$D_{85} = 0.4097$ mm	$D_{30} = 0.0101$ mm
$D_{60} = 0.0784$ mm	$D_{15} = 0.0021$ mm
$D_{50} = 0.0390$ mm	$D_{10} = \text{N/A}$
$C_u = \text{N/A}$	$C_c = \text{N/A}$

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : **ROUNDED**

Sand/Gravel Hardness : **HARD**

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Appendix E

2014 Sediment Data Validation Memorandum



MEMORANDUM

To: Jamie Puskas REF. No.: 080987

FROM: Kathy Shaw/eew/3-NF  DATE: January 29, 2015

RE: **Data Quality Assessment & Innovative Validation
Upland RD - PCB Canal Sediment Sampling
Friedrichsohn Cooperage/General Electric Company & SI Group
Waterford, New York
November 2014**

1.0 Introduction

The following document details a validation of analytical results for sediment samples collected in support of the Upland RD - PCB Canal Sediment Sampling at the Friedrichsohn Cooperage Site during November 2014. Samples were submitted to Spectrum Analytical located in Kingstown, Rhode Island. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Evaluation of the data was based on information obtained from the finished data sheets, chain of custody forms, blank data, duplicate data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spike samples (MS) and calibration summaries. Evaluation of 10 percent of the data was based on all the above information plus calibration criteria and recalculations of the raw data. The assessment of analytical and in-house data included checks for: data consistency (by observing comparability of duplicate analyses); adherence to accuracy and precision criteria; and transmittal errors.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) Remedial Design/Remedial Action Work Plan/QAPP February 2014
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review", USEPA 540-R-10-011, January 2010
- iii) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-08-01, June 2008

Items i), ii), and iii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2.0 Sample Holding Time and Preservation

The sample holding time criteria and sample preservation requirements for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3.0 Initial Calibration - Organic Analyses

GC

In order to quantify organic compounds of interest by GC, calibration of the gas chromatograph over a specific concentration range must be performed. Initially, a calibration curve consisting of a minimum of three concentration levels is analyzed for all single component compounds of interest and for polychlorinated biphenyls (PCBs). Linearity of the calibration curve is acceptable if all RSD values are less than or equal to 20.0 percent or if the correlation coefficient (R) is 0.995 or greater for linear regression curves.

Retention time windows are also calculated from the initial calibration analyses. These windows are then used to identify all compounds of interest in subsequent analyses.

All initial calibration standards were analyzed at the required frequencies. All retention time, peak resolution, and linearity criteria were satisfied as specified in the methods.

4.0 Initial Calibration – Inorganic Analyses

Initial calibration of the instruments ensures that they are capable of producing satisfactory quantitative data at the beginning of a series of analyses.

After the analyses of the calibration curves, an initial calibration verification (ICV) standard must be analyzed to verify the analytical accuracy of the calibration curves. All analyte recoveries from the analyses of the ICVs must be within the following control limits:

<i>Analytical Method</i>	<i>Parameter</i>	<i>Control Limits</i>
Lloyd Kahn	TOC	85 - 115%

Upon review of the data, it was determined that the calibration curves and ICVs were analyzed at the proper frequencies and that all of the above-specified criteria were met. The laboratory effectively

demonstrated that the instrumentation used for metals and general chemistry analyses were properly calibrated prior to sample analysis.

5.0 Continuing Calibration - Organic Analyses

GC

To ensure that the calibration of the instrument for PCBs by GC is valid throughout the sample analysis period, continuing calibration standards are analyzed and evaluated on a regular basis. To evaluate the continued linearity of the calibration, %D values are calculated for each compound. As specified in the methods, all %D values should not exceed 15 percent. To ensure that compound retention times do not vary over the analysis period, all retention times for continuing calibration compounds must fall within the established retention time windows.

All continuing calibration standards were analyzed at the required frequency. All %D values and compound retention times met the above criteria indicating acceptable instrument calibration throughout the analysis period.

6.0 Continuing Calibration - Inorganic Analyses

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration verification (CCV) standards are analyzed on a regular basis. Each CCV is deemed acceptable if all analyte recoveries are within the control limits specified above for the ICVs. If some of the CCV analyte recoveries are outside the control limits, samples analyzed before and after the CCV, up until the previous and proceeding CCV analyses, are affected.

For this study, CCVs were analyzed at the proper frequency. All analyte recoveries reported for the CCVs were within the specified limits.

7.0 Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures. Additionally, initial and continuing calibration blanks (ICBs/CCBs) are routinely analyzed after each ICV/CCV for the inorganic parameters.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Organic Analyses

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

Inorganic Analyses

All method blank and ICBs/CCB results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

8.0 Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for PCB determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Due to necessary sample dilutions, surrogate recoveries could not be reported for some samples.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria with the exception of some high and low PCB surrogate recoveries reported. The associated detected sample results were affected by the potential high or low bias and are qualified as estimated in Table 4.

9.0 Laboratory Control Sample Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, the LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Organic Analyses

The LCS/LCSD contained all compounds of interest, most of the LCS recoveries and RPDs were within the laboratory PCB control limits, demonstrating acceptable analytical accuracy and precision. Samples associated with outlying recoveries were qualified in Table 5 as follows:

- i) Positive sample results associated with high LCS/LCSD RPD recoveries were qualified as estimated.

Inorganic Analyses

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

10.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses - Organic Analyses

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

MS/MSD analyses were performed as specified in Table 1. The laboratory performed additional site-specific MS/MSD analyses internally.

Organic Analyses

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory (method) control limits, demonstrating acceptable analytical accuracy and precision.

11.0 Matrix Spike Analyses – Inorganic Analyses

To evaluate the effects of sample matrices on the preparation, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS samples. For this study, MS samples were prepared and analyzed by the laboratory as specified in Table 1. The laboratory performed additional site-specific MS analyses internally.

All MS analyses performed were acceptable, demonstrating acceptable analytical accuracy.

12.0 Field QA/QC Samples

The field QA/QC consisted of six rinse blank samples, and six field duplicate sample sets.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, six field duplicate samples were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 100 percent for soil samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the practical quantitation limit (PQL), the evaluation criteria are two times the PQL value for soil samples. The results for the sample and its field

duplicate did show some variability for PCBs. The samples and the associated field duplicate were qualified as estimated to reflect the implied variability in Table 6.

13.0 Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the PQL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. No positive analyte detections less than the PQL but greater than the MDL were reported. Non-detect results were presented as non-detect at the PQL in Table 2.

PCB analyses were performed using dual column analyses. In general, the results showed good correlation between the two columns. Variability was observed between some of the results (see Table 7). The associated data were qualified as estimated to reflect the indicated variability.

All soil results were reported on a dry weight basis.

14.0 Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra were evaluated according to the identification criteria established by the methods. The organic compounds reported adhered to the specified identification criteria.

15.0 Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Tables 1 – 7 are acceptable with the specific qualifications noted herein.

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

<i>Sample Identification</i>	<i>Location</i>						<u><i>Analysis/Parameters</i></u>		<i>Comments</i>
		<i>Initial Sample Depth (ft. bgs.)</i>	<i>Final Sample Depth (ft. bgs.)</i>	<i>Matrix</i>	<i>Collection Date (mm/dd/yyyy)</i>	<i>Collection Time (hr:min)</i>	<i>TOC</i>	<i>PCB</i>	
SD-80987-111414-DD-001	SD-240	0	1	Sediment	11/14/2014	11:15		X	
SD-80987-111414-DD-002	SD-240	0	1	Sediment	11/14/2014	11:20		X	Field Duplicate (SD-240)
SD-80987-111414-DD-003	SD-240	1	2	Sediment	11/14/2014	11:25		X	
SD-80987-111414-DD-006	SD-242	0	1	Sediment	11/14/2014	14:30		X	
SD-80987-111414-DD-007	SD-242	1	2	Sediment	11/14/2014	14:35		X	
SD-80987-111414-DD-008	SD-242	2	3	Sediment	11/14/2014	14:40		X	
SD-80987-111414-DD-011	SD-241	4.5	5.1	Sediment	11/14/2014	15:25		X	
SD-80987-111514-DD-012	SD-238	0	1	Sediment	11/15/2014	08:30		X	MS/MSD
SD-80987-111514-DD-017	SD-239	0	1	Sediment	11/15/2014	09:15		X	
SD-80987-111514-DD-018	SD-239	1	2	Sediment	11/15/2014	09:20		X	
SD-80987-111514-DD-023	SD-236	0	1	Sediment	11/15/2014	10:15		X	
SD-80987-111514-DD-024	SD-236	0	1	Sediment	11/15/2014	10:20		X	Field Duplicate (SD-236)
SD-80987-111514-DD-025	SD-236	1	2	Sediment	11/15/2014	10:25		X	
SD-80987-111514-DD-026	SD-236	2	3	Sediment	11/15/2014	10:30		X	
SD-80987-111514-DD-027	SD-236	3	4	Sediment	11/15/2014	10:35		X	
SD-80987-111514-DD-028	SD-236	4	5	Sediment	11/15/2014	10:40		X	
SD-80987-111514-DD-030	SD-237	0	1	Sediment	11/15/2014	11:15		X	MS/MSD
SD-80987-111514-DD-031	SD-237	1	2	Sediment	11/15/2014	11:20		X	
SD-80987-111514-DD-032	SD-237	2	3	Sediment	11/15/2014	11:25		X	
SD-80987-111514-DD-034	SD-237	0	1	Sediment	11/15/2014	11:55	X		
EB-80987-111514-DD-035	--	0	1	Water	11/15/2014	12:00	X	X	Equipment Blank
SD-80987-111514-DD-036	SD-234	2.8	3	Sediment	11/15/2014	13:20	X		
SD-80987-111514-DD-037	SD-234	0	1	Sediment	11/15/2014	13:25		X	
SD-80987-111514-DD-038	SD-234	1	2	Sediment	11/15/2014	13:30		X	

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
 UPLAND RD - PCB CANAL SEDIMENT SAMPLING
 FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
 WATERFORD, NEW YORK
 NOVEMBER 2014**

<i>Sample Identification</i>	<i>Location</i>	<i>Initial Sample Depth (ft. bgs.)</i>	<i>Final Sample Depth (ft. bgs.)</i>	<i>Matrix</i>	<i>Collection Date (mm/dd/yyyy)</i>	<i>Collection Time (hr:min)</i>	<u><i>Analysis/Parameters</i></u>		<i>Comments</i>
							<i>TOC</i>	<i>PCB</i>	
SD-80987-111514-DD-039	SD-234	2	3	Sediment	11/15/2014	13:35		X	
SD-80987-111514-DD-040	SD-235	0	1	Sediment	11/15/2014	14:15		X	
SD-80987-111514-DD-041	SD-235	0	1	Sediment	11/15/2014	14:20		X	Field Duplicate (SD-235)
EB-80987-111514-DD-043	--	1	2	Water	11/15/2014	14:45	X	X	Equipment Blank
SD-80987-111614-DD-044	SD-233	0	1	Sediment	11/16/2014	08:30		X	
SD-80987-111614-DD-045	SD-233	1	1.25	Sediment	11/16/2014	08:35		X	
SD-80987-111614-DD-046	SD-232	0	1	Sediment	11/16/2014	09:25		X	
SD-80987-111614-DD-047	SD-232	1	1.5	Sediment	11/16/2014	09:30		X	
SD-80987-111614-DD-048	SD-229	2.3	2.4	Sediment	11/16/2014	11:10		X	
SD-80987-111614-DD-049	SD-227	3.2	3.3	Sediment	11/16/2014	13:40		X	
SD-80987-111614-DD-050	SD-228	2.9	3	Sediment	11/16/2014	14:40		X	
SD-80987-111614-DD-051	SD-230	2.4	2.5	Sediment	11/16/2014	13:10	X		
SD-80987-111814-DD-052	SD-225	0	1	Sediment	11/18/2014	08:00		X	
SD-80987-111814-DD-053	SD-225	1	1.5	Sediment	11/18/2014	08:05		X	
SD-80987-111814-DD-054	SD-226	2	2.2	Sediment	11/18/2014	08:35		X	
SD-80987-111814-DD-055	SD-223	0	1	Sediment	11/18/2014	09:15		X	MS/MSD
SD-80987-111814-DD-056	SD-223	1	1.9	Sediment	11/18/2014	09:20		X	
SD-80987-111814-DD-057	SD-224	0	1	Sediment	11/18/2014	09:30		X	
SD-80987-111814-DD-058	SD-224	1	2	Sediment	11/18/2014	09:35		X	
SD-80987-111814-DD-059	SD-224	2	3	Sediment	11/18/2014	09:40		X	
SD-80987-111814-DD-060	SD-224	3	3.3	Sediment	11/18/2014	09:45		X	
SD-80987-111814-DD-061	SD-221	0	1	Sediment	11/18/2014	10:20		X	
SD-80987-111814-DD-062	SD-221	0	1	Sediment	11/18/2014	10:25		X	Field Duplicate (SD-221)
SD-80987-111814-DD-063	SD-221	1	1.4	Sediment	11/18/2014	10:30		X	

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

<i>Sample Identification</i>	<i>Location</i>	<i>Analysis/Parameters</i>		<i>Matrix</i>	<i>Collection Date (mm/dd/yyyy)</i>	<i>Collection Time (hr:min)</i>	<i>TOC</i>	<i>PCB</i>	<i>Comments</i>
		<i>Initial Sample Depth (ft. bgs.)</i>	<i>Final Sample Depth (ft. bgs.)</i>						
SD-80987-111814-DD-064	SD-221	0	1.4	Sediment	11/18/2014	10:40	X		
EB-80987-111814-DD-065	--	0	1.4	Water	11/18/2014	10:45	X	X	Equipment Blank
SD-80987-111814-DD-066	SD-222	0	1	Sediment	11/18/2014	10:55		X	
SD-80987-111814-DD-070	SD-219	0	1	Sediment	11/18/2014	13:00		X	MS/MSD
SD-80987-111814-DD-071	SD-219	1	2	Sediment	11/18/2014	13:05		X	
SD-80987-111814-DD-072	SD-219	2	3	Sediment	11/18/2014	13:10		X	
SD-80987-111814-DD-073	SD-219	3	4	Sediment	11/18/2014	13:15		X	
SD-80987-111814-DD-074	SD-220	0	1	Sediment	11/18/2014	13:30		X	
SD-80987-111814-DD-075	SD-220	1	2	Sediment	11/18/2014	13:35		X	
SD-80987-111814-DD-076	SD-220	2	3	Sediment	11/18/2014	13:40		X	
SD-80987-111814-DD-077	SD-220	3	3.6	Sediment	11/18/2014	13:45		X	
SD-80987-111814-DD-078	SD-220	2.3	3.4	Sediment	11/18/2014	13:55	X		
SD-80987-111814-DD-079	SD-217	3.8	3.9	Sediment	11/18/2014	14:20		X	
EB-80987-111814-DD-080	--	3.8	3.9	Water	11/18/2014	14:40	X	X	Equipment Blank
SD-80987-111914-DD-081	SD-218	0	1	Sediment	11/19/2014	08:00		X	
SD-80987-111914-DD-082	SD-218	0	1	Sediment	11/19/2014	08:05		X	Field Duplicate (SD-218)
SD-80987-111914-DD-083	SD-218	1	2	Sediment	11/19/2014	08:10		X	
SD-80987-111914-DD-084	SD-216	2.8	2.9	Sediment	11/19/2014	08:40		X	
SD-80987-111914-DD-085	SD-214	0	1	Sediment	11/19/2014	09:00		X	
SD-80987-111914-DD-086	SD-214	1	2	Sediment	11/19/2014	09:05		X	
SD-80987-111914-DD-087	SD-214	2	3	Sediment	11/19/2014	09:10		X	
SD-80987-111914-DD-088	SD-214	3	3.3	Sediment	11/19/2014	09:15		X	
SD-80987-111914-DD-089	SD-215	3.9	4	Sediment	11/19/2014	10:00		X	
SD-80987-111914-DD-090	SD-212	0	1	Sediment	11/19/2014	10:25		X	MS/MSD

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Identification</i>	<i>Location</i>						<u><i>Analysis/Parameters</i></u>		<i>Comments</i>
		<i>Initial Sample Depth (ft. bgs.)</i>	<i>Final Sample Depth (ft. bgs.)</i>	<i>Matrix</i>	<i>Collection Date (mm/dd/yyyy)</i>	<i>Collection Time (hr:min)</i>	<i>TOC</i>	<i>PCB</i>	
SD-80987-111914-DD-091	SD-212	1	2	Sediment	11/19/2014	10:30		X	
SD-80987-111914-DD-092	SD-212	2	3	Sediment	11/19/2014	10:35		X	
SD-80987-111914-DD-093	SD-212	3	3.5	Sediment	11/19/2014	10:40		X	
SD-80987-111914-DD-094	SD-213	0	1	Sediment	11/19/2014	11:00		X	
SD-80987-111914-DD-095	SD-213	1	2	Sediment	11/19/2014	11:05		X	
SD-80987-111914-DD-096	SD-213	2	3	Sediment	11/19/2014	11:10		X	
SD-80987-111914-DD-097	SD-213	3	3.5	Sediment	11/19/2014	11:15		X	
SD-80987-111914-DD-098	SD-211	2	3	Sediment	11/19/2014	11:55		X	
SD-80987-111914-DD-099	SD-211	3	3.6	Sediment	11/19/2014	12:00		X	
EB-80987-111914-DD-100	--	3	3.6	Water	11/19/2014	12:05		X	Equipment Blank
SD-80987-111914-DD-101	SD-209	0	1	Sediment	11/19/2014	13:30		X	
SD-80987-111914-DD-102	SD-209	0	1	Sediment	11/19/2014	13:35		X	Field Duplicate (SD-209)
SD-80987-111914-DD-103	SD-209	1	1.9	Sediment	11/19/2014	13:40		X	
SD-80987-111914-DD-104	SD-210	0	1	Sediment	11/19/2014	13:50		X	
SD-80987-111914-DD-105	SD-210	1	2	Sediment	11/19/2014	13:45		X	
SD-80987-111914-DD-106	SD-210	2	3	Sediment	11/19/2014	14:00		X	
SD-80987-111914-DD-107	SD-210	3	4	Sediment	11/19/2014	14:05		X	
SD-80987-111914-DD-108	SD-208	3.9	4	Sediment	11/19/2014	14:30		X	
SD-80987-112014-DD-109	SD-207	3	4	Sediment	11/20/2014	07:55		X	
SD-80987-112014-DD-111	SD-206	2	3	Sediment	11/20/2014	08:25		X	
SD-80987-112014-DD-112	SD-206	3	3.4	Sediment	11/20/2014	08:30		X	
SD-80987-112014-DD-113	SD-204	3.9	4	Sediment	11/20/2014	09:05		X	
SD-80987-112014-DD-114	SD-205	3.3	3.4	Sediment	11/20/2014	09:30		X	
SD-80987-112014-DD-115	SD-205	3	4	Sediment	11/20/2014	09:35	X		

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Identification</i>	<i>Location</i>	<i>Analysis/Parameters</i>		<i>Matrix</i>	<i>Collection Date (mm/dd/yyyy)</i>	<i>Collection Time (hr:min)</i>	<i>TOC</i>	<i>PCB</i>	<i>Comments</i>
		<i>Initial Sample Depth (ft. bgs.)</i>	<i>Final Sample Depth (ft. bgs.)</i>						
EB-80987-112014-DD-116	--	3.3	4	Water	11/20/2014	09:40	X	X	Equipment Blank
SD-80987-112014-DD-117	SD-202	0	1	Sediment	11/20/2014	10:30		X	
SD-80987-112014-DD-118	SD-202	1	2	Sediment	11/20/2014	10:35		X	
SD-80987-112014-DD-119	SD-202	2	3	Sediment	11/20/2014	10:40		X	
SD-80987-112014-DD-120	SD-203	0	1	Sediment	11/20/2014	11:05		X	
SD-80987-112014-DD-121	SD-203	1	2	Sediment	11/20/2014	11:10		X	
SD-80987-112014-DD-122	SD-203	2	2.8	Sediment	11/20/2014	11:15		X	
SD-80987-112014-DD-123	SD-201	0	1	Sediment	11/20/2014	12:10		X	
SD-80987-112014-DD-124	SD-201	1	2	Sediment	11/20/2014	12:15		X	
SD-80987-112014-DD-126	SD-200	4	4.3	Sediment	11/20/2014	12:30		X	

The items in bold font received Tier II full validation

Notes:

ft. bgs. - Feet Below Ground Level
 MS/MSD - Matrix spike/matrix spike duplicate
 PCB - Polychlorinated biphenyls
 TOC - Total Organic Carbon

TABLE 2

**ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

<i>Sample Location:</i>		<i>SD-200</i>	<i>SD-201</i>	<i>SD-201</i>	<i>SD-202</i>	<i>SD-202</i>	<i>SD-202</i>	<i>SD-203</i>
<i>Sample ID:</i>		<i>SD-80987-112014-DD-126</i>	<i>SD-80987-112014-DD-123</i>	<i>SD-80987-112014-DD-124</i>	<i>SD-80987-112014-DD-117</i>	<i>SD-80987-112014-DD-118</i>	<i>SD-80987-112014-DD-119</i>	<i>SD-80987-112014-DD-120</i>
<i>Sample Date:</i>		<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>
<i>Sample Depth:</i>		<i>4-4.3 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>	<i>2-3 ft bgs</i>	<i>0-1 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	44 U	390 U	41 U	360 U	360 U	670 U	700 U
Aroclor-1221 (PCB-1221)	µg/kg	44 U	390 U	41 U	360 U	360 U	670 U	700 U
Aroclor-1232 (PCB-1232)	µg/kg	44 U	390 U	41 U	360 U	360 U	670 U	700 U
Aroclor-1242 (PCB-1242)	µg/kg	44 U	2400	190	2900	1900 J	5400	7900 J
Aroclor-1248 (PCB-1248)	µg/kg	44 U	390 U	41 U	360 U	360 U	670 U	700 U
Aroclor-1254 (PCB-1254)	µg/kg	44 U	400 J	68	600 J	590	810 J	990 J
Aroclor-1260 (PCB-1260)	µg/kg	44 U	390 U	41 U	360 U	360 U	670 U	700 U
<i>Wet</i>								
Percent moisture	%	26	58	20	54	54	51	53
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Location:</i>		<i>SD-203</i>	<i>SD-203</i>	<i>SD-204</i>	<i>SD-205</i>	<i>SD-205</i>	<i>SD-206</i>	<i>SD-206</i>
<i>Sample ID:</i>		<i>SD-80987-112014-DD-121</i>	<i>SD-80987-112014-DD-122</i>	<i>SD-80987-112014-DD-113</i>	<i>SD-80987-112014-DD-115</i>	<i>SD-80987-112014-DD-114</i>	<i>SD-80987-112014-DD-111</i>	<i>SD-80987-112014-DD-112</i>
<i>Sample Date:</i>		<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>	<i>11/20/2014</i>
<i>Sample Depth:</i>		<i>1-2 ft bgs</i>	<i>2-2.8 ft bgs</i>	<i>3.9-4 ft bgs</i>	<i>3-4 ft bgs</i>	<i>3.3-3.4 ft bgs</i>	<i>2-3 ft bgs</i>	<i>3-3.4 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	630 U	43 U	52 U	-	39 U	590 U	41 U
Aroclor-1221 (PCB-1221)	µg/kg	630 U	43 U	52 U	-	39 U	590 U	41 U
Aroclor-1232 (PCB-1232)	µg/kg	630 U	43 U	52 U	-	39 U	590 U	41 U
Aroclor-1242 (PCB-1242)	µg/kg	5600	48	120	-	460	4400	41 U
Aroclor-1248 (PCB-1248)	µg/kg	630 U	43 U	52 U	-	39 U	590 U	41 U
Aroclor-1254 (PCB-1254)	µg/kg	1800	43 U	52 U	-	66 J	1400	41 U
Aroclor-1260 (PCB-1260)	µg/kg	630 U	43 U	52 U	-	39 U	590 U	41 U
<i>Wet</i>								
Percent moisture	%	48	23	37	-	17	44	21
Total organic carbon (TOC)	mg/kg	-	-	-	24500	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Location:</i>		<i>SD-207</i>	<i>SD-208</i>	<i>SD-209</i>	<i>SD-209</i>	<i>SD-209</i>	<i>SD-210</i>	<i>SD-210</i>
<i>Sample ID:</i>		<i>SD-80987-112014-DD-109</i>	<i>SD-80987-111914-DD-108</i>	<i>SD-80987-111914-DD-101</i>	<i>SD-80987-111914-DD-102</i>	<i>SD-80987-111914-DD-103</i>	<i>SD-80987-111914-DD-104</i>	<i>SD-80987-111914-DD-105</i>
<i>Sample Date:</i>		<i>11/20/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>
<i>Sample Depth:</i>		<i>3-4 ft bgs</i>	<i>3.9-4 ft bgs</i>	<i>0-1 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-1.9 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>
					<i>Duplicate</i>			
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	56 U	48 U	17000 U	14000 U	23000 U	59000 U	65000 U
Aroclor-1221 (PCB-1221)	µg/kg	56 U	48 U	17000 U	14000 U	23000 U	59000 U	65000 U
Aroclor-1232 (PCB-1232)	µg/kg	56 U	48 U	17000 U	14000 U	23000 U	59000 U	65000 U
Aroclor-1242 (PCB-1242)	µg/kg	56 U	48 U	220000	110000 J	230000 J	380000 J	430000 J
Aroclor-1248 (PCB-1248)	µg/kg	56 U	48 U	17000 U	14000 U	23000 U	59000 U	65000 U
Aroclor-1254 (PCB-1254)	µg/kg	56 U	48 U	30000 J	14000 J	38000 J	67000 J	130000 J
Aroclor-1260 (PCB-1260)	µg/kg	56 U	48 U	17000 U	14000 U	23000 U	59000 U	65000 U
<i>Wet</i>								
Percent moisture	%	41	33	52	52	44	45	50
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

**ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

<i>Sample Location:</i>		<i>SD-210</i>	<i>SD-210</i>	<i>SD-211</i>	<i>SD-211</i>	<i>SD-212</i>	<i>SD-212</i>	<i>SD-212</i>
<i>Sample ID:</i>		<i>SD-80987-111914-DD-106</i>	<i>SD-80987-111914-DD-107</i>	<i>SD-80987-111914-DD-098</i>	<i>SD-80987-111914-DD-099</i>	<i>SD-80987-111914-DD-090</i>	<i>SD-80987-111914-DD-091</i>	<i>SD-80987-111914-DD-092</i>
<i>Sample Date:</i>		<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>
<i>Sample Depth:</i>		<i>2-3 ft bgs</i>	<i>3-4 ft bgs</i>	<i>2-3 ft bgs</i>	<i>3-3.6 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>	<i>2-3 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	2800 U	110 U	1500 U	440 U	59000 U	64000 U	13000 U
Aroclor-1221 (PCB-1221)	µg/kg	2800 U	110 U	1500 U	440 U	59000 U	64000 U	13000 U
Aroclor-1232 (PCB-1232)	µg/kg	2800 U	110 U	1500 U	440 U	59000 U	64000 U	13000 U
Aroclor-1242 (PCB-1242)	µg/kg	25000 J	280 J	17000	1500	390000	490000	110000
Aroclor-1248 (PCB-1248)	µg/kg	2800 U	110 U	1500 U	440 U	59000 U	64000 U	13000 U
Aroclor-1254 (PCB-1254)	µg/kg	4900 J	110 U	6100	440 U	59000 U	130000	24000 J
Aroclor-1260 (PCB-1260)	µg/kg	2800 U	110 U	1500 U	440 U	59000 U	64000 U	13000 U
<i>Wet</i>								
Percent moisture	%	41	38	45	25	45	49	50
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
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<i>Sample Location:</i>		<i>SD-212</i>	<i>SD-213</i>	<i>SD-213</i>	<i>SD-213</i>	<i>SD-213</i>	<i>SD-214</i>	<i>SD-214</i>
<i>Sample ID:</i>		<i>SD-80987-111914-DD-093</i>	<i>SD-80987-111914-DD-094</i>	<i>SD-80987-111914-DD-095</i>	<i>SD-80987-111914-DD-096</i>	<i>SD-80987-111914-DD-097</i>	<i>SD-80987-111914-DD-085</i>	<i>SD-80987-111914-DD-086</i>
<i>Sample Date:</i>		<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>
<i>Sample Depth:</i>		<i>3-3.5 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>	<i>2-3 ft bgs</i>	<i>3-3.5 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	5300 U	46000 U	13000 U	1000 U	440 U	53000 U	50000 U
Aroclor-1221 (PCB-1221)	µg/kg	5300 U	46000 U	13000 U	1000 U	440 U	53000 U	50000 U
Aroclor-1232 (PCB-1232)	µg/kg	5300 U	46000 U	13000 U	1000 U	440 U	53000 U	50000 U
Aroclor-1242 (PCB-1242)	µg/kg	57000	240000	90000	7200	670	690000	650000
Aroclor-1248 (PCB-1248)	µg/kg	5300 U	46000 U	13000 U	1000 U	440 U	53000 U	50000 U
Aroclor-1254 (PCB-1254)	µg/kg	5300 U	46000 U	18000 J	1000 U	440 U	90000 J	88000 J
Aroclor-1260 (PCB-1260)	µg/kg	5300 U	46000 U	13000 U	1000 U	440 U	53000 U	50000 U
<i>Wet</i>								
Percent moisture	%	38	30	48	36	27	38	35
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Location:</i>		<i>SD-214</i>	<i>SD-214</i>	<i>SD-215</i>	<i>SD-216</i>	<i>SD-217</i>	<i>SD-218</i>	<i>SD-218</i>
<i>Sample ID:</i>		<i>SD-80987-111914-DD-087</i>	<i>SD-80987-111914-DD-088</i>	<i>SD-80987-111914-DD-089</i>	<i>SD-80987-111914-DD-084</i>	<i>SD-80987-111814-DD-079</i>	<i>SD-80987-111914-DD-081</i>	<i>SD-80987-111914-DD-082</i>
<i>Sample Date:</i>		<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>	<i>11/18/2014</i>	<i>11/19/2014</i>	<i>11/19/2014</i>
<i>Sample Depth:</i>		<i>2-3 ft bgs</i>	<i>3-3.3 ft bgs</i>	<i>3.9-4 ft bgs</i>	<i>2.8-2.9 ft bgs</i>	<i>3.8-3.9 ft bgs</i>	<i>0-1 ft bgs</i>	<i>0-1 ft bgs</i>
								<i>Duplicate</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	32000 U	650 U	130 U	2200 U	1400 U	23000 U	8900 U
Aroclor-1221 (PCB-1221)	µg/kg	32000 U	650 U	130 U	2200 U	1400 U	23000 U	8900 U
Aroclor-1232 (PCB-1232)	µg/kg	32000 U	650 U	130 U	2200 U	1400 U	23000 U	8900 U
Aroclor-1242 (PCB-1242)	µg/kg	160000	3400	1400	14000	1400 U	170000 J	52000 J
Aroclor-1248 (PCB-1248)	µg/kg	32000 U	650 U	130 U	2200 U	1400 U	23000 U	8900 U
Aroclor-1254 (PCB-1254)	µg/kg	32000 U	1800	270	4500	14000	23000 U	8900 U
Aroclor-1260 (PCB-1260)	µg/kg	32000 U	650 U	130 U	2200 U	6400	23000 U	8900 U
<i>Wet</i>								
Percent moisture	%	48	49	48	25	43	28	27
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Location:</i>		<i>SD-218</i>	<i>SD-219</i>	<i>SD-219</i>	<i>SD-219</i>	<i>SD-219</i>	<i>SD-220</i>	<i>SD-220</i>
<i>Sample ID:</i>		<i>SD-80987-111914-DD-083</i>	<i>SD-80987-111814-DD-070</i>	<i>SD-80987-111814-DD-071</i>	<i>SD-80987-111814-DD-072</i>	<i>SD-80987-111814-DD-073</i>	<i>SD-80987-111814-DD-074</i>	<i>SD-80987-111814-DD-075</i>
<i>Sample Date:</i>		<i>11/19/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>
<i>Sample Depth:</i>		<i>1-2 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>	<i>2-3 ft bgs</i>	<i>3-4 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	920 U	24000 U	9900000 U	52000 U	460000 U	43000 U	950 U
Aroclor-1221 (PCB-1221)	µg/kg	920 U	24000 U	9900000 U	52000 U	460000 U	43000 U	950 U
Aroclor-1232 (PCB-1232)	µg/kg	920 U	24000 U	9900000 U	52000 U	460000 U	43000 U	950 U
Aroclor-1242 (PCB-1242)	µg/kg	4900	220000 J	50000000	580000	4300000	140000 J	7700
Aroclor-1248 (PCB-1248)	µg/kg	920 U	24000 U	9900000 U	52000 U	460000 U	43000 U	950 U
Aroclor-1254 (PCB-1254)	µg/kg	920 U	24000 U	9900000 U	120000 J	470000	43000 U	950 U
Aroclor-1260 (PCB-1260)	µg/kg	920 U	24000 U	9900000 U	52000 U	460000 U	43000 U	950 U
<i>Wet</i>								
Percent moisture	%	29	31	34	37	28	25	31
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
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<i>Sample Location:</i>		<i>SD-220</i>	<i>SD-220</i>	<i>SD-220</i>	<i>SD-221</i>	<i>SD-221</i>	<i>SD-221</i>	<i>SD-221</i>
<i>Sample ID:</i>		<i>SD-80987-111814-DD-076</i>	<i>SD-80987-111814-DD-078</i>	<i>SD-80987-111814-DD-077</i>	<i>SD-80987-111814-DD-061</i>	<i>SD-80987-111814-DD-062</i>	<i>SD-80987-111814-DD-064</i>	<i>SD-80987-111814-DD-063</i>
<i>Sample Date:</i>		<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>
<i>Sample Depth:</i>		<i>2-3 ft bgs</i>	<i>2.3-3.4 ft bgs</i>	<i>3-3.6 ft bgs</i>	<i>0-1 ft bgs</i>	<i>0-1 ft bgs</i>	<i>0-1.4 ft bgs</i>	<i>1-1.4 ft bgs</i>
						<i>Duplicate</i>		
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	820 U	-	4100 U	4400 U	4100 U	-	4200 U
Aroclor-1221 (PCB-1221)	µg/kg	820 U	-	4100 U	4400 U	4100 U	-	4200 U
Aroclor-1232 (PCB-1232)	µg/kg	820 U	-	4100 U	4400 U	4100 U	-	4200 U
Aroclor-1242 (PCB-1242)	µg/kg	7900	-	24000	25000 J	21000 J	-	44000 J
Aroclor-1248 (PCB-1248)	µg/kg	820 U	-	4100 U	4400 U	4100 U	-	4200 U
Aroclor-1254 (PCB-1254)	µg/kg	820 U	-	4100 U	5400	4100 U	-	9800
Aroclor-1260 (PCB-1260)	µg/kg	820 U	-	4100 U	4400 U	4100 U	-	4200 U
<i>Wet</i>								
Percent moisture	%	21	-	20	26	21	-	21
Total organic carbon (TOC)	mg/kg	-	1650	-	-	-	18100	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Location:</i>		<i>SD-222</i>	<i>SD-223</i>	<i>SD-223</i>	<i>SD-224</i>	<i>SD-224</i>	<i>SD-224</i>	<i>SD-224</i>
<i>Sample ID:</i>		<i>SD-80987-111814-DD-066</i>	<i>SD-80987-111814-DD-055</i>	<i>SD-80987-111814-DD-056</i>	<i>SD-80987-111814-DD-057</i>	<i>SD-80987-111814-DD-058</i>	<i>SD-80987-111814-DD-059</i>	<i>SD-80987-111814-DD-060</i>
<i>Sample Date:</i>		<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>
<i>Sample Depth:</i>		<i>0-1 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-1.9 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>	<i>2-3 ft bgs</i>	<i>3-3.3 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	43 U	8000 U	22000 U	460000 U	9500 U	450 U	39 U
Aroclor-1221 (PCB-1221)	µg/kg	43 U	8000 U	22000 U	460000 U	9500 U	450 U	39 U
Aroclor-1232 (PCB-1232)	µg/kg	43 U	8000 U	22000 U	460000 U	9500 U	450 U	39 U
Aroclor-1242 (PCB-1242)	µg/kg	140 J	28000 J	140000	5500000	79000 J	2800 J	380
Aroclor-1248 (PCB-1248)	µg/kg	43 U	8000 U	22000 U	460000 U	9500 U	450 U	39 U
Aroclor-1254 (PCB-1254)	µg/kg	43 U	8000 U	29000	500000 NJ	14000	450 U	44
Aroclor-1260 (PCB-1260)	µg/kg	43 U	8000 U	22000 U	460000 U	9500 U	450 U	39 U
<i>Wet</i>								
Percent moisture	%	25	19	25	29	32	26	17
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Sample Location:</i>		<i>SD-225</i>	<i>SD-225</i>	<i>SD-226</i>	<i>SD-227</i>	<i>SD-228</i>	<i>SD-229</i>	<i>SD-230</i>
<i>Sample ID:</i>		<i>SD-80987-111814-DD-052</i>	<i>SD-80987-111814-DD-053</i>	<i>SD-80987-111814-DD-054</i>	<i>SD-80987-111614-DD-049</i>	<i>SD-80987-111614-DD-050</i>	<i>SD-80987-111614-DD-048</i>	<i>SD-80987-111614-DD-051</i>
<i>Sample Date:</i>		<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/18/2014</i>	<i>11/16/2014</i>	<i>11/16/2014</i>	<i>11/16/2014</i>	<i>11/16/2014</i>
<i>Sample Depth:</i>		<i>0-1 ft bgs</i>	<i>1-1.5 ft bgs</i>	<i>2-2.2 ft bgs</i>	<i>3.2-3.3 ft bgs</i>	<i>2.9-3 ft bgs</i>	<i>2.3-2.4 ft bgs</i>	<i>2.4-2.5 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	300000 U	4500 U	40 U	38 U	40 U	80 U	-
Aroclor-1221 (PCB-1221)	µg/kg	300000 U	4500 U	40 U	38 U	40 U	80 U	-
Aroclor-1232 (PCB-1232)	µg/kg	300000 U	4500 U	40 U	38 U	40 U	80 U	-
Aroclor-1242 (PCB-1242)	µg/kg	3200000 J	32000 J	120	38 U	220	670 J	-
Aroclor-1248 (PCB-1248)	µg/kg	300000 U	4500 U	40 U	38 U	40 U	80 U	-
Aroclor-1254 (PCB-1254)	µg/kg	300000 U	6800 J	40 U	38 U	40 U	92 J	-
Aroclor-1260 (PCB-1260)	µg/kg	300000 U	4500 U	40 U	38 U	40 U	80 U	-
<i>Wet</i>								
Percent moisture	%	46	27	19	15	19	18	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	3170

TABLE 2

**ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

<i>Sample Location:</i>		<i>SD-232</i>	<i>SD-232</i>	<i>SD-233</i>	<i>SD-233</i>	<i>SD-234</i>	<i>SD-234</i>	<i>SD-234</i>
<i>Sample ID:</i>		<i>SD-80987-111614-DD-046</i>	<i>SD-80987-111614-DD-047</i>	<i>SD-80987-111614-DD-044</i>	<i>SD-80987-111614-DD-045</i>	<i>SD-80987-111514-DD-037</i>	<i>SD-80987-111514-DD-038</i>	<i>SD-80987-111514-DD-039</i>
<i>Sample Date:</i>		<i>11/16/2014</i>	<i>11/16/2014</i>	<i>11/16/2014</i>	<i>11/16/2014</i>	<i>11/15/2014</i>	<i>11/15/2014</i>	<i>11/15/2014</i>
<i>Sample Depth:</i>		<i>0-1 ft bgs</i>	<i>1-1.5 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-1.25 ft bgs</i>	<i>0-1 ft bgs</i>	<i>1-2 ft bgs</i>	<i>2-3 ft bgs</i>
<i>Parameters</i>	<i>Units</i>							
<i>Polychlorinated Biphenyls</i>								
Aroclor-1016 (PCB-1016)	µg/kg	310 U	42 U	2800 U	46 U	420 U	510 U	39 U
Aroclor-1221 (PCB-1221)	µg/kg	310 U	42 U	2800 U	46 U	420 U	510 U	39 U
Aroclor-1232 (PCB-1232)	µg/kg	310 U	42 U	2800 U	46 U	420 U	510 U	39 U
Aroclor-1242 (PCB-1242)	µg/kg	3000	270	17000	370 J	3800 J	2300	39 U
Aroclor-1248 (PCB-1248)	µg/kg	310 U	42 U	2800 U	46 U	420 U	510 U	39 U
Aroclor-1254 (PCB-1254)	µg/kg	540 J	52 J	3200 J	72	680 J	510 U	39 U
Aroclor-1260 (PCB-1260)	µg/kg	310 U	42 U	2800 U	46 U	420 U	510 U	39 U
<i>Wet</i>								
Percent moisture	%	47	22	53	29	60	35	16
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

Sample Location:		SD-234	SD-235	SD-235	SD-236	SD-236	SD-236	SD-236
Sample ID:		SD-80987-111514-DD-036	SD-80987-111514-DD-040	SD-80987-111514-DD-041	SD-80987-111514-DD-023	SD-80987-111514-DD-024	SD-80987-111514-DD-025	SD-80987-111514-DD-026
Sample Date:		11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014
Sample Depth:		2.8-3 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	1-2 ft bgs	2-3 ft bgs
		Duplicate						
Parameters	Units							
Polychlorinated Biphenyls								
Aroclor-1016 (PCB-1016)	µg/kg	-	45 U	46 U	150 U	150 U	1300 U	1300 U
Aroclor-1221 (PCB-1221)	µg/kg	-	45 U	46 U	150 U	150 U	1300 U	1300 U
Aroclor-1232 (PCB-1232)	µg/kg	-	45 U	46 U	150 U	150 U	1300 U	1300 U
Aroclor-1242 (PCB-1242)	µg/kg	-	45 U	95 J	1000	890	11000	11000
Aroclor-1248 (PCB-1248)	µg/kg	-	45 U	46 U	150 U	150 U	1300 U	1300 U
Aroclor-1254 (PCB-1254)	µg/kg	-	45 U	46 U	210	210	1200 J	2600
Aroclor-1260 (PCB-1260)	µg/kg	-	45 U	46 U	150 U	150 U	1300 U	1300 U
Wet								
Percent moisture	%	-	28	29	56	57	49	47
Total organic carbon (TOC)	mg/kg	16100	-	-	-	-	-	-

TABLE 2

ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

Sample Location:	SD-236	SD-236	SD-237	SD-237	SD-237	SD-237	SD-238	SD-239
Sample ID:	SD-80987-111514-DD-027	SD-80987-111514-DD-028	SD-80987-111514-DD-030	SD-80987-111514-DD-034	SD-80987-111514-DD-031	SD-80987-111514-DD-032	SD-80987-111514-DD-012	SD-80987-111514-DD-017
Sample Date:	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014	11/15/2014
Sample Depth:	3-4 ft bgs	4-5 ft bgs	0-1 ft bgs	0-1 ft bgs	1-2 ft bgs	2-3 ft bgs	0-1 ft bgs	0-1 ft bgs

Parameters	Units								
Polychlorinated Biphenyls									
Aroclor-1016 (PCB-1016)	µg/kg	49 U	52 U	3300 U	-	100 U	43 U	58 U	130 U
Aroclor-1221 (PCB-1221)	µg/kg	49 U	52 U	3300 U	-	100 U	43 U	58 U	130 U
Aroclor-1232 (PCB-1232)	µg/kg	49 U	52 U	3300 U	-	100 U	43 U	58 U	130 U
Aroclor-1242 (PCB-1242)	µg/kg	140 J	59	29000	-	1100	43 U	670	1100
Aroclor-1248 (PCB-1248)	µg/kg	49 UJ	52 U	3300 U	-	100 U	43 U	58 U	130 U
Aroclor-1254 (PCB-1254)	µg/kg	49 UJ	52 U	4900 J	-	170 J	43 U	240	220 J
Aroclor-1260 (PCB-1260)	µg/kg	49 UJ	52 U	3300 U	-	100 U	43 U	58 U	130 U
Wet									
Percent moisture	%	34	37	51	-	36	25	44	48
Total organic carbon (TOC)	mg/kg	-	-	-	86700	-	-	-	-

TABLE 2

**ANALYTICAL RESULTS SUMMARY
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

Sample Location:		SD-239	SD-240	SD-240	SD-240	SD-241	SD-242	SD-242	SD-242
Sample ID:		SD-80987-111514-DD-018	SD-80987-111414-DD-001	SD-80987-111414-DD-002	SD-80987-111414-DD-003	SD-80987-111414-DD-011	SD-80987-111414-DD-006	SD-80987-111414-DD-007	SD-80987-111414-DD-008
Sample Date:		11/15/2014	11/14/2014	11/14/2014	11/14/2014	11/14/2014	11/14/2014	11/14/2014	11/14/2014
Sample Depth:		1-2 ft bgs	0-1 ft bgs	0-1 ft bgs	1-2 ft bgs	4.5-5.1 ft bgs	0-1 ft bgs	1-2 ft bgs	2-3 ft bgs
		Duplicate							
Parameters	Units								
Polychlorinated Biphenyls									
Aroclor-1016 (PCB-1016)	µg/kg	51 U	300 U	300 U	55 U	50 U	1200 U	120 U	52 U
Aroclor-1221 (PCB-1221)	µg/kg	51 U	300 U	300 U	55 U	50 U	1200 U	120 U	52 U
Aroclor-1232 (PCB-1232)	µg/kg	51 U	300 U	300 U	55 U	50 U	1200 U	120 U	52 U
Aroclor-1242 (PCB-1242)	µg/kg	99	1300	1700	55 UJ	50 U	12000	800	120 J
Aroclor-1248 (PCB-1248)	µg/kg	51 U	300 U	300 U	55 UJ	50 U	1200 U	120 U	52 U
Aroclor-1254 (PCB-1254)	µg/kg	51 U	480	620	95 J	50 U	2100 J	320	52 U
Aroclor-1260 (PCB-1260)	µg/kg	51 U	300 U	300 U	55 UJ	50 U	1200 U	170	52 U
Wet									
Percent moisture	%	37	45	46	40	34	47	45	38
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

NJ - Tentatively identified compound

ft bgs - Feet below ground surface

TABLE 3

**ANALYTICAL METHODS AND HOLDING TIME CRITERIA
 UPLAND RD - PCB CANAL SEDIMENT SAMPLING
 FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
 WATERFORD, NEW YORK
 NOVEMBER 2014**

<i>Parameter</i>	<i>Method</i>	<i>Matrix</i>	<i>Holding Time</i>	
			<i>Collection to Extraction (Days)</i>	<i>Collection or Extraction to Analysis (Days)</i>
PCB	SW-846 8082	Water	7	40
	SW-846 8082	Soil	14	40
Total Organic Carbon (TOC)	SM5310B	Water	--	28
	LLOYDKAHN	Soil	--	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
 SM - "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, with subsequent revisions

LLOYDKAHN - Determination of Total Organic Carbon in Sediment, U. S. EPA, Region II, July 27, 1988. ("Lloyd Kahn Method.").

TABLE 4

**QUALIFIED SAMPLE DATA DUE TO OUTLYING OF SURROGATE RECOVERIES
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

<i>Parameter</i>	<i>Sample ID</i>	<i>Surrogate</i>	<i>Surrogate % Recovery</i>	<i>Control Limits % Recovery</i>	<i>Analyte</i>	<i>Qualified Result</i>	<i>Units</i>
PCB	SD-80987-111414-DD-003	Decachlorobiphenyl	58	60-125	PCB-1242	55 UJ	µg/kg
					PCB-1248	55 UJ	µg/kg
					PCB-1254	95 J	µg/kg
					PCB-1260	55 UJ	µg/kg
PCB	SD-80987-111514-DD-027	Decachlorobiphenyl	56	60 - 125	PCB-1242	140 J	µg/kg
					PCB-1248	49 UJ	µg/kg
					PCB-1254	49 UJ	µg/kg
					PCB-1260	49 UJ	µg/kg
PCB	SD-80987-111614-DD-045	Decachlorobiphenyl	54	60-125	PCB-1242	370 J	µg/kg

Notes:

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

PCB - Polychlorinated Biphenyls

TABLE 5

**QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LCS/LCSD RESULTS
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014**

<i>Parameter</i>	<i>Analyte</i>	<i>LCS Date</i>	<i>Spiking Compound</i>	<i>LCS % Recovery</i>	<i>LCSD % Recovery</i>	<i>RPD (percent)</i>	<i>Control Limits</i>		<i>Associated Sample ID</i>	<i>Qualified Result</i>		<i>Units</i>
							<i>% Recovery</i>	<i>RPD</i>				
PCB	PCB-1242	11/21/2014	PCB-1016	98	137	33	40-140	30	SD-80987-111914-DD-102	110000	J	µg/kg
									SD-80987-111914-DD-103	230000	J	µg/kg
									SD-80987-111914-DD-104	380000	J	µg/kg
									SD-80987-111914-DD-105	430000	J	µg/kg
									SD-80987-111914-DD-106	25000	J	µg/kg
									SD-80987-111914-DD-107	280	J	µg/kg
PCB	PCB-1254	11/21/2014	PCB-1260	77	110	35	60-130	30	SD-80987-111914-DD-102	14000	J	µg/kg
									SD-80987-111914-DD-103	38000	J	µg/kg
									SD-80987-111914-DD-104	67000	J	µg/kg
									SD-80987-111914-DD-105	130000	J	µg/kg
									SD-80987-111914-DD-106	4900	J	µg/kg

Notes:

- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- RPD - Relative Percent Difference
- J - Estimated concentration
- PCB - Polychlorinated Biphenyls

TABLE 6

QUALIFIED SAMPLE DATA DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Parameter</i>	<i>Analyte</i>	<i>RPD</i>	<i>Sample ID</i>	<i>Qualified Result</i>	<i>Field Duplicate Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
PCB	PCB-1242	110	SD-80987-111914-DD-081	170000 J	SD-80987-111914-DD-082	52000 J	µg/kg

Notes:

RPD - Relative Percent Difference
 J - Estimated concentration
 PCB - Polychlorinated Biphenyls

TABLE 7

QUALIFIED SAMPLE DATA DUE TO DIFFERENCES IN DUAL COLUMN RESULTS
UPLAND RD - PCB CANAL SEDIMENT SAMPLING
FRIEDRICHSON COOPERAGE/GENERAL ELECTRIC COMPANY & SI GROUP
WATERFORD, NEW YORK
NOVEMBER 2014

<i>Parameter</i>	<i>Analyte</i>	<i>RPD (percent)</i>	<i>Criteria (percent)</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
PCB	PCB-1242	53	40	SD-80987-112014-DD-118	1900 J	µg/kg
		52	40	SD-80987-112014-DD-120	7900 J	µg/kg
		40.4	40	SD-80987-111414-DD-008	120 J	µg/kg
		50	40	SD-80987-111514-DD-037	3800 J	µg/kg
		55	40	SD-80987-111514-DD-041	95 J	µg/kg
		47	40	SD-80987-111614-DD-048	670 J	µg/kg
		55	40	SD-80987-111814-DD-052	3200000 J	µg/kg
		61	40	SD-80987-111814-DD-053	32000 J	µg/kg
		74	40	SD-80987-111814-DD-055	28000 J	µg/kg
		58	40	SD-80987-111814-DD-058	79000 J	µg/kg
		60	40	SD-80987-111814-DD-059	2800 J	µg/kg
		64	40	SD-80987-111814-DD-061	25000 J	µg/kg
		64	40	SD-80987-111814-DD-062	21000 J	µg/kg
		58	40	SD-80987-111814-DD-063	44000 J	µg/kg
		52	40	SD-80987-111814-DD-066	140 J	µg/kg
		54	40	SD-80987-111814-DD-070	220000 J	µg/kg
		43	40	SD-80987-111814-DD-074	140000 J	µg/kg
PCB	PCB-1254	67	40	SD-80987-112014-DD-114	66 J	µg/kg
		43	40	SD-80987-112014-DD-117	600 J	µg/kg
		62	40	SD-80987-112014-DD-119	810 J	µg/kg
		58	40	SD-80987-112014-DD-120	990 J	µg/kg
		51	40	SD-80987-112014-DD-123	400 J	µg/kg
		43	40	SD-80987-111414-DD-006	2100 J	µg/kg
		45	40	SD-80987-111514-DD-017	220 J	µg/kg
		65	40	SD-80987-111514-DD-025	1200 J	µg/kg
		57	40	SD-80987-111514-DD-030	4900 J	µg/kg
		62	40	SD-80987-111514-DD-031	170 J	µg/kg
		48	40	SD-80987-111514-DD-037	680 J	µg/kg
		50	40	SD-80987-111614-DD-044	3200 J	µg/kg
		54	40	SD-80987-111614-DD-046	540 J	µg/kg
		50	40	SD-80987-111614-DD-047	52 J	µg/kg
		60	40	SD-80987-111614-DD-048	92 J	µg/kg
		46	40	SD-80987-111814-DD-053	6800 J	µg/kg
		83	40	SD-80987-111814-DD-057	500000 NJ	µg/kg
		55	40	SD-80987-111814-DD-072	120000 J	µg/kg
		65	40	SD-80987-111914-DD-085	90000 J	µg/kg
		53	40	SD-80987-111914-DD-086	88000 J	µg/kg
		50	40	SD-80987-111914-DD-092	24000 J	µg/kg
		44	40	SD-80987-111914-DD-095	18000 J	µg/kg
		78	40	SD-80987-111914-DD-101	30000 J	µg/kg

Notes:

RPD - Relative Percent Difference

J - Estimated concentration

NJ - Tentatively identified compound, estimated concentration

PCB - Polychlorinated Biphenyls

Appendix F

Dewatering Laboratory Treatability Study and Wastewater Characterization



**CONESTOGA-ROVERS
& ASSOCIATES**

2055 Niagara Falls Blvd., Suite #3
Niagara Falls, New York 14304
Telephone: (716) 297-6150 Fax: (716) 297-2265
www.CRAworld.com

MEMORANDUM

To: Jamie Puskas REF. No.: 080987

FROM: Alan Weston/Sophia Dore/Christa Bucior/adh/cs/adh/2 DATE: April 10, 2015

CC: Jeff Daniel, Shelly Deitner

RE: **Dewatering Laboratory Treatability Study and Wastewater Characterization
Friedrichsohn Cooperage Site, 153-155 Saratoga Avenue, Waterford, New York**

Introduction

Contamination has been identified at the Friedrichsohn Cooperage site (Site) located at 153-155 Saratoga Avenue in Waterford, New York, which operated from 1817 to 1991 making and refurbishing wooden kegs and barrels. When the cooperage closed in 1991, the primary business was cleaning and refurbishing metal drums. The drum cleaning and refurbishing operations have been alleged to be the source of the contamination that has been identified at the Site. The contaminants of concern (COC) at the Site include polychlorinated biphenyls (PCB), chlorinated volatile organic compounds (CVOC) including tetrachloroethane, trichloroethane, dichloroethene, vinyl chloride, and chlorobenzene; benzene, toluene, ethylbenzene, and xylenes (BTEX); phenolic compounds including phenol and dimethylphenol; hexachlorobenzene; and metals including arsenic, barium, chromium, and lead.

A remedial action plan has been designed where areas of the Site exceeding 1 milligram per kilogram (mg/kg) of PCB will be excavated, dewatered, stabilized, and transported off Site for disposal. It may be more cost effective to add stabilization reagents to materials on Site as a means of meeting disposal facility requirements instead of further dewatering the materials. The Conestoga-Rovers & Associates (CRA) Innovative Technology Group (ITG) was requested to perform a laboratory treatability study to evaluate the effectiveness of gravity dewatering, mechanical dewatering, and stabilization to support the evaluation of disposal requirements as part of the design process. This memo contains the results of this study. Concurrent with the completion of the sediment treatability testing, wastewater was generated in the Treatability Study Laboratory using site water and sediment to evaluate the treatment requirements for water collected during the sediment remediation.

Laboratory Treatability Study

Objectives

The objectives of the laboratory treatability study were:

- To assess the effectiveness of gravity dewatering
- To assess the effectiveness of mechanical dewatering
- To assess the effectiveness of stabilization
- To determine the most effective reagent and dose for stabilization treatment
- To characterize wastewater generated from mechanical dewatering of sediments

Sample Acquisition

The treatability study was performed using a sediment sample collected from the Site. Approximately 20 gallons of sediment were collected from the canal in five 5-gallon buckets. The samples were received at the CRA laboratory located in Niagara Falls, New York, on November 26, 2014.

Task 1 – Initial Characterization

Upon arrival at the laboratory, the sediment was analyzed for:

- Moisture Content
- Percent Solids
- Total Organic Matter (TOM)
- Paint Filter Test (EPA Method 995B)
- Particle Size

These analyses provided a baseline characterization for the treatability study. All analyses were performed at the CRA laboratory located in Niagara Falls, New York except particle size, which was analyzed by Eurofins, Lancaster Laboratories located in Lancaster, Pennsylvania.

The initial analysis of Bucket 1 showed moisture content at 53.2 percent, percent solids at 49.7 percent, and TOM at 10.2 percent. This bucket had the highest moisture content; therefore, it was selected for use in the laboratory study and was analyzed for particle size and by the paint filter test. The sample failed the paint filter test. The particle size distribution was as follows:

75 millimeters (mm)	% Passing	100
37.5 mm	% Passing	100
19 mm	% Passing	100
4.75 mm	% Passing	99.6
3.35 mm	% Passing	99.2
2.36 mm	% Passing	98.2
1.18 mm	% Passing	96.1
0.600 mm	% Passing	86.5
0.300 mm	% Passing	72.6
0.150 mm	% Passing	60.5
0.0750 mm	% Passing	54.5
0.0640 mm	% Passing	50.0
0.0500 mm	% Passing	37.0
0.0200 mm	% Passing	21.0
0.00500 mm	% Passing	5.00
0.00200 mm	% Passing	1.00
0.00100 mm	% Passing	ND (0.5)

Most of the remaining buckets had similar, if slightly lower moisture contents and TOM values. Bucket 2 had a moisture content at 49.6 percent and TOM of 8.15 percent. Bucket 3 had a moisture content of 48.2 percent and TOM of 9.62 percent. Bucket 4 had a moisture content of 44.3 percent and TOM of 8.23 percent. Bucket 5 was somewhat different from the other buckets with a moisture content of 25.9 percent and TOM of 3.08 percent. Bucket 5 had less standing water in it than the other buckets when it was received, but no other visual differences between the soils were observed. These data are shown in Table 1.

Task 2 – Gravity Dewatering Tests

Gravity dewatering tests were set up to test the effectiveness of gravity dewatering to dewater sediment from the Site. One hundred grams (g) of sediment from Bucket 1 were placed in a 35-micron filter paper in a glass funnel. This test was performed in triplicate. The sediment was left in the filter for 5 hours; however, the water only absorbed to the filter paper, it did not drip out. The time was recorded and the paint filter test was performed on the dewatered samples. Moisture content was also measured.

The results of this testing showed that all three samples passed the paint filter test. Sample 1 had a moisture content of 39.9 percent, Sample 2 had a moisture content of 37.3 percent, and Sample 3 had a moisture content of 36.4 percent. This testing resulted in an overall 25 to 30 percent reduction (29 percent average reduction) in the moisture content. These results are shown in Table 2.

Task 3 – Mechanical Dewatering Tests

Mechanical dewatering tests were set up to simulate the effect of filter press dewatering of the sediment sample from the Site. One hundred grams of sediment from Bucket 1 were placed on a 20-micron filter in a Buchner funnel and suction was applied through a side arm flask. The sediment was under suction until the water stopped dripping through the filter. The time the sample took to stop dripping was recorded and the paint filter test was performed on the filtered samples. Moisture content was also measured. This test was performed in triplicate.

The results of this test showed that all three samples passed the paint filter test. Sample 1 had a moisture content of 36.7 percent, Sample 2 had a moisture content of 36.2 percent, and Sample 3 had a moisture content of 37 percent. This test resulted in an average 31 percent reduction in the moisture content, which is similar to the average of 29 percent reduction in the moisture content observed for the gravity dewatering tests. It appears that approximately 30 percent of the water in these samples is free and readily removed from the sediment, while the remaining moisture is more strongly absorbed in the sediment matrix and is more difficult to remove. These results are shown in Table 3.

Task 4 – Stabilization Tests

Stabilization tests were set up to test the effectiveness of stabilization reagents for stabilization of the sediment sample from the Site. Two hundred grams of sediment from Bucket 1 were placed in a mechanical mixer with varying doses of Portland cement and Cement Kiln Dust (CKD) and mixed for 5 minutes. After mixing, the sediment and stabilization reagent were placed in a plastic mold. The mold was stored in a dark, humid environment to cure. After 7 days, the samples were tested using the paint filter test.

The stabilization reagents and doses used in the tests were the following:

- 3 percent Portland Cement
- 5 percent Portland Cement
- 10 percent Portland Cement
- 15 percent Portland Cement
- 5 percent Portland Cement, 5 percent CKD
- 5 percent CKD
- 10 percent CKD
- 15 percent CKD
- 20 percent CKD
- 5 percent Portland Cement, 10 percent CKD

All tests treated with the Portland cement passed the paint filter test. All tests treated with CKD alone failed the paint filter test. The tests treated with both Portland cement and CKD passed the paint filter test. These results are shown in Table 4.

Task 5 – Wastewater Characterizations

Wastewater generated from mechanical dewatering of sediments during the treatability study was collected and characterized for Site-related compounds and general chemistry. These results are shown in Table 5.

Summary

- Gravity dewatering was an effective treatment. All treated samples passed the paint filter test.
- The gravity tests resulted in an overall 25- to 30-percent reduction in the moisture content.
- Mechanical dewatering was also an effective treatment. All treated samples passed the paint filter test.
- The mechanical tests resulted in an average 31-percent reduction in the moisture content.
- Stabilization was an effective treatment. All samples treated with Portland cement or Portland cement mixed with CKD passed the paint filter test.
- CKD alone was not an effective treatment. Samples treated with CKD alone failed the paint filter test.

Recommendation

The test results indicated that the sediment in the canal will not pass the paint filter test without some form of dewatering and/or treatment. Gravity dewatering, mechanical dewatering, and stabilization were all effective treatments and resulted in the samples passing the paint filter test. The study showed that if the moisture content of the sample can be decreased to below 40 percent, then the samples will pass the paint filter test. The results of the study also suggested that approximately 30 percent of the water in the sediment was free draining and readily removed from the sediment, while the removal of additional water would take additional effort and energy input. Both gravity and mechanical dewatering were successful in decreasing the moisture content such that the samples passed the paint filter test. The gravity dewatering test did not produce any free water because water was absorbed by the filter paper.

Gravity dewatering would be more cost effective than mechanical dewatering but would take longer. Therefore, as long as there is sufficient time for gravity dewatering, this would be the recommended option. Stabilization would be more labor intensive and expensive and is not recommended; however, if it is performed, a dose of 3 percent Portland cement would be sufficient to allow the sediment to pass the paint filter test. Dewatering of the canal prior to initiating remedial activities would be expected to lower the moisture content of the sediment and may reduce the amount of additional dewatering or stabilization required prior to disposal.

**INITIAL SOIL CHARACTERIZATION
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSON COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK**

<i>Parameters</i>	<i>Units</i>	<i>Bucket 1</i>	<i>Bucket 2</i>	<i>Bucket 3</i>	<i>Bucket 4</i>	<i>Bucket 5</i>
General Chemistry						
Moisture Content	%	53.2	49.6	48.2	44.3	25.9
Percent Solids	%	49.7	50.4	52.7	55.7	82.9
Total Organic Matter	%	10.2	9.62	8.15	8.23	3.08
Paint Filter Test		Failed	-	-	-	-
Particle Size						
75 mm	% Passing	100	-	-	-	-
37.5 mm	% Passing	100				
19 mm	% Passing	100				
4.75 mm	% Passing	99.6				
3.35 mm	% Passing	99.2				
2.36 mm	% Passing	98.2				
1.18 mm	% Passing	96.1				
0.600 mm	% Passing	86.5				
0.300 mm	% Passing	72.6				
0.150 mm	% Passing	60.5				
0.0750 mm	% Passing	54.5				
0.0640 mm	% Passing	50.0				
0.0500 mm	% Passing	37.0				
0.0200 mm	% Passing	21.0				
0.00005 mm	% Passing	5.0				
0.00200 mm	% Passing	1.0				
0.00100 mm	% Passing	ND (0.5)				

Notes:

ND (x) Not detected at or above x
mm Millimeter

TABLE 2

**GRAVITY FILTER DEWATERING TESTS
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSOHN COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK**

<i>Parameters</i>	<i>Units</i>	<i>Initials</i>	<i>1</i>	<i>2</i>	<i>3</i>
Moisture Content	%	53.2	39.9	37.3	36.4
Paint Filter Test		Fail	Pass	Pass	Pass
Time	hours	-	5.00	5.00	5.00
Percent Removal of Moisture Content	%		25.0	29.9	31.6

TABLE 3

**MECHANICAL FILTER DEWATERING TESTS
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSON COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK**

<i>Parameters</i>	<i>Units</i>	<i>Initials</i>	<i>1</i>	<i>2</i>	<i>3</i>
% Moisture	%	53.2	36.7	36.2	37.0
Paint Filter Test		Fail	Pass	Pass	Pass
Time for Dripping to Stop	mins	-	10.06	10.18	8.43
Percent Removal of Moisture Content	%		31.0	32.0	30.5

TABLE 4

STABILIZATION TESTS
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSOHN COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK

<i>Parameters</i>	<i>Control</i>	<i>3% Cement</i>	<i>5% Cement</i>	<i>10% Cement</i>	<i>15% Cement</i>	<i>5% Cement 5% CKD</i>	<i>5% Cement 10% CKD</i>	<i>5% CKD</i>	<i>10% CKD</i>	<i>15% CKD</i>	<i>20% CKD</i>
Paint Filter Test	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Fail

Notes:

CKD Cement Kiln Dust

TABLE 5

**WASTEWATER CHARACTERIZATION
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSON COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK**

<i>Parameters</i>	<i>Units</i>	<i>Wastewater</i>
<i>General Chemistry</i>		
pH	S.U.	7.11
Hardness	mg/L	352
Turbidity	NTU	4.6
Total Dissolved Solids (TDS)	mg/L	567
Total Suspended Solids (TSS)	mg/L	11
<i>TCL-Volatile Organic Compounds</i>		
2-Butanone	µg/L	ND (5)
1,2-Dibromo-3-chloropropane	µg/L	ND (5)
1,2-Dibromoethane	µg/L	ND (2)
1,2-Dichlorobenzene	µg/L	ND (2)
1,3-Dichlorobenzene	µg/L	ND (2)
1,4-Dichlorobenzene	µg/L	ND (2)
1,1-Dichloroethane	µg/L	ND (2)
1,2-Dichloroethane	µg/L	ND (2)
1,1-Dichloroethylene	µg/L	ND (2)
cis-1,2-Dichloroethylene	µg/L	ND (2)
trans-1,2-Dichloroethylene	µg/L	ND (2)
1,2-Dichloropropane	µg/L	ND (2)
cis-1,3-Dichloropropene	µg/L	ND (2)
trans-1,3-Dichloropropene	µg/L	ND (2)
2-Hexanone	µg/L	ND (5)
4-Methyl-2-pentanone	µg/L	ND (5)
1,1,2,2-Tetrachloroethane	µg/L	ND (2)
1,2,4-Trichlorobenzene	µg/L	ND (2)
1,1,1-Trichloroethane	µg/L	ND (2)
1,1,2-Trichloroethane	µg/L	ND (2)
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	ND (2)
Acetone	µg/L	ND (5)
Benzene	µg/L	ND (2)
Bromodichloromethane	µg/L	ND (2)
Bromoform	µg/L	ND (2)
Bromomethane	µg/L	ND (2)
Carbon disulfide	µg/L	ND (2)
Carbon tetrachloride	µg/L	ND (2)
Chlorobenzene	µg/L	ND (2)
Chloroethane	µg/L	ND (2)
Chloroform	µg/L	ND (2)
Chloromethane	µg/L	ND (2)
Cyclohexane	µg/L	ND (2)
Dibromochloromethane	µg/L	ND (2)
Dichlorodifluoromethane	µg/L	ND (2)
Ethylbenzene	µg/L	ND (2)
Isopropylbenzene	µg/L	ND (2)
Methyl acetate	µg/L	ND (5)
Methylcyclohexane	µg/L	ND (2)

TABLE 5

**WASTEWATER CHARACTERIZATION
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSON COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK**

<i>Parameters</i>	<i>Units</i>	<i>Wastewater</i>
<i>TCL-Volatile Organic Compounds</i>		
Methylene chloride	µg/L	ND (2)
Methyl tert butyl ether	µg/L	ND (2)
Styrene	µg/L	ND (2)
Tetrachloroethylene	µg/L	ND (2)
Toluene	µg/L	ND (2)
Trichloroethylene	µg/L	ND (2)
Trichlorofluoromethane	µg/L	ND (2)
Vinyl chloride	µg/L	ND (2)
Xylenes (Total)	µg/L	ND (8)
<i>TCL-Semi-Volatile Organic Compounds</i>		
Acenaphthene	µg/L	ND (1.9)
Acenaphthylene	µg/L	ND (1.9)
Anthracene	µg/L	ND (1.9)
Benzo(a)anthracene	µg/L	ND (1.9)
Benzo(a)pyrene	µg/L	ND (1.9)
Benzo(b)fluoranthene	µg/L	ND (1.9)
Benzo(g,h,i)perylene	µg/L	ND (1.9)
Benzo(k)fluoranthene	µg/L	ND (1.9)
Bis(2-Ethylhexyl)phthalate	µg/L	ND (19)
2,2-Oxybis(1-chloropropane)	µg/L	ND (9.3)
4-Bromophenyl phenyl ether	µg/L	ND (9.3)
Butyl benzylphthalate	µg/L	ND (9.3)
Carbazole	µg/L	ND (9.3)
4-Chloroaniline	µg/L	ND (9.3)
2-Chloronaphthalene	µg/L	ND (1.9)
4-Chlorophenyl phenyl ether	µg/L	ND (9.3)
Chrysene	µg/L	ND (1.9)
Dibenz(a,h)anthracene	µg/L	ND (1.9)
Dibenzofuran	µg/L	ND (9.3)
Di-n-butylphthalate	µg/L	ND (9.3)
3,3'-Dichlorobenzidine	µg/L	ND (9.3)
Diethyl phthalate	µg/L	3.9 J
Dimethyl phthalate	µg/L	ND (9.3)
2,4-Dinitrotoluene	µg/L	ND (9.3)
2,6-Dinitrotoluene	µg/L	ND (9.3)
Di-n-octyl phthalate	µg/L	ND (9.3)
Fluoranthene	µg/L	ND (1.9)
Fluorene	µg/L	ND (1.9)
Hexachlorobenzene	µg/L	ND (9.3)
Hexachlorobutadiene	µg/L	ND (9.3)
Hexachlorocyclopentadiene	µg/L	ND (9.3)
Hexachloroethane	µg/L	ND (9.3)
Indeno(1,2,3-cd)pyrene	µg/L	ND (1.9)
Isophorone	µg/L	ND (9.3)
2-Methylnaphthalene	µg/L	ND (1.9)

TABLE 5

**WASTEWATER CHARACTERIZATION
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSON COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK**

<i>Parameters</i>	<i>Units</i>	<i>Wastewater</i>
<i>TCL-Semi-Volatile Organic Compounds</i>		
Naphthalene	µg/L	ND (1.9)
2-Nitroaniline	µg/L	ND (46)
3-Nitroaniline	µg/L	ND (46)
4-Nitroaniline	µg/L	ND (46)
4-Nitrophenol	µg/L	ND (46)
Nitrobenzene	µg/L	ND (19)
N-Nitrosodi-n-propylamine	µg/L	ND (9.3)
N-Nitrosodiphenylamine	µg/L	ND (9.3)
Phenanthrene	µg/L	ND (1.9)
Pyrene	µg/L	ND (1.9)
4-Chloro-3-methylphenol	µg/L	ND (9.3)
2-Chlorophenol	µg/L	ND (9.3)
2-Methylphenol	µg/L	ND (9.3)
3 & 4-Methylphenol	µg/L	ND (9.3)
2,4-Dichlorophenol	µg/L	ND (9.3)
2,4-Dimethylphenol	µg/L	ND (9.3)
2,4-Dinitrophenol	µg/L	ND (46)
4,6-Dinitro-2-methylphenol	µg/L	ND (46)
2-Nitrophenol	µg/L	ND (9.3)
Pentachlorophenol	µg/L	ND (9.3)
Phenol	µg/L	ND (9.3)
2,4,5-Trichlorophenol	µg/L	ND (9.3)
2,4,6-Trichlorophenol	µg/L	ND (9.3)
Acetophenone	µg/L	ND (19)
Atrazine	µg/L	ND (19)
Benzaldehyde	µg/L	ND (19)
1,1-Biphenyl	µg/L	ND (9.3)
Caprolactam	µg/L	ND (46)
Bis(2-Chloroethoxy)methane	µg/L	ND (9.3)
Bis(2-Chloroethyl)ether	µg/L	ND (9.3)
<i>PCBs</i>		
Aroclor-1016	µg/L	ND (0.4)
Aroclor-1221	µg/L	ND (0.4)
Aroclor-1232	µg/L	ND (0.4)
Aroclor-1242	µg/L	ND (0.4)
Aroclor-1248	µg/L	1.1
Aroclor-1254	µg/L	ND (0.4)
Aroclor-1260	µg/L	ND (0.4)
<i>TAL-Metals (Dissolved)</i>		
Aluminum	µg/L	42.3 J
Antimony	µg/L	ND (50)
Arsenic	µg/L	ND (50)
Barium	µg/L	82.9
Beryllium	µg/L	ND (25)

TABLE 5

**WASTEWATER CHARACTERIZATION
DEWATERING LABORATORY TREATABILITY STUDY
FRIEDRICHSON COOPERAGE SITE
153-155 SARATOGA AVENUE WATERFORD, NEW YORK**

<i>Parameters</i>	<i>Units</i>	<i>Wastewater</i>
Cadmium	µg/L	ND (25)
Calcium	µg/L	115000
Chromium	µg/L	ND (25)
Cobalt	µg/L	ND (50)
Copper	µg/L	ND (50)
Iron	µg/L	ND (100)
Lead	µg/L	ND (50)
Magnesium	µg/L	18300
Manganese	µg/L	78.1
Mercury	µg/L	ND (2)
Nickel	µg/L	ND (50)
Potassium	µg/L	2880
Selenium	µg/L	ND (100)
Silver	µg/L	ND (50)
Sodium	µg/L	34000
Thallium	µg/L	ND (100)
Vanadium	µg/L	ND (50)
Zinc	µg/L	2.3 J
<i>TAL-Metals (Total)</i>		
Aluminum	µg/L	244
Antimony	µg/L	6.91 J
Arsenic	µg/L	ND (50)
Barium	µg/L	78.2
Beryllium	µg/L	ND (25)
Cadmium	µg/L	ND (25)
Calcium	µg/L	107000
Chromium	µg/L	ND (25)
Cobalt	µg/L	ND (50)
Copper	µg/L	ND (50)
Iron	µg/L	359
Lead	µg/L	ND (50)
Magnesium	µg/L	17000
Manganese	µg/L	99.3
Mercury	µg/L	ND (2)
Nickel	µg/L	ND (50)
Potassium	µg/L	2450
Selenium	µg/L	ND (100)
Silver	µg/L	ND (50)
Sodium	µg/L	31300
Thallium	µg/L	ND (100)
Vanadium	µg/L	ND (50)
Zinc	µg/L	13.2 J

Notes:

ND(x) - Not detected at reporting limit

J - Estimated value