DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

7 Nov 2013

MEMORANDUM FOR NYSDEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REMEDIAL BUREAU A, 12TH FLOOR
625 BROADWAY
ALBANY, NEW YORK 12233-7014

FROM: AFRL/RIOCV
150 Electronic Pkwy
Rome, New York 13441-4516

NOV 13 2013

SUBJECT: Rome Laboratory, Building 104 Environmental Spill Closure Letter.

1. This letter details remediation activities at the Building 104 demolition site for the closure of Spill No. 1100977. The spill was identified during an initial environmental investigation and copies provided to your office 21 Oct 2011: *Demolish Administrative Facility Building 104 (Jul 2011).* All information in this correspondence will pertain to remediation activities as detailed in the following sampling plan previously provided to your office in Feb 2013: *Dry Well Remediation Work Plan of AFRL Building 104 (Feb 2013).*

2. On 31 July, 2013, Jaclyn A. Karam, and I met with New York State Department of Environmental Conservation (NYSDEC) project manager, Heather Bishop to clarify and review the remediation of the B104 Spill No 1100977. A brief overview of the status was stated and several questions were presented to Ms. Bishop and clarification/approval given.

3. Building 104 had a total of 7 drywells present with only three of those wells showing environmental contamination above commercial use (RCRA metals were found in drywells 1, 3, 6). All the drywell structures have been removed from the ground. The drywell blocks from numbers 1,3 & 6 and soil around and under the three drywells have been disposed of at the US Ecology Landfill in Grandview, Idaho (see Attch 1). Three samples were taken inside each drywell area with contamination. The results were received by our office on 23 July and copies given to Ms. Bishop during our meeting (See Attch 2). Ms. Bishop reviewed sample results and agreed additional remediation was required for Drywell 6 to meet commercial standards. Ms. Bishop stated that 5 confirmatory samples (4 sides and a bottom) were to be taken for mercury and cadmium in Drywell 6, and commercial standards were approved. Ms. Karam and I concurred. All agreed the three samples taken for drywells 1 and 3 would suffice as the impacted area was less than one cubic yard. Results from drywells 1 and 3 were below commercial standards.

4. On 27 August 2013, an additional 3 cubic yards of soil was removed from the drywell 6 location to a depth of 11 feet and 5 samples were taken from the pit (four sides and the bottom). Sample results showed the four sides to be well below commercial standards but the very bottom still showed some elevated readings for both mercury and cadmium (See Attch 3). After review and at the request of NYSDEC, additional samples from the bottom location were requested. Please note, prior to additional sampling, two feet of cover was removed to prepare for the redevelopment of the site (approved by your office). Additional samples were pulled on 26 September 2013. A total of 3 samples were pulled from now 9, 11 and 13 feet to determine if additional remediation was warranted. All three samples results were below commercial standards for mercury and cadmium (See Attch 4).

5. TCLP results of the 3 cubic yards of soil removed from the drywell 6 location were well below hazardous waste standards and the soil will be disposed of through Oneida-Herkimer Solid Waste Authority (See Attch 5).

6. A Soils Management Plan was developed for the B104 drywell location that outlines exactly what can and cannot be done at the area of concern (See Attch 6). The area in question has now been developed as green-space and a parking lot with no future plans.

7. It is our belief that all NYSDEC requirements have been met and Spill No. 1100977 can now be closed. If this is not satisfactory with your office, please contact Mr. William Brain, AFRL/RIOCV, phone 315-330-2754.

WILLIAM E. BRAIN, REM
Chief, Environmental and
Occupational Health Office

Attachments:

1. Grandview Idaho Waste Manifest
2. Sampling Results 13 May 13
3. Sampling Results 27 Aug 13
4. Sampling Results/Report 26 Sep 13
5. TCLP Results 9 Sep 13
6. B104 SMP, Oct 2013

ATTATCHMENT 1

2100 0000000-00-0000-A 000

SUBMITTAL NO | SPECIFICATION NO: | REVISION NO

SUBMISSION 72 | ITEM 1 | **SUBMITTAL**

AFRL/ Information Directorate

RITTER AND PARATORE CONTRACTING INC

2435 STATE ROUTE 5
UTICA NY 13502
PHONE 315-738-0136
FAX 315-738-0181

PROJECT NO: **ULDF05-0201/ULDF120002**

CONTRACT NO: **FA8751-12-C-0037**

SENT 10/17/2013

INTERNAL CODE: 12-12

BID REFERENCE: FA8751-12-R-0004

PROJECT NAME: **Demolish Administrative Bldg 104 (B104) and Administrative Facility Bldg 102 (B102)**

TYPE OF SUBMITTAL

- ☐ SHOP DRAWING
- ☐ CERTIFICATE
- ☐ NOT APPLICABLE
- ☑ DOCUMENTATION
- ☐ PRODUCT DATA
- ☐ WARRANTY
- ☐ IF REQUIRED
- ☐ CHANGE ORDER
- ☐ TEST REPORT
- ☐ SAMPLE
- ☐ PLANS
- ☐ SCHEDULE
- ☐ COLOR
- ☐ NOTIFICATIONS

OTHER:

DRAWING NO: 000

- ☐ RE-SUBMITTAL
- ☐ PARTIAL LIST
- ☐ PRIOR APPROVED ON
- ☐ PRIOR SUBMISSION ON

SUBMITTAL NO

PRODUCT NAME / CATAGORY DESCRIPTION

B-104 Radium and Drywell Waste Manifest

B-104 Radium and Drywell Remediation Waste Manifest

MANUFACTURERS
NOT APPLICABLE

PHONE: FAX:
POC:

SUPPLIERS
Solutient Technologies LLC
6616 Promway Avenue N.W.
North Canton OH 44720
PHONE: (330) 497-5905 FAX: (330) 497-2045
POC:

ARCHITECT / ENGINEERS STAMP / ACTION

AFRL/ Information Directorate 1 E|S
Email: bryant.soule@rl.af.mil

Email:

Email:

PRIME CONTRACTOR REVIEW STAMP

IMPORTANT INFORMATION

By submitting these shop drawings I represent that I approve and have determined and verified all field measurements and quantities,field construction criteria, materials, catalog numbers and similar data, and that I have reviewed and coordinated the information in the shop drawings with requirements of the work and the Contract Documents.

BY _____ Date 10/17/2013

SUBMITTAL LOG 2100

FORM S-10-2012

13100708882 19520# 20yrds 8854 K

Solutient Technologies, LLC

STRAIGHT BILL OF LADING SHORT FORM NOT NEGOTIABLE

CARRIER: Triad Transport Inc. **Shipper No:** AFRL-2013-001

Carrier No: EPA ID # OKD981588791 **SCAC No:** **Date:** 10/2/2013

Purchase / Customer Order No:

Consignee:
US Ecology Idaho, Inc.
P.O. Box 400
20400 Lemley Road
Grandview, Idaho 83624

Shipper: Air Force Research Laboratory
26 Electronic Parkway
Rome, New York 13441
Site: Rome , NY

Route: See Transporter for Route

Vehicle Initial and Number: Trailer No:

No. Pkgs.	HM	Description of Material	Weight (Kgs.)	Class	ERG
1		Non DOT Regulated Material	9,755	NA	NA

Subject to section 7 of conditions of applicable Bill of Lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

N/A

Signature of the Consignor

If freight charges are to be prepaid, write or stamp here "TO BE PREPAID"

N/A

Remarks:

Total Shipment weight = (9755.0 kgs) (21500.0 Lbs.)

Total Activity in MBq = 1.86E+01

Additional Information: Contact Brad Squibb at 330-353-0348 or 865-220-7193 if any issues arise.

Mark USE-01 and WSID - 31679- 0 on both sides of container.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding:

N/A

$______ per ______ (unit)

SS741 Reference

Label(s) applied: None

Marking(s) required: None

Placard(s) required: None

IF THIS BILL OF LADING LISTS HAZARDOUS MATERIALS - NOTE AS FOLLOWS:

Emergency Response No.: (865) 576-8724

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the U.S. Department of Transportation.

Shipper: Solutient Technologies, LLC
Contact: Brad Squibb / Greg McFeely
Per: [signature] [signature]
Date: 10/02/13

The additions on the face hereof and to the terms and conditions are hereby noted:

Carrier: = Triad Transport Inc.
Per: X [signature]
Date: 10/2/2013

Bryant Smale
Contracting officer
[signature] 10/2/13

Contract #
FA8751-12-C-0037
Coren Kestner 10/2/13

FORM 540 — US Ecology

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)	(800) 535-5053
ORGANIZATION	Infotrac
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT?	YES: ; NO: X
3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST	1
4. DOES ANY REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?	YES; NO X; If "Yes" provide Manifest Number:
EPA MANIFEST NUMBER	"NA"

5 SHIPPER – NAME AND FACILITY	Air Force Research Laboratory 26 Electronic Parkway Rome, New York 13441
STATE PERMIT / PROFILE NUMBER	N4642 / 31679-0
SHIPMENT NUMBER	1.0
CONTACT	Brad Squibb 6616 Promway Ave. N.W. North Canton, Ohio 44720
6. CARRIER – Name and Address	Triad Transport, Inc. P.O Box 818 McAlester, OK, 74502
CONTACT	Dick Dune
SIGNATURE – Authorized carrier acknowledging waste receipt	X

SHIPMENT I.D. NUMBER	AFRL-2013-001
COLLECTOR	
PROCESSOR	
GENERATOR TYPE	X (Specify) G
TELEPHONE NUMBER (Include Area Code)	1-330-353-0348
EPA I.D. NUMBER	OKD981568791
SHIPPING DATE	10/2/2013
TELEPHONE NUMBER (Include Area Code)	1-330-609-8044
DATE	10/02/13

7. FORM 540 AND 540A	PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A	PAGE 1 OF 1 PAGE(S)
FORM 542 AND 542A	NA NA PAGE(S)
ADDITIONAL INFORMATION	NA NA PAGE(S)
8 MANIFEST NUMBER (Use this number on all continuation pages)	AFRL-2013-001
9 CONSIGNEE - Name and Facility Address	US Ecology Idaho, Inc. P.O. Box 400 20400 Lemley Road Grandview, Idaho 83624
CONTACT	Shipping and Receiving
TELEPHONE NUMBER (Include Area Code)	1-800-274-1516
SIGNATURE – Authorized consignee acknowledging waste receipt	Coren Kastner
DATE	10/7/13

10 CERTIFICATION

This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.

AUTHORIZED SIGNATURE: [signature] TITLE: Waste Broker DATE: 10/02/13

11 U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	16 TOTAL PACKAGE ACTIVITY Ci	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
Non DOT Regulated Material	"NA"	"NA"	solid oxide	Ra-226 Ra-228	1.86E+01	5.04E-01	"NA"	600 Cu Ft 9755 kg	USE-01
				Totals	1.86E+01	5.04E-01		600.0 Cu Ft 9,755 kg	

FOR CONSIGNEE USE ONLY

- Record Waste Description Inadequate
- Contamination or Leakage Detected
- Unexpected Exposure Rates Detected
- Labels, Markings, etc. Inadequate
- Container Integrity Inadequate
- Other
- No Violations Detected on this Shipment.

20. TERMS AND CONDITION

A. HAZARDOUS MATERIALS: Generator represents & warrants that Waste Material ___ is [ ] / [X] is not a hazardous waste as defined in 40 CFR 261. Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate land-disposal notice and/or certification as required by 40 CFR 268.7.

B. TITLE: Upon acceptance at the disposal site by Envirocare of Utah, Inc., and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in Envirocare of Utah, Inc.

C. WASTE MATERIAL: Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and Envirocare of Utah, Inc.'s facility license.

D. INDEMNIFICATION: Generator agrees to indemnify Envirocare of Utah, Inc., its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data recited on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST,) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters.

FORM 540

Bryant Soule
Contracting officer
10/2/13

Contract #
FA8751-12-C-0037

FORM 541 — US Ecology

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1. MANIFEST TOTALS

NUMBER OF PACKAGES DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	Pu	TOTAL
1	m3 16.99911 / ft3 600.0	Kg 7,272.1 / Ton 8.000	NP packages	NP package	NP package	0.00E+00

ACTIVITY	ALL NUCLIDES	Tritium	C-14	Tc-99	I-129	SOURCE	
MBq	1.86E+01	NP	NP	NP	NP	(kgs)	0.00E+00
mCi	5.04E-01	NP	NP	NP	NP	(tons)	0.00E+00

2 MANIFEST NUMBER: AFRL-2013-851

3 PAGE 1 OF 1 PAGE(S)

4. SHIPPER NAME: Air Force Research Laboratory

SHIPMENT ID NUMBER: USE-01

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5. CONTAINER IDENTIFICATION NUMBER / GENERATOR ID NUMBER/S	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME (m3) (ft3)	8. WASTE AND CONTAINER WEIGHT (kg) (ton)	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm2 dpm/100 cm2 ALPHA	BETA / GAMMA	11. WASTE DESCRIPTOR (See Note 2 & Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (ft3)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION: CHEMICAL FORM CHELATING AGENT	WEIGHT % CHELATING AGENT IF>0 1%	15. RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				16. WASTE CLASS: AS-Class A Stable; AU-Class A Unstable; B-Class B; C-Class C
												Radionuclides	pCi/gm	MBq	mCi	
USE-01	2 D	16.99	9773	<0.005	<3.33E-07	<1.67E-06	39 H	16.99	100	oxide	NP	Ra-226	3.469E+01	9.324E+00	2.520E-01	
		600.0	10.75	<0.500	<20.00	<100.00	Construction Debris	600.0		none		Ra-228	3.469E+01	9.324E+00	2.520E-01	
Shipment Totals		Subtotal: 16.99	9772.73					16.99				Subtotal	6.94E+01	1.86E+01	5.04E-01	
		Total 600.00	10.75					600.0				SNM Total	6.94E+01	1.86E+01	5.04E-01	

NOTE 1: Container Description Codes
For containers waste requiring disposal in approved structural over-packs the numerical code must be followed by "OP."
1 Wooden Box or Crate; 2 Metal Box; 3 Plastic Drum or Pail; 4 Metal Drum or Pail; 5 Metal Tank or Liner; 6 Concrete Tank / Liner; 7 Polyethlene Tank / Liner; 8 Fiberglass Tank or Liner; 9 Demineralizer; 10 Gas Cylinder; 11 Bulk, Unpackaged Waste; 12 Unpackaged Component; 13 High Integrity Container; 19 Other. Describe in Item 6. or additional page

Note 1A: Bulk Packaging Description Codes (Choose one code as may be applicable).
A Gondola; B Intermodal; C End-dump; D Roll-off; E Seaven

NOTE 2: Waste Descriptor Codes: (Choose up to three which predominate by volume)
20 Charcoal; 21 Incinerator; 22 Soil; 23 Gas; 24 Oil; 25 Aqueous Liquid; 26 Filter Media; 27 Mechanical Filter; 28 EPA or State Hazardous; 29 Demolition Rubble; 30 Cation Ion-exchange Media; 31 Anion Ion-exchange Media; 32 Mixed Bed Ion-exchange Media; 33 Contaminated Equipment; 34 Organic Liquid (except oil); 35 Glassware or Labware; 36 Sealed Source/Device; 37 Paint or Plating; 38 Evaporator Bottoms Sludges / Concentrates; 39 Compactible Trash; 40 Noncompactible Trash; 41 Animal Carcass; 42 Biological Material (except animal carcass); 43 Activated Material; 59 Other. Describe in Item 11. or additional page

Note 2A: Specific Waste Descriptions (Choose all applicable codes).
G Dewatered; H Solid; I Combustible; J Non-combustible; K Air Filtration Filters; L Asbestos

Note 3. Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume.) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13. Code 100=NONE REQUIRED

Solidification
90. Cement; 91. Concrete (encapsulation); 92. Bitumen; 93. Vinyl Chloride; 94 Vinyl Ester Styrene; 99 Other. Describe in Item 13, or additional page; 100 None required

ATTATCHMENT 2

Report Date:
17-Jul-13 15:52

☐ Final Report
☐ Re-Issued Report
☑ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Solutient Technologies, LLC
6616 Promway Ave. NW
North Canton, OH 44720
Attn: Brad Squibb

Project: Rome New York
Project #: [none]

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB70066-01	DW1N	Soil/Solid	13-May-13 00:00	21-May-13 21:00
SB70066-02	DW1S	Soil/Solid	13-May-13 00:00	21-May-13 21:00
SB70066-03	DW1E	Soil/Solid	13-May-13 00:00	21-May-13 21:00
SB70066-04	DW1W	Soil/Solid	13-May-13 00:00	21-May-13 21:00
SB70066-05	DW1B	Soil/Solid	13-May-13 00:00	21-May-13 21:00
SB70066-06	DW3N	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-07	DW3S	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-08	DW3E	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-09	DW3W	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-10	DW3B	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-11	DW6N	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-12	DW6S	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-13	DW6E	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-14	DW6W	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-15	DW6B	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-16	D6PILEC	Soil/Solid	16-May-13 00:00	21-May-13 21:00
SB70066-17	D3PILEC	Soil/Solid	16-May-13 00:00	21-May-13 21:00
SB70066-18	DW4C	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-19	DW5C	Soil/Solid	14-May-13 00:00	21-May-13 21:00
SB70066-20	DW7C	Soil/Solid	14-May-13 00:00	21-May-13 21:00

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 23 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 1.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

June 17, 2013 Report Revision Case Narrative:

This report has been revised to include analyses added as listed in the appendix at the end of this report.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Spikes:

1313485-MS1 *Source: SB70066-18*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Arsenic
Cadmium
Lead
Selenium

1313485-MSD1 *Source: SB70066-18*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Arsenic
Cadmium
Copper
Lead
Selenium
Silver

1316412-MS1 *Source: SB70066-16*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Cadmium

1316412-MSD1 *Source: SB70066-16*

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Lead

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Cadmium

Duplicates:

1313485-DUP1 *Source: SB70066-18*

SW846 6010C

Duplicates:

1313485-DUP1 *Source: SB70066-18*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Selenium

The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.

Arsenic

SW846 7471B

Spikes:

1313486-MS1 *Source: SB70066-18*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Mercury

1313486-MSD1 *Source: SB70066-18*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Mercury

1313572-MSD1 *Source: SB70066-03*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Mercury

1316413-MS1 *Source: SB70066-16*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1316413-MSD1 *Source: SB70066-16*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Duplicates:

1313572-DUP1 *Source: SB70066-03*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Mercury

1316413-DUP1 *Source: SB70066-16*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

Samples:

SB70066-07 *DW3S*

SW846 7471B

Samples:

SB70066-07 *DW3S*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SB70066-10 *DW3B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SB70066-11 *DW6N*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SB70066-12 *DW6S*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SB70066-15 *DW6B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SB70066-16 *D6PILEC*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

This sample was analyzed outside the EPA recommended holding time per client request.

Mercury

SB70066-17 *D3PILEC*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

This sample was analyzed outside the EPA recommended holding time per client request.

Mercury

Sample Acceptance Check Form

Client:	Solutient Technologies, LLC
Project:	Rome New York / [none]
Work Order:	SB70066
Sample(s) received on:	5/21/2013
Received by:	Vickie Knowles

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☐	☑	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☐	☑	☐
6. Were sample containers received intact?	☑	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☑	☐	☐
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
10. Did sample container labels agree with Chain of Custody document?	☑	☐	☐
11. Were samples received within method-specific holding times?	☑	☐	☐

Sample Identification
DW1N
SB70066-01

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 13-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.51		mg/kg dry	1.51	0.436	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.46**		mg/kg dry	1.51	0.660	1	"	"	"	"	"	X
7440-39-3	Barium	**30.8**		mg/kg dry	1.01	0.325	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.505		mg/kg dry	0.505	0.148	1	"	"	"	"	"	X
7440-47-3	Chromium	**9.78**		mg/kg dry	1.01	0.218	1	"	"	"	"	"	X
7440-50-8	Copper	**22.7**		mg/kg dry	1.01	0.389	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.0842**		mg/kg dry	0.0318	0.0016	1	SW846 7471B	"	03-Jun-13	JLM	1312356	X
7439-92-1	Lead	**5.31**		mg/kg dry	1.51	0.558	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.51		mg/kg dry	1.51	0.434	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**87.5**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW1S
SB70066-02

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 13-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.42		mg/kg dry	1.42	0.409	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.17**		mg/kg dry	1.42	0.619	1	"	"	"	"	"	X
7440-39-3	Barium	**30.5**		mg/kg dry	0.947	0.305	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.474		mg/kg dry	0.474	0.139	1	"	"	"	"	"	X
7440-47-3	Chromium	**8.98**		mg/kg dry	0.947	0.205	1	"	"	"	"	"	X
7440-50-8	Copper	**20.1**		mg/kg dry	0.947	0.365	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.0404**		mg/kg dry	0.0316	0.0016	1	SW846 7471B	"	03-Jun-13	JLM	1312356	X
7439-92-1	Lead	**5.86**		mg/kg dry	1.42	0.524	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.42		mg/kg dry	1.42	0.407	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**89.6**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW1E
SB70066-03

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 13-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.52		mg/kg dry	1.52	0.438	1	SW846 6010C	10-Jun-13	12-Jun-13	ARF	1313571	X
7439-97-6	Mercury	**0.104**		mg/kg dry	0.0340	0.0017	1	SW846 7471B	"	10-Jun-13	JLM	1313572	X
General Chemistry Parameters													
	% Solids	**88.2**		%			1	SM2540 G Mod.	11-Jun-13	11-Jun-13	DT	1313657	

Sample Identification
DW1W
SB70066-04

Client Project # [none] | Matrix Soil/Solid | Collection Date/Time 13-May-13 00:00 | Received 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.65		mg/kg dry	1.65	0.476	1	SW846 6010C	10-Jun-13	13-Jun-13	ARF	1313571	X
7439-97-6	Mercury	**0.0918**		mg/kg dry	0.0334	0.0017	1	SW846 7471B	"	10-Jun-13	JLM	1313572	X
General Chemistry Parameters													
	% Solids	**83.7**		%			1	SM2540 G Mod.	11-Jun-13	11-Jun-13	DT	1313657	

Sample Identification
DW1B
SB70066-05

Client Project # [none] | Matrix Soil/Solid | Collection Date/Time 13-May-13 00:00 | Received 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3545A													
12674-11-2	Aroclor-1016	< 21.8		µg/kg dry	21.8	10.9	1	SW846 8082A	22-May-13	28-May-13	BLM	1311748	X
11104-28-2	Aroclor-1221	< 21.8		µg/kg dry	21.8	19.6	1	"	"	"	"	"	X
11141-16-5	Aroclor-1232	< 21.8		µg/kg dry	21.8	14.0	1	"	"	"	"	"	X
53469-21-9	Aroclor-1242	< 21.8		µg/kg dry	21.8	12.8	1	"	"	"	"	"	X
12672-29-6	Aroclor-1248	< 21.8		µg/kg dry	21.8	10.7	1	"	"	"	"	"	X
11097-69-1	Aroclor-1254	< 21.8		µg/kg dry	21.8	18.2	1	"	"	"	"	"	X
11096-82-5	Aroclor-1260	< 21.8		µg/kg dry	21.8	13.5	1	"	"	"	"	"	X
37324-23-5	Aroclor-1262	< 21.8		µg/kg dry	21.8	20.3	1	"	"	"	"	"	X
11100-14-4	Aroclor-1268	< 21.8		µg/kg dry	21.8	6.84	1	"	"	"	"	"	X
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*150*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*135*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*120*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*115*			*30-150 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.41		mg/kg dry	1.41	0.407	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**2.92**		mg/kg dry	1.41	0.616	1	"	"	"	"	"	X
7440-39-3	Barium	**27.4**		mg/kg dry	0.942	0.303	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.471		mg/kg dry	0.471	0.139	1	"	"	"	"	"	X
7440-47-3	Chromium	**8.43**		mg/kg dry	0.942	0.204	1	"	"	"	"	"	X
7440-50-8	Copper	**32.0**		mg/kg dry	0.942	0.363	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.483**		mg/kg dry	0.0301	0.0015	1	SW846 7471B	"	03-Jun-13	JLM	1312356	X
7439-92-1	Lead	**6.49**		mg/kg dry	1.41	0.521	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.41		mg/kg dry	1.41	0.405	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**90.8**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW3N
SB70066-06

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.54		mg/kg dry	1.54	0.444	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.07**		mg/kg dry	1.54	0.672	1	"	"	"	"	"	X
7440-39-3	Barium	**21.2**		mg/kg dry	1.03	0.331	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.514		mg/kg dry	0.514	0.151	1	"	"	"	"	"	X
7440-47-3	Chromium	**7.22**		mg/kg dry	1.03	0.222	1	"	"	"	"	"	X
7440-50-8	Copper	**17.3**		mg/kg dry	1.03	0.396	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.124**		mg/kg dry	0.0289	0.0015	1	SW846 7471B	"	03-Jun-13	JLM	1312356	X
7439-92-1	Lead	**4.57**		mg/kg dry	1.54	0.568	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.54		mg/kg dry	1.54	0.442	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**93.6**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW3S
SB70066-07

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.59		mg/kg dry	1.59	0.457	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.27**		mg/kg dry	1.59	0.692	1	"	"	"	"	"	X
7440-39-3	Barium	**30.5**		mg/kg dry	1.06	0.341	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.529		mg/kg dry	0.529	0.155	1	"	"	"	"	"	X
7440-47-3	Chromium	**9.36**		mg/kg dry	1.06	0.228	1	"	"	"	"	"	X
7440-50-8	Copper	**18.1**		mg/kg dry	1.06	0.407	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.609**	D, GS1	mg/kg dry	0.321	0.0165	10	SW846 7471B	"	04-Jun-13	JLM	1312356	X
7439-92-1	Lead	**5.41**		mg/kg dry	1.59	0.585	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.59		mg/kg dry	1.59	0.455	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**90.1**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW3E
SB70066-08

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7439-97-6	Mercury	< 0.0321		mg/kg dry	0.0321	0.0016	1	SW846 7471B	10-Jun-13	10-Jun-13	JLM	1313572	X
General Chemistry Parameters													
	% Solids	**85.6**		%			1	SM2540 G Mod.	11-Jun-13	11-Jun-13	DT	1313657	

Sample Identification
DW3W
SB70066-09

Client Project #	Matrix	Collection Date/Time	Received
[none]	Soil/Solid	14-May-13 00:00	21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7439-97-6	Mercury	**0.0405**		mg/kg dry	0.0311	0.0016	1	SW846 7471B	10-Jun-13	10-Jun-13	JLM	1313572	X
General Chemistry Parameters													
	% Solids	**89.3**		%			1	SM2540 G Mod.	11-Jun-13	11-Jun-13	DT	1313657	

Sample Identification
DW3B
SB70066-10

Client Project #	Matrix	Collection Date/Time	Received
[none]	Soil/Solid	14-May-13 00:00	21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.63		mg/kg dry	1.63	0.470	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.92**		mg/kg dry	1.63	0.712	1	"	"	"	"	"	X
7440-39-3	Barium	**36.4**		mg/kg dry	1.09	0.350	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.544		mg/kg dry	0.544	0.160	1	"	"	"	"	"	X
7440-47-3	Chromium	**10.6**		mg/kg dry	1.09	0.235	1	"	"	"	"	"	X
7440-50-8	Copper	**22.9**		mg/kg dry	1.09	0.419	1	"	"	"	"	"	X
7439-97-6	Mercury	**1.26**	D, GS1	mg/kg dry	0.313	0.0161	10	SW846 7471B	"	04-Jun-13	JLM	1312356	X
7439-92-1	Lead	**7.73**		mg/kg dry	1.63	0.602	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.63		mg/kg dry	1.63	0.468	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**90.5**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW6N
SB70066-11

Client Project #	Matrix	Collection Date/Time	Received
[none]	Soil/Solid	14-May-13 00:00	21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.52		mg/kg dry	1.52	0.438	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.89**		mg/kg dry	1.52	0.663	1	"	"	"	"	"	X
7440-39-3	Barium	**34.7**		mg/kg dry	1.01	0.327	1	"	"	"	"	"	X
7440-43-9	Cadmium	**1.78**		mg/kg dry	0.507	0.149	1	"	"	"	"	"	X
7440-47-3	Chromium	**11.7**		mg/kg dry	1.01	0.219	1	"	"	"	"	"	X
7440-50-8	Copper	**35.8**		mg/kg dry	1.01	0.390	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.808**	D, GS1	mg/kg dry	0.318	0.0163	10	SW846 7471B	"	04-Jun-13	JLM	1312356	X
7439-92-1	Lead	**8.75**		mg/kg dry	1.52	0.561	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.52		mg/kg dry	1.52	0.436	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**91.7**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW6S
SB70066-12

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.67		mg/kg dry	1.67	0.480	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.13**		mg/kg dry	1.67	0.727	1	"	"	"	"	"	X
7440-39-3	Barium	**28.6**		mg/kg dry	1.11	0.358	1	"	"	"	"	"	X
7440-43-9	Cadmium	**4.58**		mg/kg dry	0.556	0.163	1	"	"	"	"	"	X
7440-47-3	Chromium	**12.9**		mg/kg dry	1.11	0.240	1	"	"	"	"	"	X
7440-50-8	Copper	**40.6**		mg/kg dry	1.11	0.428	1	"	"	"	"	"	X
7439-97-6	Mercury	**6.36**	D, GS1	mg/kg dry	0.345	0.0177	10	SW846 7471B	"	04-Jun-13	JLM	1312356	X
7439-92-1	Lead	**8.05**		mg/kg dry	1.67	0.614	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.67		mg/kg dry	1.67	0.478	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**84.2**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
DW6E
SB70066-13

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.60		mg/kg dry	1.60	0.461	1	SW846 6010C	10-Jun-13	13-Jun-13	ARF	1313571	X
7440-38-2	Arsenic	< 1.60		mg/kg dry	1.60	0.699	1	"	"	"	"	"	X
7440-39-3	Barium	**45.0**		mg/kg dry	1.07	0.344	1	"	"	"	"	"	X
7440-43-9	Cadmium	**2.26**		mg/kg dry	0.534	0.157	1	"	"	"	"	"	X
7440-47-3	Chromium	**11.8**		mg/kg dry	1.07	0.231	1	"	"	"	"	"	X
7440-50-8	Copper	**37.8**		mg/kg dry	1.07	0.411	1	"	"	14-Jun-13	"	"	X
7439-97-6	Mercury	**0.446**		mg/kg dry	0.0312	0.0016	1	SW846 7471B	"	10-Jun-13	JLM	1313572	X
7439-92-1	Lead	**11.8**		mg/kg dry	1.60	0.591	1	SW846 6010C	"	13-Jun-13	ARF	1313571	X
7782-49-2	Selenium	< 1.60		mg/kg dry	1.60	0.459	1	"	"	14-Jun-13	"	"	X
General Chemistry Parameters													
	% Solids	**88.9**		%			1	SM2540 G Mod.	11-Jun-13	11-Jun-13	DT	1313657	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DW6W	[none]	Soil/Solid	14-May-13 00:00	21-May-13
SB70066-14				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.58		mg/kg dry	1.58	0.455	1	SW846 6010C	10-Jun-13	13-Jun-13	ARF	1313571	X
7440-38-2	Arsenic	< 1.58		mg/kg dry	1.58	0.689	1	"	"	"	"	"	X
7440-39-3	Barium	**36.8**		mg/kg dry	1.05	0.339	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.527		mg/kg dry	0.527	0.155	1	"	"	"	"	"	X
7440-47-3	Chromium	**10.2**		mg/kg dry	1.05	0.228	1	"	"	"	"	"	X
7440-50-8	Copper	**30.6**		mg/kg dry	1.05	0.406	1	"	"	14-Jun-13	"	"	X
7439-97-6	Mercury	**0.217**		mg/kg dry	0.0308	0.0016	1	SW846 7471B	"	10-Jun-13	JLM	1313572	X
7439-92-1	Lead	**11.9**		mg/kg dry	1.58	0.583	1	SW846 6010C	"	13-Jun-13	ARF	1313571	X
7782-49-2	Selenium	< 1.58		mg/kg dry	1.58	0.453	1	"	"	14-Jun-13	"	"	X
General Chemistry Parameters													
	% Solids	**88.7**		%			1	SM2540 G Mod.	11-Jun-13	11-Jun-13	DT	1313657	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DW6B SB70066-15	[none]	Soil/Solid	14-May-13 00:00	21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3545A													
12674-11-2	Aroclor-1016	< 22.1		µg/kg dry	22.1	11.1	1	SW846 8082A	22-May-13	28-May-13	BLM	1311748	X
11104-28-2	Aroclor-1221	< 22.1		µg/kg dry	22.1	19.9	1	"	"	"	"	"	X
11141-16-5	Aroclor-1232	< 22.1		µg/kg dry	22.1	14.2	1	"	"	"	"	"	X
53469-21-9	Aroclor-1242	< 22.1		µg/kg dry	22.1	13.0	1	"	"	"	"	"	X
12672-29-6	Aroclor-1248	< 22.1		µg/kg dry	22.1	10.9	1	"	"	"	"	"	X
11097-69-1	Aroclor-1254	< 22.1		µg/kg dry	22.1	18.4	1	"	"	"	"	"	X
11096-82-5	Aroclor-1260	< 22.1		µg/kg dry	22.1	13.7	1	"	"	"	"	"	X
37324-23-5	Aroclor-1262	< 22.1		µg/kg dry	22.1	20.6	1	"	"	"	"	"	X
11100-14-4	Aroclor-1268	< 22.1		µg/kg dry	22.1	6.95	1	"	"	"	"	"	X
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*150*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*140*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*140*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*130*			*30-150 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.47		mg/kg dry	1.47	0.424	1	SW846 6010C	30-May-13	01-Jun-13	arf	1312353	X
7440-38-2	Arsenic	**3.58**		mg/kg dry	1.47	0.642	1	"	"	"	"	"	X
7440-39-3	Barium	**38.6**		mg/kg dry	0.982	0.316	1	"	"	"	"	"	X
7440-43-9	Cadmium	**8.37**		mg/kg dry	0.491	0.144	1	"	"	"	"	"	X
7440-47-3	Chromium	**13.5**		mg/kg dry	0.982	0.212	1	"	"	"	"	"	X
7440-50-8	Copper	**39.6**		mg/kg dry	0.982	0.378	1	"	"	"	"	"	X
7439-97-6	Mercury	**4.81**	D, GS1	mg/kg dry	0.337	0.0173	10	SW846 7471B	"	04-Jun-13	JLM	1312356	X
7439-92-1	Lead	**11.8**		mg/kg dry	1.47	0.543	1	SW846 6010C	"	01-Jun-13	arf	1312353	X
7782-49-2	Selenium	< 1.47		mg/kg dry	1.47	0.422	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**89.1**		%			1	SM2540 G Mod.	23-May-13	23-May-13	DT	1311994	

Sample Identification
D6PILEC
SB70066-16

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 16-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.48		mg/kg dry	1.48	0.425	1	SW846 6010C	12-Jul-13	15-Jul-13	LR	1316412	X
7440-38-2	Arsenic	**3.28**		mg/kg dry	1.48	0.644	1	"	"	"	"	"	X
7440-39-3	Barium	**31.1**		mg/kg dry	0.985	0.317	1	"	"	"	"	"	X
7440-43-9	Cadmium	**17.9**		mg/kg dry	0.492	0.145	1	"	"	"	"	"	X
7440-47-3	Chromium	**14.0**		mg/kg dry	0.985	0.213	1	"	"	"	"	"	X
7439-97-6	Mercury	**4.50**	D, GS1, O09	mg/kg dry	0.308	0.0158	10	SW846 7471B	"	15-Jul-13	JLM	1316413	X
7439-92-1	Lead	**13.5**		mg/kg dry	1.48	0.544	1	SW846 6010C	"	15-Jul-13	LR	1316412	X
7782-49-2	Selenium	< 1.48		mg/kg dry	1.48	0.423	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**90.8**		%			1	SM2540 G Mod.	11-Jul-13	11-Jul-13	DT	1316320	

Sample Identification
D3PILEC
SB70066-17

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 16-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.47		mg/kg dry	1.47	0.423	1	SW846 6010C	12-Jul-13	15-Jul-13	LR	1316412	X
7440-38-2	Arsenic	**3.18**		mg/kg dry	1.47	0.640	1	"	"	"	"	"	X
7440-39-3	Barium	**32.5**		mg/kg dry	0.979	0.315	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.489		mg/kg dry	0.489	0.144	1	"	"	"	"	"	X
7440-47-3	Chromium	**9.93**		mg/kg dry	0.979	0.211	1	"	"	"	"	"	X
7439-97-6	Mercury	**1.37**	D, GS1, O09	mg/kg dry	0.284	0.0146	10	SW846 7471B	"	15-Jul-13	JLM	1316413	X
7439-92-1	Lead	**8.23**		mg/kg dry	1.47	0.541	1	SW846 6010C	"	15-Jul-13	LR	1316412	X
7782-49-2	Selenium	< 1.47		mg/kg dry	1.47	0.421	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**92.3**		%			1	SM2540 G Mod.	11-Jul-13	11-Jul-13	DT	1316320	

Sample Identification
DW4C
SB70066-18

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.42		mg/kg dry	1.42	0.410	1	SW846 6010C	10-Jun-13	14-Jun-13	EDT	1313485	X
7440-38-2	Arsenic	**3.59**		mg/kg dry	1.42	0.620	1	"	"	14-Jun-13	"	"	X
7440-39-3	Barium	**34.8**		mg/kg dry	0.949	0.305	1	"	"	14-Jun-13	"	"	X
7440-43-9	Cadmium	< 0.474		mg/kg dry	0.474	0.139	1	"	"	"	"	"	X
7440-47-3	Chromium	**10.4**		mg/kg dry	0.949	0.205	1	"	"	"	"	"	X
7440-50-8	Copper	**26.3**		mg/kg dry	0.949	0.365	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.0507**		mg/kg dry	0.0337	0.0017	1	SW846 7471B	"	10-Jun-13	JLM	1313486	X
7439-92-1	Lead	**12.5**		mg/kg dry	1.42	0.525	1	SW846 6010C	"	14-Jun-13	EDT	1313485	X
7782-49-2	Selenium	< 1.42		mg/kg dry	1.42	0.408	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**88.6**		%			1	SM2540 G Mod.	10-Jun-13	10-Jun-13	DT	1313545	

Sample Identification
DW5C
SB70066-19

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.49		mg/kg dry	1.49	0.429	1	SW846 6010C	10-Jun-13	14-Jun-13	EDT	1313485	X
7440-38-2	Arsenic	**3.51**		mg/kg dry	1.49	0.649	1	"	"	14-Jun-13	"	"	X
7440-39-3	Barium	**35.8**		mg/kg dry	0.992	0.319	1	"	"	14-Jun-13	"	"	X
7440-43-9	Cadmium	< 0.496		mg/kg dry	0.496	0.146	1	"	"	"	"	"	X
7440-47-3	Chromium	**10.0**		mg/kg dry	0.992	0.214	1	"	"	"	"	"	X
7440-50-8	Copper	**40.9**		mg/kg dry	0.992	0.382	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.0453**		mg/kg dry	0.0307	0.0016	1	SW846 7471B	"	10-Jun-13	JLM	1313486	X
7439-92-1	Lead	**11.8**		mg/kg dry	1.49	0.549	1	SW846 6010C	"	14-Jun-13	EDT	1313485	X
7782-49-2	Selenium	< 1.49		mg/kg dry	1.49	0.427	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**89.5**		%			1	SM2540 G Mod.	10-Jun-13	10-Jun-13	DT	1313545	

Sample Identification
DW7C
SB70066-20

Client Project #: [none]
Matrix: Soil/Solid
Collection Date/Time: 14-May-13 00:00
Received: 21-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 1.72		mg/kg dry	1.72	0.494	1	SW846 6010C	10-Jun-13	14-Jun-13	EDT	1313485	X
7440-38-2	Arsenic	**3.50**		mg/kg dry	1.72	0.748	1	"	"	14-Jun-13	"	"	X
7440-39-3	Barium	**35.0**		mg/kg dry	1.14	0.368	1	"	"	14-Jun-13	"	"	X
7440-43-9	Cadmium	< 0.572		mg/kg dry	0.572	0.168	1	"	"	"	"	"	X
7440-47-3	Chromium	**12.1**		mg/kg dry	1.14	0.247	1	"	"	"	"	"	X
7440-50-8	Copper	**39.5**		mg/kg dry	1.14	0.440	1	"	"	"	"	"	X
7439-97-6	Mercury	**0.0422**		mg/kg dry	0.0323	0.0017	1	SW846 7471B	"	10-Jun-13	JLM	1313486	X
7439-92-1	Lead	**16.3**		mg/kg dry	1.72	0.632	1	SW846 6010C	"	14-Jun-13	EDT	1313485	X
7782-49-2	Selenium	< 1.72		mg/kg dry	1.72	0.492	1	"	"	"	"	"	X
General Chemistry Parameters													
	% Solids	**87.2**		%			1	SM2540 G Mod.	10-Jun-13	10-Jun-13	DT	1313545	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1311748 - SW846 3545A										
Blank (1311748-BLK1)					Prepared & Analyzed: 22-May-13					
Aroclor-1016	< 20.0		µg/kg wet	20.0						
Aroclor-1016 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1221	< 20.0		µg/kg wet	20.0						
Aroclor-1221 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1232	< 20.0		µg/kg wet	20.0						
Aroclor-1232 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1242	< 20.0		µg/kg wet	20.0						
Aroclor-1242 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1248	< 20.0		µg/kg wet	20.0						
Aroclor-1248 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1254	< 20.0		µg/kg wet	20.0						
Aroclor-1254 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1260	< 20.0		µg/kg wet	20.0						
Aroclor-1260 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1262	< 20.0		µg/kg wet	20.0						
Aroclor-1262 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1268	< 20.0		µg/kg wet	20.0						
Aroclor-1268 [2C]	< 20.0		µg/kg wet	20.0						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*8.00*		µg/kg wet		*20.0*		*40*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*7.00*		µg/kg wet		*20.0*		*35*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*6.00*		µg/kg wet		*20.0*		*30*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*6.00*		µg/kg wet		*20.0*		*30*	*30-150*		
LCS (1311748-BS1)					Prepared & Analyzed: 22-May-13					
Aroclor-1016	**222**		µg/kg wet	20.0	250		89	40-140		
Aroclor-1016 [2C]	**247**		µg/kg wet	20.0	250		99	40-140		
Aroclor-1260	**234**		µg/kg wet	20.0	250		94	40-140		
Aroclor-1260 [2C]	**243**		µg/kg wet	20.0	250		97	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		
LCS Dup (1311748-BSD1)					Prepared & Analyzed: 22-May-13					
Aroclor-1016	**218**		µg/kg wet	20.0	250		87	40-140	2	30
Aroclor-1016 [2C]	**247**		µg/kg wet	20.0	250		99	40-140	0	30
Aroclor-1260	**235**		µg/kg wet	20.0	250		94	40-140	0.4	30
Aroclor-1260 [2C]	**248**		µg/kg wet	20.0	250		99	40-140	2	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*17.0*		µg/kg wet		*20.0*		*85*	*30-150*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1312353 - SW846 3050B										
Blank (1312353-BLK1)						Prepared: 30-May-13 Analyzed: 01-Jun-13				
Cadmium	< 0.444		mg/kg wet	0.444						
Chromium	< 0.888		mg/kg wet	0.888						
Copper	< 0.888		mg/kg wet	0.888						
Lead	< 1.33		mg/kg wet	1.33						
Silver	< 1.33		mg/kg wet	1.33						
Arsenic	< 1.33		mg/kg wet	1.33						
Selenium	< 1.33		mg/kg wet	1.33						
Barium	< 0.888		mg/kg wet	0.888						
Reference (1312353-SRM1)						Prepared: 30-May-13 Analyzed: 01-Jun-13				
Selenium	**37.5**		mg/kg wet	1.50	43.9		85	79.98-119.91		
Chromium	**62.8**		mg/kg wet	1.00	63.9		98	81.6-117.6		
Cadmium	**27.8**		mg/kg wet	0.500	30.9		90	83.11-116.88		
Arsenic	**80.3**		mg/kg wet	1.50	93.1		86	82.97-117.58		
Silver	**27.9**		mg/kg wet	1.50	31.3		89	66.23-133.77		
Lead	**66.6**		mg/kg wet	1.50	69.5		96	83.82-116.91		
Copper	**38.8**		mg/kg wet	1.00	41.0		95	83.77-116.1		
Barium	**74.4**		mg/kg wet	1.00	73.1		102	83.16-117.48		
Reference (1312353-SRM2)						Prepared: 30-May-13 Analyzed: 03-Jun-13				
Lead	**64.0**		mg/kg wet	1.50	69.4		92	83.82-116.91		
Arsenic	**79.8**		mg/kg wet	1.50	92.9		86	82.97-117.58		
Cadmium	**30.1**		mg/kg wet	0.500	30.8		98	83.11-116.88		
Chromium	**58.4**		mg/kg wet	1.00	63.8		92	81.6-117.6		
Copper	**37.7**		mg/kg wet	1.00	40.9		92	83.77-116.1		
Selenium	**40.4**		mg/kg wet	1.50	43.8		92	79.98-119.91		
Silver	**25.2**		mg/kg wet	1.50	31.3		80	66.23-133.77		
Barium	**69.4**		mg/kg wet	1.00	73.0		95	83.16-117.48		
Batch 1312356 - EPA200/SW7000 Series										
Blank (1312356-BLK1)						Prepared: 30-May-13 Analyzed: 03-Jun-13				
Mercury	< 0.0286		mg/kg wet	0.0286						
Reference (1312356-SRM1)						Prepared: 30-May-13 Analyzed: 04-Jun-13				
Mercury	**3.84**	D	mg/kg wet	0.600	3.18		121	71.67-128.65		
Batch 1313485 - SW846 3050B										
Blank (1313485-BLK1)						Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Copper	< 0.894		mg/kg wet	0.894						
Chromium	< 0.894		mg/kg wet	0.894						
Cadmium	< 0.447		mg/kg wet	0.447						
Arsenic	< 1.34		mg/kg wet	1.34						
Silver	< 1.34		mg/kg wet	1.34						
Selenium	< 1.34		mg/kg wet	1.34						
Lead	< 1.34		mg/kg wet	1.34						
Barium	< 0.894		mg/kg wet	0.894						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313485 - SW846 3050B										
Duplicate (1313485-DUP1)			**Source: SB70066-18**			Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Cadmium	< 0.503		mg/kg dry	0.503		BRL				20
Selenium	**0.583**	J,QR8	mg/kg dry	1.51		0.422			32	20
Lead	**12.2**		mg/kg dry	1.51		12.5			2	20
Copper	**28.1**		mg/kg dry	1.01		26.3			7	20
Chromium	**9.80**		mg/kg dry	1.01		10.4			6	20
Arsenic	**4.95**	QR6	mg/kg dry	1.51		3.59			32	20
Silver	< 1.51		mg/kg dry	1.51		BRL				20
Barium	**39.4**		mg/kg dry	1.01		34.8			12	20
Matrix Spike (1313485-MS1)			**Source: SB70066-18**			Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Chromium	**112**		mg/kg dry	0.971	121	10.4	83	75-125		
Lead	**99.5**	QM7	mg/kg dry	1.46	121	12.5	72	75-125		
Selenium	**90.4**	QM7	mg/kg dry	1.46	121	0.422	74	75-125		
Copper	**123**		mg/kg dry	0.971	121	26.3	80	75-125		
Cadmium	**83.7**	QM7	mg/kg dry	0.486	121	BRL	69	75-125		
Silver	**93.2**		mg/kg dry	1.46	121	BRL	77	75-125		
Arsenic	**93.9**	QM7	mg/kg dry	1.46	121	3.59	74	75-125		
Barium	**145**		mg/kg dry	0.971	121	34.8	91	75-125		
Matrix Spike Dup (1313485-MSD1)			**Source: SB70066-18**			Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Selenium	**80.1**	QM7	mg/kg dry	1.45	120	0.422	66	75-125	12	20
Silver	**84.5**	QM7	mg/kg dry	1.45	120	BRL	70	75-125	10	20
Arsenic	**83.5**	QM7	mg/kg dry	1.45	120	3.59	66	75-125	12	20
Cadmium	**76.2**	QM7	mg/kg dry	0.482	120	BRL	63	75-125	9	20
Chromium	**102**		mg/kg dry	0.964	120	10.4	76	75-125	9	20
Copper	**111**	QM7	mg/kg dry	0.964	120	26.3	70	75-125	10	20
Lead	**92.4**	QM7	mg/kg dry	1.45	120	12.5	66	75-125	8	20
Barium	**135**		mg/kg dry	0.964	120	34.8	83	75-125	7	20
Post Spike (1313485-PS1)			**Source: SB70066-18**			Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Barium	**133**		mg/kg dry	0.949	119	34.8	83	80-120		
Reference (1313485-SRM1)						Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Selenium	**48.6**		mg/kg wet	1.50	56.6		86	79-122		
Silver	**20.1**		mg/kg wet	1.50	24.3		83	66-134		
Arsenic	**104**		mg/kg wet	1.50	122		86	83-117		
Cadmium	**87.3**		mg/kg wet	0.500	98.2		89	83-117		
Chromium	**61.2**		mg/kg wet	1.00	65.8		93	81-118		
Copper	**57.4**		mg/kg wet	1.00	63.3		91	84-116		
Lead	**45.7**		mg/kg wet	1.50	53.0		86	83-117		
Barium	**125**		mg/kg wet	1.00	130		96	84-116		
Reference (1313485-SRM2)						Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Silver	**20.9**		mg/kg wet	1.50	24.5		85	66-134		
Arsenic	**106**		mg/kg wet	1.50	123		86	83-117		
Chromium	**62.9**		mg/kg wet	1.00	66.3		95	81-118		
Lead	**47.7**		mg/kg wet	1.50	53.3		89	83-117		
Selenium	**48.6**		mg/kg wet	1.50	57.0		85	79-122		
Copper	**59.4**		mg/kg wet	1.00	63.7		93	84-116		
Cadmium	**87.9**		mg/kg wet	0.500	98.9		89	83-117		
Barium	**129**		mg/kg wet	1.00	130		99	84-116		
Batch 1313486 - EPA200/SW7000 Series										
Blank (1313486-BLK1)						Prepared & Analyzed: 10-Jun-13				
Mercury	< 0.0263		mg/kg wet	0.0263						
Duplicate (1313486-DUP1)			**Source: SB70066-18**			Prepared & Analyzed: 10-Jun-13				
Mercury	**0.0563**		mg/kg dry	0.0322		0.0507			10	20

This laboratory report is not valid without an authorized signature on the cover page.

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313486 - EPA200/SW7000 Series										
Matrix Spike (1313486-MS1)			Source: SB70066-18			Prepared & Analyzed: 10-Jun-13				
Mercury	**0.337**	QM7	mg/kg dry	0.0328	0.228	0.0507	126	75-125		
Matrix Spike Dup (1313486-MSD1)			Source: SB70066-18			Prepared & Analyzed: 10-Jun-13				
Mercury	**0.354**	QM7	mg/kg dry	0.0323	0.224	0.0507	135	75-125	5	20
Reference (1313486-SRM1)						Prepared & Analyzed: 10-Jun-13				
Mercury	**5.13**	D	mg/kg wet	0.600	4.32		119	72-128		
Batch 1313571 - SW846 3050B										
Blank (1313571-BLK1)						Prepared: 10-Jun-13 Analyzed: 12-Jun-13				
Arsenic	< 1.45		mg/kg wet	1.45						
Silver	< 1.45		mg/kg wet	1.45						
Chromium	< 0.967		mg/kg wet	0.967						
Selenium	< 1.45		mg/kg wet	1.45						
Copper	< 0.967		mg/kg wet	0.967						
Lead	< 1.45		mg/kg wet	1.45						
Cadmium	< 0.484		mg/kg wet	0.484						
Barium	< 0.967		mg/kg wet	0.967						
Duplicate (1313571-DUP1)			Source: SB70066-03			Prepared: 10-Jun-13 Analyzed: 12-Jun-13				
Silver	**0.448**	J	mg/kg dry	1.53		BRL				20
Matrix Spike (1313571-MS1)			Source: SB70066-03			Prepared: 10-Jun-13 Analyzed: 12-Jun-13				
Silver	**122**		mg/kg dry	1.64	137	BRL	89	75-125		
Matrix Spike Dup (1313571-MSD1)			Source: SB70066-03			Prepared: 10-Jun-13 Analyzed: 13-Jun-13				
Silver	**117**		mg/kg dry	1.66	138	BRL	84	75-125	4	20
Post Spike (1313571-PS1)			Source: SB70066-03			Prepared: 10-Jun-13 Analyzed: 13-Jun-13				
Silver	**107**		mg/kg dry	1.52	127	BRL	85	80-120		
Reference (1313571-SRM1)						Prepared: 10-Jun-13 Analyzed: 12-Jun-13				
Lead	**47.6**		mg/kg wet	1.50	51.7		92	83-117		
Silver	**22.4**		mg/kg wet	1.50	23.7		94	66-134		
Copper	**61.2**		mg/kg wet	1.00	61.7		99	84-116		
Selenium	**51.0**		mg/kg wet	1.50	55.2		92	79-122		
Arsenic	**104**		mg/kg wet	1.50	119		87	83-117		
Chromium	**63.4**		mg/kg wet	1.00	64.3		99	81-118		
Cadmium	**98.4**		mg/kg wet	0.500	95.9		103	83-117		
Barium	**128**		mg/kg wet	1.00	127		101	84-116		
Reference (1313571-SRM2)						Prepared: 10-Jun-13 Analyzed: 14-Jun-13				
Copper	**57.5**		mg/kg wet	1.00	61.8		93	84-116		
Silver	**21.2**		mg/kg wet	1.50	23.8		89	66-134		
Lead	**46.5**		mg/kg wet	1.50	51.8		90	83-117		
Chromium	**61.4**		mg/kg wet	1.00	64.3		95	81-118		
Cadmium	**94.2**		mg/kg wet	0.500	96.0		98	83-117		
Arsenic	**102**		mg/kg wet	1.50	119		85	83-117		
Selenium	**47.8**		mg/kg wet	1.50	55.3		87	79-122		
Barium	**123**		mg/kg wet	1.00	127		97	84-116		
Batch 1313572 - EPA200/SW7000 Series										
Blank (1313572-BLK1)						Prepared & Analyzed: 10-Jun-13				
Mercury	< 0.0298		mg/kg wet	0.0298						
Duplicate (1313572-DUP1)			Source: SB70066-03			Prepared & Analyzed: 10-Jun-13				
Mercury	**0.0802**	QR8	mg/kg dry	0.0317		0.104			26	20
Matrix Spike (1313572-MS1)			Source: SB70066-03			Prepared & Analyzed: 10-Jun-13				
Mercury	**0.371**		mg/kg dry	0.0322	0.224	0.104	119	75-125		
Matrix Spike Dup (1313572-MSD1)			Source: SB70066-03			Prepared & Analyzed: 10-Jun-13				
Mercury	**0.388**	QM7	mg/kg dry	0.0302	0.210	0.104	135	75-125	4	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313572 - EPA200/SW7000 Series										
Post Spike (1313572-PS1)			Source: SB70066-03		Prepared & Analyzed: 10-Jun-13					
Mercury	**0.374**		mg/kg dry	0.0340	0.236	0.104	114	80-120		
Reference (1313572-SRM1)					Prepared & Analyzed: 10-Jun-13					
Mercury	**5.00**	D	mg/kg wet	0.600	4.48		112	72-128		
Batch 1316412 - SW846 3050B										
Blank (1316412-BLK1)					Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Arsenic	< 1.48		mg/kg wet	1.48						
Silver	< 1.48		mg/kg wet	1.48						
Cadmium	< 0.494		mg/kg wet	0.494						
Chromium	< 0.989		mg/kg wet	0.989						
Lead	< 1.48		mg/kg wet	1.48						
Selenium	< 1.48		mg/kg wet	1.48						
Barium	< 0.989		mg/kg wet	0.989						
Duplicate (1316412-DUP1)			Source: SB70066-16		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Lead	**11.4**		mg/kg dry	1.59		13.5			17	20
Selenium	< 1.59		mg/kg dry	1.59		BRL				20
Chromium	**13.9**		mg/kg dry	1.06		14.0			1	20
Cadmium	**17.5**		mg/kg dry	0.530		17.9			3	20
Arsenic	**3.11**		mg/kg dry	1.59		3.28			6	20
Silver	**0.769**	J	mg/kg dry	1.59		0.817			6	20
Barium	**32.6**		mg/kg dry	1.06		31.1			5	20
Matrix Spike (1316412-MS1)			Source: SB70066-16		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Silver	**97.8**		mg/kg dry	1.45	121	0.817	80	75-125		
Selenium	**96.1**		mg/kg dry	1.45	121	BRL	79	75-125		
Chromium	**116**		mg/kg dry	0.969	121	14.0	85	75-125		
Lead	**104**		mg/kg dry	1.45	121	13.5	75	75-125		
Cadmium	**105**	QM7	mg/kg dry	0.484	121	17.9	72	75-125		
Arsenic	**99.5**		mg/kg dry	1.45	121	3.28	79	75-125		
Barium	**151**		mg/kg dry	0.969	121	31.1	99	75-125		
Matrix Spike Dup (1316412-MSD1)			Source: SB70066-16		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Chromium	**119**		mg/kg dry	1.01	127	14.0	83	75-125	2	20
Cadmium	**110**	QM7	mg/kg dry	0.506	127	17.9	73	75-125	5	20
Arsenic	**103**		mg/kg dry	1.52	127	3.28	79	75-125	4	20
Selenium	**101**		mg/kg dry	1.52	127	BRL	80	75-125	5	20
Lead	**107**	QM8	mg/kg dry	1.52	127	13.5	74	75-125	3	20
Silver	**101**		mg/kg dry	1.52	127	0.817	79	75-125	3	20
Barium	**156**		mg/kg dry	1.01	127	31.1	99	75-125	3	20
Post Spike (1316412-PS1)			Source: SB70066-16		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Lead	**114**		mg/kg dry	1.48	123	13.5	81	80-120		
Silver	**102**		mg/kg dry	1.48	123	0.817	83	80-120		
Arsenic	**109**		mg/kg dry	1.48	123	3.28	86	80-120		
Chromium	**120**		mg/kg dry	0.985	123	14.0	86	80-120		
Selenium	**107**		mg/kg dry	1.48	123	BRL	87	80-120		
Barium	**141**		mg/kg dry	0.985	123	31.1	89	80-120		
Reference (1316412-SRM1)					Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Chromium	**61.8**		mg/kg wet	1.00	64.6		96	81.6-117.6		
Lead	**63.9**		mg/kg wet	1.50	70.3		91	83.82-116.91		
Silver	**29.0**		mg/kg wet	1.50	31.7		92	66.23-133.77		
Arsenic	**89.0**		mg/kg wet	1.50	94.0		95	82.97-117.58		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1316412 - SW846 3050B										
Reference (1316412-SRM1)					Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Cadmium	**27.9**		mg/kg wet	0.500	31.2		89	83.11-116.88		
Selenium	**42.6**		mg/kg wet	1.50	44.4		96	79.98-119.91		
Barium	**73.7**		mg/kg wet	1.00	73.9		100	83.16-117.48		
Reference (1316412-SRM2)					Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Silver	**28.1**		mg/kg wet	1.50	30.8		91	66.23-133.77		
Lead	**60.9**		mg/kg wet	1.50	68.4		89	83.82-116.91		
Arsenic	**85.4**		mg/kg wet	1.50	91.5		93	82.97-117.58		
Cadmium	**26.5**		mg/kg wet	0.500	30.4		87	83.11-116.88		
Chromium	**61.0**		mg/kg wet	1.00	62.8		97	81.6-117.6		
Selenium	**40.5**		mg/kg wet	1.50	43.2		94	79.98-119.91		
Barium	**72.0**		mg/kg wet	1.00	71.9		100	83.16-117.48		
Batch 1316413 - EPA200/SW7000 Series										
Blank (1316413-BLK1)					Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Mercury	< 0.0275		mg/kg wet	0.0275						
Duplicate (1316413-DUP1)			**Source: SB70066-16**		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Mercury	**4.93**	D, GS1	mg/kg dry	0.294		4.50			9	20
Matrix Spike (1316413-MS1)			**Source: SB70066-16**		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Mercury	**5.56**	D, QM2	mg/kg dry	0.302	0.210	4.50	505	75-125		
Matrix Spike Dup (1316413-MSD1)			**Source: SB70066-16**		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Mercury	**9.28**	D, QM2	mg/kg dry	0.306	0.213	4.50	2250	75-125	50	20
Post Spike (1316413-PS1)			**Source: SB70066-16**		Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Mercury	**4.72**	D	mg/kg dry	0.308	0.214	4.50	106	80-120		
Reference (1316413-SRM1)					Prepared: 12-Jul-13 Analyzed: 15-Jul-13					
Mercury	**3.54**	D	mg/kg wet	0.600	3.14		113	71.67-128.65		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313545 - General Preparation										
Duplicate (1313545-DUP1)			Source: SB70066-18			Prepared & Analyzed: 10-Jun-13				
% Solids	**89.0**		%			88.6			0.5	20
Batch 1313657 - General Preparation										
Duplicate (1313657-DUP1)			Source: SB70066-03			Prepared & Analyzed: 11-Jun-13				
% Solids	**88.0**		%			88.2			0.2	20

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
O09	This sample was analyzed outside the EPA recommended holding time per client request.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM8	The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.
QR6	The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor
Nicole Leja
Rebecca Merz

Solutient Technologies, LLC

Solutient Technologies Chain of Custody

Document No.

Project Name: Rome New York	**Project Phone:** 865-220-7193	**Send Report to:**	**Solutient Technologies, LLC, 6616 Promway Avenue NW, North Canton, Ohio 44720**
Project Number:	**Project Fax:**	**Brad Squibb**	
Laboratory: Spectrum Analytical	**Phone:**	**Contact:**	PAGE 1

#	Sample ID #	Collection Date	Sample Information				Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr
			Type	Container	Volume	Preservative			
1	DW1N	5/13/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu	Squibb	SB70066-01
2	DW1S	5/13/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu	Squibb	-02
3	DW1E	5/13/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-03
4	DW1W	5/13/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-04
5	DW1B	5/13/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu + (PCB's)	Squibb	-05
6	DW3N	5/14/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu	Squibb	-06
7	DW3S	5/14/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu	Squibb	-07
8	DW3E	5/14/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-08
9	DW3W	5/14/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-09
10	DW3B	5/14/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu	Squibb	-10

Sample Turnaround Time (Circle)	Standard	Rush	Priority Rush

Notes / Comments * Contact home office prior to shipment of samples to obtain a Purchase Order #. **2728**

Sample Characteristics (Circle)

Flammable	Hazardous	Gas	Liquid	Bi Phase	Sp. Gravity	Color
Corrosive	Radioactive	Solid	Sludge	Tri Phase	Flash Point	Odor

Custody Tracking

1) Relinquished by: Lucas Collins Date: 5-20-13 Time: 1255 Received by: Mary Stogsdill Date: 5/20/13 Time 12:55

2) Relinquished by: Mary Stogsdill Date: 5/21/13 Time: 1759 Received by: [illegible] Date: 5/21/13 Time 1759

3) Relinquished by: [illegible] Date: Time: Received by: [illegible] Date: 5/21/13 Time 2100 1.2

Custody Seal #

Rec'd Ambient

COC012304

Solutient Technologies, LLC

Solutient Technologies Chain of Custody

Document No._____

Project Name:	Rome New York	**Project Phone:**	865-220-7193	**Send Report to:**	**Solutient Technologies, LLC, 6616 Promway Avenue NW, North Canton, Ohio 44720**
Project Number:		**Project Fax:**		**Brad Squibb**	
Laboratory:	Spectrum Analytical	**Phone:**		**Contact:**	PAGE 2

#	Sample ID #	Collection Date	Sample Information				Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr
			Type	Container	Volume	Preservative			
1	DW6N	5/14/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu	Squibb	SB70066-11
2	DW6S	5/14/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu	Squibb	-12
3	DW6E	5/14/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-13
4	DW6W	5/14/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-14
5	DW6B	5/14/2013	Soil	Pl. Bag		N/A	RCRA 8 metals + Cu + (PCB's)	Squibb	-15
6	D6PILEC	5/16/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-16
7	D3PILEC	5/16/2013	Soil	Pl. Bag		N/A	Hold	Squibb	-17
8	DW4C	5/14/2103	Soil	Pl. Bag		N/A	Hold	Squibb	-18
9	DW5C	5/14/2103	Soil	Pl. Bag		N/A	Hold	Squibb	-19
10	DW7C	5/14/2103	Soil	Pl. Bag		N/A	Hold	Squibb	-20

Sample Turnaround Time (Circle)	Standard	Rush	Priority Rush

Notes / Comments * Contact home office prior to shipment of samples to obtain a Purchase Order #. **2728**

Sample Characteristics (Circle)

Flammable	Hazardous	Gas	Liquid	Bi Phase	Sp. Gravity	Color
Corrosive	Radioactive	Solid	Sludge	Tri Phase	Flash Point	Odor

Custody Tracking

1) Relinquished by: _____ Date: 5-20-13 Time: 1255 Received by: _____ Date: 5/20/13 Time 12:55

2) Relinquished by: _____ Date: 5/21/13 Time: 1759 Received by: _____ Date: 5/21/13 Time 1759

3) Relinquished by: _____ Date: Time: Received by: _____ Date: 5/21/13 Time 2100

Custody Seal #

COC012304

Recd Ambient

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

11 Almgren Drive
Agawam, MA 01001
(413) 789-9018

This preceding chain of custody has been amended to include the client requested additional analyses as noted below:

Laboratory ID	*Client ID*	*Analysis*	*Added*
SB70066-18	DW4C	Solids, Percent	6/7/2013
SB70066-18	DW4C	Total Arsenic by ICP	6/7/2013
SB70066-18	DW4C	Total Barium by ICP	6/7/2013
SB70066-18	DW4C	Total Cadmium by ICP	6/7/2013
SB70066-18	DW4C	Total Chromium by ICP	6/7/2013
SB70066-18	DW4C	Total Copper by ICP	6/7/2013
SB70066-18	DW4C	Total Lead by ICP	6/7/2013
SB70066-18	DW4C	Total Mercury by CVAA	6/7/2013
SB70066-18	DW4C	Total RCRA8 Metals by ICP	6/7/2013
SB70066-18	DW4C	Total Selenium by ICP	6/7/2013
SB70066-18	DW4C	Total Silver by ICP	6/7/2013
SB70066-19	DW5C	Solids, Percent	6/7/2013
SB70066-19	DW5C	Total Arsenic by ICP	6/7/2013
SB70066-19	DW5C	Total Barium by ICP	6/7/2013
SB70066-19	DW5C	Total Cadmium by ICP	6/7/2013
SB70066-19	DW5C	Total Chromium by ICP	6/7/2013
SB70066-19	DW5C	Total Copper by ICP	6/7/2013
SB70066-19	DW5C	Total Lead by ICP	6/7/2013
SB70066-19	DW5C	Total Mercury by CVAA	6/7/2013
SB70066-19	DW5C	Total RCRA8 Metals by ICP	6/7/2013
SB70066-19	DW5C	Total Selenium by ICP	6/7/2013
SB70066-19	DW5C	Total Silver by ICP	6/7/2013
SB70066-20	DW7C	Solids, Percent	6/7/2013
SB70066-20	DW7C	Total Arsenic by ICP	6/7/2013
SB70066-20	DW7C	Total Barium by ICP	6/7/2013
SB70066-20	DW7C	Total Cadmium by ICP	6/7/2013
SB70066-20	DW7C	Total Chromium by ICP	6/7/2013
SB70066-20	DW7C	Total Copper by ICP	6/7/2013
SB70066-20	DW7C	Total Lead by ICP	6/7/2013
SB70066-20	DW7C	Total Mercury by CVAA	6/7/2013
SB70066-20	DW7C	Total RCRA8 Metals by ICP	6/7/2013
SB70066-20	DW7C	Total Selenium by ICP	6/7/2013
SB70066-20	DW7C	Total Silver by ICP	6/7/2013
SB70066-03	DW1E	Solids, Percent	6/10/2013
SB70066-03	DW1E	Total Mercury by CVAA	6/10/2013
SB70066-03	DW1E	Total Silver by ICP	6/10/2013
SB70066-04	DW1W	Solids, Percent	6/10/2013
SB70066-04	DW1W	Total Mercury by CVAA	6/10/2013
SB70066-04	DW1W	Total Silver by ICP	6/10/2013
SB70066-08	DW3E	Solids, Percent	6/10/2013
SB70066-08	DW3E	Total Mercury by CVAA	6/10/2013

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

11 Almgren Drive
Agawam, MA 01001
(413) 789-9018

This preceding chain of custody has been amended to include the client requested additional analyses as noted below:

Laboratory ID	*Client ID*	*Analysis*	*Added*
SB70066-09	DW3W	Solids, Percent	6/10/2013
SB70066-09	DW3W	Total Mercury by CVAA	6/10/2013
SB70066-13	DW6E	Solids, Percent	6/10/2013
SB70066-13	DW6E	Total Arsenic by ICP	6/10/2013
SB70066-13	DW6E	Total Barium by ICP	6/10/2013
SB70066-13	DW6E	Total Cadmium by ICP	6/10/2013
SB70066-13	DW6E	Total Chromium by ICP	6/10/2013
SB70066-13	DW6E	Total Copper by ICP	6/10/2013
SB70066-13	DW6E	Total Lead by ICP	6/10/2013
SB70066-13	DW6E	Total Mercury by CVAA	6/10/2013
SB70066-13	DW6E	Total RCRA8 Metals by ICP	6/10/2013
SB70066-13	DW6E	Total Selenium by ICP	6/10/2013
SB70066-13	DW6E	Total Silver by ICP	6/10/2013
SB70066-14	DW6W	Solids, Percent	6/10/2013
SB70066-14	DW6W	Total Arsenic by ICP	6/10/2013
SB70066-14	DW6W	Total Barium by ICP	6/10/2013
SB70066-14	DW6W	Total Cadmium by ICP	6/10/2013
SB70066-14	DW6W	Total Chromium by ICP	6/10/2013
SB70066-14	DW6W	Total Copper by ICP	6/10/2013
SB70066-14	DW6W	Total Lead by ICP	6/10/2013
SB70066-14	DW6W	Total Mercury by CVAA	6/10/2013
SB70066-14	DW6W	Total RCRA8 Metals by ICP	6/10/2013
SB70066-14	DW6W	Total Selenium by ICP	6/10/2013
SB70066-14	DW6W	Total Silver by ICP	6/10/2013
SB70066-16	D6PILEC	Solids, Percent	7/10/2013
SB70066-16	D6PILEC	Total Arsenic by ICP	7/10/2013
SB70066-16	D6PILEC	Total Barium by ICP	7/10/2013
SB70066-16	D6PILEC	Total Cadmium by ICP	7/10/2013
SB70066-16	D6PILEC	Total Chromium by ICP	7/10/2013
SB70066-16	D6PILEC	Total Lead by ICP	7/10/2013
SB70066-16	D6PILEC	Total Mercury by CVAA	7/10/2013
SB70066-16	D6PILEC	Total RCRA8 Metals by ICP	7/10/2013
SB70066-16	D6PILEC	Total Selenium by ICP	7/10/2013
SB70066-16	D6PILEC	Total Silver by ICP	7/10/2013
SB70066-17	D3PILEC	Solids, Percent	7/10/2013
SB70066-17	D3PILEC	Total Arsenic by ICP	7/10/2013
SB70066-17	D3PILEC	Total Barium by ICP	7/10/2013
SB70066-17	D3PILEC	Total Cadmium by ICP	7/10/2013
SB70066-17	D3PILEC	Total Chromium by ICP	7/10/2013
SB70066-17	D3PILEC	Total Lead by ICP	7/10/2013
SB70066-17	D3PILEC	Total Mercury by CVAA	7/10/2013

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

11 Almgren Drive
Agawam, MA 01001
(413) 789-9018

This preceding chain of custody has been amended to include the client requested additional analyses as noted below:

Laboratory ID	*Client ID*	*Analysis*	*Added*
SB70066-17	D3PILEC	Total RCRA8 Metals by ICP	7/10/2013
SB70066-17	D3PILEC	Total Selenium by ICP	7/10/2013
SB70066-17	D3PILEC	Total Silver by ICP	7/10/2013

Report Date:
09-Jul-13 10:09

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Solutient Technologies, LLC
6616 Promway Ave. NW
North Canton, OH 44720
Attn: Brad Squibb

Project: Rome New York
Project #: [none]

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB72131-01	DW6N	Soil	21-Jun-13 00:00	25-Jun-13 21:00
SB72131-02	DW6S	Soil	21-Jun-13 00:00	25-Jun-13 21:00
SB72131-03	DW6W	Soil	21-Jun-13 00:00	25-Jun-13 21:00
SB72131-04	DW6E	Soil	21-Jun-13 00:00	25-Jun-13 21:00
SB72131-05	DW6B	Soil	21-Jun-13 00:00	25-Jun-13 21:00

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 9 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 1.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Additional dilution factors may be required to keep analyte concentration within instrument calibration.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

All volatile soil/product/solid samples should be collected in accordance method SW846 5035/5035A. Any sample with a result below 200ug/Kg that has not been collected in accordance with method 5035/5035A must be evaluated as potentially biased low.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Samples:

S307708-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Methyl tert-butyl ether (29.4%)

This affected the following samples:

1315552-BLK1
1315552-BS1
1315552-BSD1

Sample Acceptance Check Form

Client:	Solutient Technologies, LLC
Project:	Rome New York / [none]
Work Order:	SB72131
Sample(s) received on:	6/25/2013
Received by:	Vickie Knowles

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☐	☑	☐
6. Were sample containers received intact?	☑	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☑	☐	☐
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
10. Did sample container labels agree with Chain of Custody document?	☑	☐	☐
11. Were samples received within method-specific holding times?	☑	☐	☐

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DW6N SB72131-01	[none]	Soil	21-Jun-13 00:00	25-Jun-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	**Lab extracted**		N/A			1	VOC Soil Extraction	26-Jun-13	26-Jun-13	BD	1315154	
Volatile Organic Aromatics by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 4.85 g						
71-43-2	Benzene	< 6.6		µg/kg dry	6.6	3.5	1	SW846 8260C	01-Jul-13	02-Jul-13	GMA	1315430	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*94*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*107*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*119*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*111*			*70-130 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**87.2**		%			1	SM2540 G Mod.	28-Jun-13	28-Jun-13	JRF	1315341	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DW6S SB72131-02	[none]	Soil	21-Jun-13 00:00	25-Jun-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	**Lab extracted**		N/A			1	VOC Soil Extraction	26-Jun-13	26-Jun-13	BD	1315154	
Volatile Organic Aromatics by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.54 g						
71-43-2	Benzene	< 5.7		µg/kg dry	5.7	3.0	1	SW846 8260C	01-Jul-13	02-Jul-13	GMA	1315430	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*106*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*110*			*70-130 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**89.0**		%			1	SM2540 G Mod.	28-Jun-13	28-Jun-13	JRF	1315341	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DW6W SB72131-03	[none]	Soil	21-Jun-13 00:00	25-Jun-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	**Lab extracted**		N/A			1	VOC Soil Extraction	26-Jun-13	26-Jun-13	BD	1315154	
Volatile Organic Aromatics by SW846 8260													
Prepared by method SW846 5035A Soil (low level)						Initial weight: 6.01 g							
71-43-2	Benzene	< 5.9		µg/kg dry	5.9	3.1	1	SW846 8260C	02-Jul-13	02-Jul-13	GMA	1315552	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*113*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*			*70-130 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**84.0**		%			1	SM2540 G Mod.	28-Jun-13	28-Jun-13	JRF	1315341	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DW6E SB72131-04	[none]	Soil	21-Jun-13 00:00	25-Jun-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	**Lab extracted**		N/A			1	VOC Soil Extraction	26-Jun-13	26-Jun-13	BD	1315154	
Volatile Organic Aromatics by SW846 8260													
Prepared by method SW846 5035A Soil (low level)						Initial weight: 7.18 g							
71-43-2	Benzene	< 5.5		µg/kg dry	5.5	2.9	1	SW846 8260C	01-Jul-13	02-Jul-13	GMA	1315430	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*109*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*118*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*112*			*70-130 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**80.7**		%			1	SM2540 G Mod.	28-Jun-13	28-Jun-13	JRF	1315341	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DW6B	[none]	Soil	21-Jun-13 00:00	25-Jun-13
SB72131-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	**Lab extracted**		N/A			1	VOC Soil Extraction	26-Jun-13	26-Jun-13	BD	1315154	
Volatile Organic Aromatics by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.77 g						
71-43-2	Benzene	< 6.8		µg/kg dry	6.8	3.6	1	SW846 8260C	01-Jul-13	02-Jul-13	GMA	1315430	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*108*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*119*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*113*			*70-130 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**79.3**		%			1	SM2540 G Mod.	28-Jun-13	28-Jun-13	JRF	1315341	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1315430 - SW846 5035A Soil (low level)										
Blank (1315430-BLK1)					Prepared & Analyzed: 01-Jul-13					
Benzene	< 5.0		µg/kg wet	5.0						
Ethylbenzene	< 5.0		µg/kg wet	5.0						
Methyl tert-butyl ether	< 5.0		µg/kg wet	5.0						
Toluene	< 5.0		µg/kg wet	5.0						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.0		µg/kg wet	5.0						
Surrogate: 4-Bromofluorobenzene	*50.2*		µg/kg wet		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*54.4*		µg/kg wet		*50.0*		*109*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.6*		µg/kg wet		*50.0*		*115*	*70-130*		
Surrogate: Dibromofluoromethane	*54.0*		µg/kg wet		*50.0*		*108*	*70-130*		
LCS (1315430-BS1)					Prepared & Analyzed: 01-Jul-13					
Benzene	**24.4**		µg/kg wet		20.0		122	70-130		
Ethylbenzene	**22.0**		µg/kg wet		20.0		110	70-130		
Methyl tert-butyl ether	**21.9**		µg/kg wet		20.0		109	70-130		
Toluene	**23.2**		µg/kg wet		20.0		116	70-130		
m,p-Xylene	**44.7**		µg/kg wet		40.0		112	70-130		
o-Xylene	**22.0**		µg/kg wet		20.0		110	70-130		
Surrogate: 4-Bromofluorobenzene	*52.9*		µg/kg wet		*50.0*		*106*	*70-130*		
Surrogate: Toluene-d8	*52.7*		µg/kg wet		*50.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.5*		µg/kg wet		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*50.7*		µg/kg wet		*50.0*		*101*	*70-130*		
LCS Dup (1315430-BSD1)					Prepared & Analyzed: 01-Jul-13					
Benzene	**24.0**		µg/kg wet		20.0		120	70-130	2	30
Ethylbenzene	**21.2**		µg/kg wet		20.0		106	70-130	4	30
Methyl tert-butyl ether	**22.5**		µg/kg wet		20.0		113	70-130	3	30
Toluene	**22.8**		µg/kg wet		20.0		114	70-130	2	30
m,p-Xylene	**43.9**		µg/kg wet		40.0		110	70-130	2	30
o-Xylene	**22.0**		µg/kg wet		20.0		110	70-130	0.05	30
Surrogate: 4-Bromofluorobenzene	*53.9*		µg/kg wet		*50.0*		*108*	*70-130*		
Surrogate: Toluene-d8	*53.4*		µg/kg wet		*50.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.3*		µg/kg wet		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*51.4*		µg/kg wet		*50.0*		*103*	*70-130*		
Batch 1315552 - SW846 5035A Soil (low level)										
Blank (1315552-BLK1)					Prepared & Analyzed: 02-Jul-13					
Benzene	< 5.0		µg/kg wet	5.0						
Ethylbenzene	< 5.0		µg/kg wet	5.0						
Methyl tert-butyl ether	< 5.0		µg/kg wet	5.0						
Toluene	< 5.0		µg/kg wet	5.0						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.0		µg/kg wet	5.0						
Surrogate: 4-Bromofluorobenzene	*50.6*		µg/kg wet		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*54.8*		µg/kg wet		*50.0*		*110*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.2*		µg/kg wet		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*47.4*		µg/kg wet		*50.0*		*95*	*70-130*		
LCS (1315552-BS1)					Prepared & Analyzed: 02-Jul-13					
Benzene	**24.2**		µg/kg wet		20.0		121	70-130		
Ethylbenzene	**20.5**		µg/kg wet		20.0		102	70-130		
Methyl tert-butyl ether	**25.8**		µg/kg wet		20.0		129	70-130		
Toluene	**22.4**		µg/kg wet		20.0		112	70-130		
m,p-Xylene	**42.8**		µg/kg wet		40.0		107	70-130		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1315552 - SW846 5035A Soil (low level)										
LCS (1315552-BS1)					Prepared & Analyzed: 02-Jul-13					
o-Xylene	**21.1**		µg/kg wet		20.0		105	70-130		
Surrogate: 4-Bromofluorobenzene	*52.0*		µg/kg wet		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*53.8*		µg/kg wet		*50.0*		*108*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*42.5*		µg/kg wet		*50.0*		*85*	*70-130*		
Surrogate: Dibromofluoromethane	*46.8*		µg/kg wet		*50.0*		*94*	*70-130*		
LCS Dup (1315552-BSD1)					Prepared & Analyzed: 02-Jul-13					
Benzene	**23.5**		µg/kg wet		20.0		118	70-130	3	30
Ethylbenzene	**20.1**		µg/kg wet		20.0		100	70-130	2	30
Methyl tert-butyl ether	**25.9**		µg/kg wet		20.0		129	70-130	0.4	30
Toluene	**21.9**		µg/kg wet		20.0		110	70-130	2	30
m,p-Xylene	**42.0**		µg/kg wet		40.0		105	70-130	2	30
o-Xylene	**20.9**		µg/kg wet		20.0		104	70-130	0.8	30
Surrogate: 4-Bromofluorobenzene	*51.9*		µg/kg wet		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*53.4*		µg/kg wet		*50.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*42.1*		µg/kg wet		*50.0*		*84*	*70-130*		
Surrogate: Dibromofluoromethane	*47.3*		µg/kg wet		*50.0*		*95*	*70-130*		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Kimberly Wisk

Solutient

Solutient Technologies Chain of Custody

Document No. DW6 6137213

Project Name: Rome New York	**Project Phone:** 865-220-7193	**Send Report to:**	Solutient Technologies, LLC 6616 Promway Ave NW North Canton, OH 44720
Project Number:	**Project Fax:**	Brad Squibb	
Laboratory: Spectrum Analytical	**Phone:** (315) 214-5777	**Contact:** Nancy Struzenski	

#	Sample ID #	Collection Date	Sample Information: Type	Container	Volume	Preservative	Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr
1	01 DW6N (AW)	6-21-13 ~~6/14/2013~~	Soil	PL Bag	500 g	NA	Benzene	Wandley	NA
2	02 DW6S (AW)	6-21-13 ~~6/14/2013~~	Soil	PL Bag	500 g	NA	Benzene	Wandley	NA
3	03 DW6W (AW)	6-21-13 ~~6/14/2013~~	Soil	PL Bag	500 g	NA	Benzene	Wandley	NA
4	04 DW6E (AW)	6-21-13 ~~6/14/2013~~	Soil	PL Bag	500 g	NA	Benzene	Wandley	NA
5	05 DW6B (AW)	6-21-13 ~~6/14/2013~~	Soil	PL Bag	500 g	NA	Benzene	Wandley	NA

Sample Turnaround Time (Circle) **Standard** Rush Priority Rush

Notes / Comments * Contact home office prior to shipment of samples to obtain a Purchase Order #. P.O. 2728

Sample Characteristics (Circle)

Flammable	Hazardous	Gas	Liquid	Bi Phase	Sp. Gravity	Color
Corrosive	Radioactive	Solid	Sludge	Tri Phase	Flash Point	Odor

Custody Tracking

315-534-0107

1) Relinquished by: Allan Wandley Date: 06-21-13 Time: 11:36 Received by: [signature] Date: 6/21/13 Time 1136

2) Relinquished by: [signature] Date: 6/25/13 Time: 1727 Received by: [signature] Date: 6/25/13 Time 1727

3) Relinquished by: [signature] Date: Time: Received by: [signature] Date: 6/25/13 Time 2100

Custody Seal # NA

1.3

COC012304

ATTATCHMENT 3

Report Date:
17-Sep-13 14:51

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Solutient Technologies, LLC
6616 Promway Ave. NW
North Canton, OH 44720
Attn: Brad Squibb

Project: Rome New York
Project #: 201271-00

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB76065-01	DW6N-1	Solid	27-Aug-13 00:00	03-Sep-13 12:55
SB76065-02	DW6S-1	Solid	27-Aug-13 00:00	03-Sep-13 12:55
SB76065-03	DW6E-1	Solid	27-Aug-13 00:00	03-Sep-13 12:55
SB76065-04	DW6W-1	Solid	27-Aug-13 00:00	03-Sep-13 12:55
SB76065-05	DW6B-1	Solid	27-Aug-13 00:00	03-Sep-13 12:55
SB76065-06	DW6RO-1	Solid	27-Aug-13 00:00	03-Sep-13 12:55

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 6 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 24.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 7471B

Samples:

SB76065-05 *DW6B-1*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

Sample Acceptance Check Form

Client:	Solutient Technologies, LLC
Project:	Rome New York / 201271-00
Work Order:	SB76065
Sample(s) received on:	9/3/2013
Received by:	Jessica Hoffman

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°C?	☐	☑	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☐	☑	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☐	☑	☐
6. Were sample containers received intact?	☑	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☑	☐	☐
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
10. Did sample container labels agree with Chain of Custody document?	☑	☐	☐
11. Were samples received within method-specific holding times?	☑	☐	☐

Sample Identification
DW6N-1
SB76065-01

Client Project #: 201271-00 | Matrix: Solid | Collection Date/Time: 27-Aug-13 00:00 | Received: 03-Sep-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-43-9	Cadmium	**2.71**		mg/kg dry	0.519	0.152	1	SW846 6010C	10-Sep-13	14-Sep-13	EDT	1321740	X
7439-97-6	Mercury	**0.167**		mg/kg dry	0.0306	0.0016	1	SW846 7471B	"	13-Sep-13	LR	1321741	X
General Chemistry Parameters													
	% Solids	**91.3**		%			1	SM2540 G Mod.	06-Sep-13	06-Sep-13	DT	1321482	

Sample Identification
DW6S-1
SB76065-02

Client Project #: 201271-00 | Matrix: Solid | Collection Date/Time: 27-Aug-13 00:00 | Received: 03-Sep-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-43-9	Cadmium	< 0.513		mg/kg dry	0.513	0.151	1	SW846 6010C	10-Sep-13	14-Sep-13	EDT	1321740	X
7439-97-6	Mercury	**0.136**		mg/kg dry	0.0344	0.0018	1	SW846 7471B	"	13-Sep-13	LR	1321741	X
General Chemistry Parameters													
	% Solids	**86.1**		%			1	SM2540 G Mod.	06-Sep-13	06-Sep-13	DT	1321482	

Sample Identification
DW6E-1
SB76065-03

Client Project #: 201271-00 | Matrix: Solid | Collection Date/Time: 27-Aug-13 00:00 | Received: 03-Sep-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-43-9	Cadmium	< 0.544		mg/kg dry	0.544	0.160	1	SW846 6010C	10-Sep-13	14-Sep-13	EDT	1321740	X
7439-97-6	Mercury	**0.138**		mg/kg dry	0.0336	0.0017	1	SW846 7471B	"	13-Sep-13	LR	1321741	X
General Chemistry Parameters													
	% Solids	**83.8**		%			1	SM2540 G Mod.	06-Sep-13	06-Sep-13	DT	1321482	

Sample Identification
DW6W-1
SB76065-04

Client Project #: 201271-00 | Matrix: Solid | Collection Date/Time: 27-Aug-13 00:00 | Received: 03-Sep-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-43-9	Cadmium	< 0.500		mg/kg dry	0.500	0.147	1	SW846 6010C	10-Sep-13	14-Sep-13	EDT	1321740	X
7439-97-6	Mercury	**0.0914**		mg/kg dry	0.0335	0.0017	1	SW846 7471B	"	13-Sep-13	LR	1321741	X
General Chemistry Parameters													
	% Solids	**87.2**		%			1	SM2540 G Mod.	06-Sep-13	06-Sep-13	DT	1321482	

Sample Identification
DW6B-1
SB76065-05

Client Project #	Matrix	Collection Date/Time	Received
201271-00	Solid	27-Aug-13 00:00	03-Sep-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7440-43-9	Cadmium	**24.4**		mg/kg dry	0.557	0.164	1	SW846 6010C	10-Sep-13	14-Sep-13	EDT	1321740	X
7439-97-6	Mercury	**6.62**	GS1, D	mg/kg dry	1.67	0.0859	50	SW846 7471B	"	16-Sep-13	LR	1321741	X
General Chemistry Parameters													
	% Solids	**83.6**		%			1	SM2540 G Mod.	06-Sep-13	06-Sep-13	DT	1321482	

Sample Identification
DW6RO-1
SB76065-06

Client Project #	Matrix	Collection Date/Time	Received
201271-00	Solid	27-Aug-13 00:00	03-Sep-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
TCLP Metals by EPA 1311 & 6000/7000 Series Methods													
TCLP Extraction for Hg													
Prepared by method SW846 1311													
	TCLP Extraction	**Completed**		N/A			1	SW846 1311	06-Sep-13	07-Sep-13	CMB	1321569	X
	Final pH of leachate	**5.09**		N/A			1	"	"	"	"	"	
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00008	1	SW846 1311/7470A	09-Sep-13	10-Sep-13	JLM	1321596	X

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Rebecca Merz

SB 760165 JAB

Solutient Technologies Chain of Custody

Document No. 001

Project Name: BLD 104 Rome NY	**Project Phone:** 330-497-5905	**Send Report to:** Dell Reuss	6616 Promway AVE Solutient Technologies, LLC ~~7857 Freedom~~ Avenue, N.W. North Canton, Ohio 44720
Project Number: 20121-06	**Project Fax:** 330-497-2045		
Laboratory: Spectrum Analytical Inc	**Phone:** 315-214-5977	**Contact:** Nancy Struzenski	

760165 #	Sample ID #	Collection Date	Sample Information: Type	Container	Volume	Preservative	Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr
01	1 DW6 N-1	8-27-13	~~Grab~~ Solid	Plastic	1315 gr	NA	mercury, Cadmium	Reuss	BKG
02	2 DW6 S-1	"	Solid	"	1241 gr	NA	"	"	"
03	3 DW6 E-1	"	Solid	"	1272 gr	NA	"	"	"
04	4 DW6 W-1	"	Solid	"	1,150 gr	NA	"	"	"
05	5 DW6 B-1	"	Solid	"	1,379 gr	NA	mercury, Cadmium	"	"
06	6 DW6 RO-1	8-27-13	Solid	Plastic	900 gr	NA	mercury	Reuss	BKG

Sample Turnaround Time (Circle) Standard ~~Rush~~ Priority Rush 10 DAY Turn Around

Notes / Comments * Contact home office prior to shipment of samples to obtain a Purchase Order #. 2972

Sample Characteristics (Circle)

Flammable	Hazardous	Gas	Liquid	Bi Phase	Sp. Gravity	Color
Corrosive	Radioactive	Solid	Sludge	Tri Phase	Flash Point	Odor

Custody Tracking

1) Relinquished by:	Date: 8-29-13	Time 11:00	Received by: Fedex	Date:	Time	
2) Relinquished by: Fedex	Date:	Time	Received by: JLH	Date: 9/3/13	Time 1255	
3) Relinquished by:	Date:	Time	Received by:	Date:	Time	

Custody Seal #

COC012304

25.4-1 244 IR02

Solutient
Technologies, LLC

Solutient Technologies

Date: 8/29/13
Purchase Order # 2772
Work Order #: 201271

Vendor	Spectrum Analytical 11 Almgren Drive Agawaw, MA 01001 Phone: 413-789-9018 Fax: Contact: Sample Receiving	Ship to	Solutient Technologies 6616 Promway Ave NW North Canton Ohio Phone 330-497-5905 Fax:330-497-2045 Contact: Greg McFeely

Shipping Method	Shipping Terms	Delivery Date
	Ship to address listed above.	5/21/13

Qty	Item #	Description	Job	Unit Price	Line Total
5.0	each	mercury samples	201271	$ 25.00	$ 150.00
5.0	each	Cadnium Samples	201271	$ 10.00	$ 60.00
1	each	Digestion	201271	$ 10.00	$ 10.00

10 Day processing

Please Email Results to:
gmcfeely@solutientech.com
dreuss@solutientech.com

ESTIMATE

Total $ 220.00

1. Please send two copies of your invoice.
2. Enter this order in accordance with the prices, terms, delivery method, and specifications listed above.
3. Please notifiy us immediately if you are unable to ship as specified.
4. Send all correspondence to:

Solutient Technologies
6616 Promway Avenue NW
North Canton, OH 44720
Phone: 330-497-5905
Fax: 330-497-2045

Dell Reuss **8/29/2012**

Authorized by *Date*

fedex.com 1.800.GoFedEx 1.800.463.3339

FedEx Express US Airbill

FedEx Tracking Number 8033 9018 1081

Form ID No. 0

1 From

Date [redacted]

Sender's Name Phone

Company

Address Dept./Floor/Suite/Room

City State ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name Phone

Company

Address
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

Address
Use this line for the HOLD location address or for continuation of your shipping address.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

City State ZIP

8033 9018 1081

Emp# 276438 29AUG13 PHDA 519C1/8989/93AB

4a Express Package Service
NOTE: Service order has changed. Please select carefully.

Next Business Day

FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

FedEx 2Day A.M.
Second business morning.* Saturday Delivery NOT available.

FedEx 2Day
Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options

SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

No Signature Required
Package may be left without obtaining a signature for delivery.

Direct Signature
Someone at recipient's address may sign for delivery. Fee applies.

Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?

No | Yes As per attached Shipper's Declaration | Yes Shipper's Declaration not required | Dry Ice Dry Ice, 9, UN 1845

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

Cargo Aircraft Only

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below.

Sender Acct. No. in Section 1 will be billed. | Recipient | Third Party | Credit Card | Cash/Check

[redacted]

Total Packages Total Weight lbs.

Credit Card Auth.

Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

Rev. Date 2/12 • Part #163134 • ©1994–2012 FedEx • PRINTED IN U.S.A. SRS

617

Page 1 of 1

330160165 JB

Solutient Technologies Chain of Custody

Document No. 001

Project Name:	Bld 104 Rome NY	**Project Phone:**	330-497-5905	**Send Report to:**	2616 Pronway AVE Solutient Technologies, LLC ~~7857 Freedom~~ Avenue, N.W. North Canton, Ohio 44720
Project Number:	20127I-00	**Project Fax:**	330-497-2045	Dell Reuss	
Laboratory:	Spectrum Analytical Inc	**Phone:**	315-214-5777	**Contact:**	Nancy Struzeski

160165-	Sample ID #	Collection Date	Sample Information: Type	Container	Volume	Preservative	Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr
01	1 DW6N-1	8-27-13	~~Grab~~ Solid	Plastic	1315 gr	NA	Mercury, Cadmium	Reuss	BKG
02	2 DW6S-1		Solid		1247 gr	NA			
03	3 DW6E-1		Solid		1272 gr	NA			
04	4 DW6W-1		Solid		1150 gr	NA			
05	5 DW6B-1		Solid		1329 gr	NA	+ mercury, Cadmium		
06	6 DW6RO-1	8-27-13	Solid	Plastic	900 gr	NA	*TCLP mercury	Reuss	BKG

Sample Turnaround Time (Circle) Standard (Rush) Priority Rush 10 Day Turn Around

* changed from Total Hg to TCLP Hg per email 9/4 BC

Notes / Comments * Contact home office prior to shipment of samples to obtain a Purchase Order #. 2772

Sample Characteristics (Circle)

Flammable	Hazardous	Gas	Liquid	Bi Phase	Sp. Gravity	Color
Corrosive	Radioactive	(Solid)	Sludge	Tri Phase	Flash Point	Odor

Custody Tracking

1) Relinquished by:		Date: 8-29-13	Time: 11:00	Received by: Fedex	Date:	Time	
2) Relinquished by: Fedex		Date:	Time:	Received by: JLH	Date: 9/3/13	Time	1255
3) Relinquished by:		Date:	Time:	Received by:	Date:	Time	

Custody Seal #

COC012304

25.4-1 644 IR 07

ATTATCHMENT 4

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

PASSION
EXPERIENCE
RESULTS
luengineers.com

October 12, 2013

Air Force Research Laboratory, Rome Research Site
RIOCV
150 Electronic Parkway
Rome, New York 13441

Attn: **William Brain, REM**
Chief

Re: **Subsurface Soil Sampling at Former Building 104**
Griffiss Business and Technology Park, Rome, New York

Dear Mr. Brain:

As specified by your office Lu Engineers coordinated and supervised the completion of a single soil probe point on September 26, 2013. RRS' hand-help Trimble GPS unit was used to determine the subject location (GP-01) at the following NY State Plane 1986 coordinates: N1177027.075 ft. /E1132357.151 ft., and/or latitude 43°13'27.6587" and longitude -075°24'43.8534". These coordinates correspond to the past surface location of a closed drywell (Drywell 6). A base map was not provided and RRS has indicated that the listed coordinates will be used to locate GP-01 for future reference as necessary.

Prior to mobilizing the subsurface sampling contractor, Trec Environmental, Incorporated, Lu Engineers coordinated with RRS to provide all required clearance for underground utilities. The sampling process was observed by RRS personnel and Lu Engineers. Three soil samples were obtained for laboratory analysis to determine levels of cadmium and mercury present at three discreet depths. Samples were obtained from 9, 11 and 13 feet below grade at GP-01. The ground surface at the time of sampling was noted to be approximately two feet below the original grade at this location when sampling was previously conducted by RRS.

Soils were logged during the sampling process and the boring log is attached. Soils were sampled, containerized, transported and relinquished to an ELAP qualified analytical laboratory

(Paradigm Environmental Services, Inc.) in accordance with all applicable regulatory requirements. A copy of the laboratory's analytical report is attached along with a tabulated listing of the analytical results for comparison to applicable regulatory criteria. Photographs were also taken during the sampling process and are included herein.

As indicated in the attached data tabulation and laboratory report, no levels of mercury or cadmium were detected at concentrations exceeding applicable regulatory criteria (6NYCRR Part 375).

Please call or e-mail with any questions or comments you may have.

Respectfully submitted,

Gregory L. Andrus, CHMM
Group Leader, Investigation/Remediation

Enclosures as noted

LU Engineers

Trail, Suite 202
Crossings Office Park
NY 14534

: TREC Environmental, Jim Agar
LOGIST: GLA

PROJECT: Griffiss Business and Technology Park
B104 Geoprobe Boring & Soil Sampling

BORING: B104, GP-01
SHEET 1 OF1
JOB #: 13163
CHKD. BY:

BORING LOCATION: NY State Plane 1986 coordinates: N1177027.075 ft. /E1132357.151 ft.
GROUND SURFACE ELEVATION: N/A DATUM: N/A
START DATE: 9/26/13 END DATE: 9/26/13

DRILL RIG: Geoprobe 540 UD
SIZE AND TYPE: 2" x 4' macrocore
RDEN SAMPLING METHOD: direct push - macrocore w/ acetate sleeve
RILLING METHOD: NA

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

SAMPLE DATA					SAMPLE DESCRIPTION
.OW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	
				75%	brown cmf SAND and cmf GRAVEL, trace SILT, loose, dry, no odor or discoloration
				75%	similar soil
				75%	similar soil, becomes moist at 9.0'
				100%	similar soil, saturated
					brown fine SAND, some cm SAND, little cmf GRAVEL, trace SILT, saturated
					grey apparent glacial till 14.5-15.0'
					Terminated boring at 15.0'

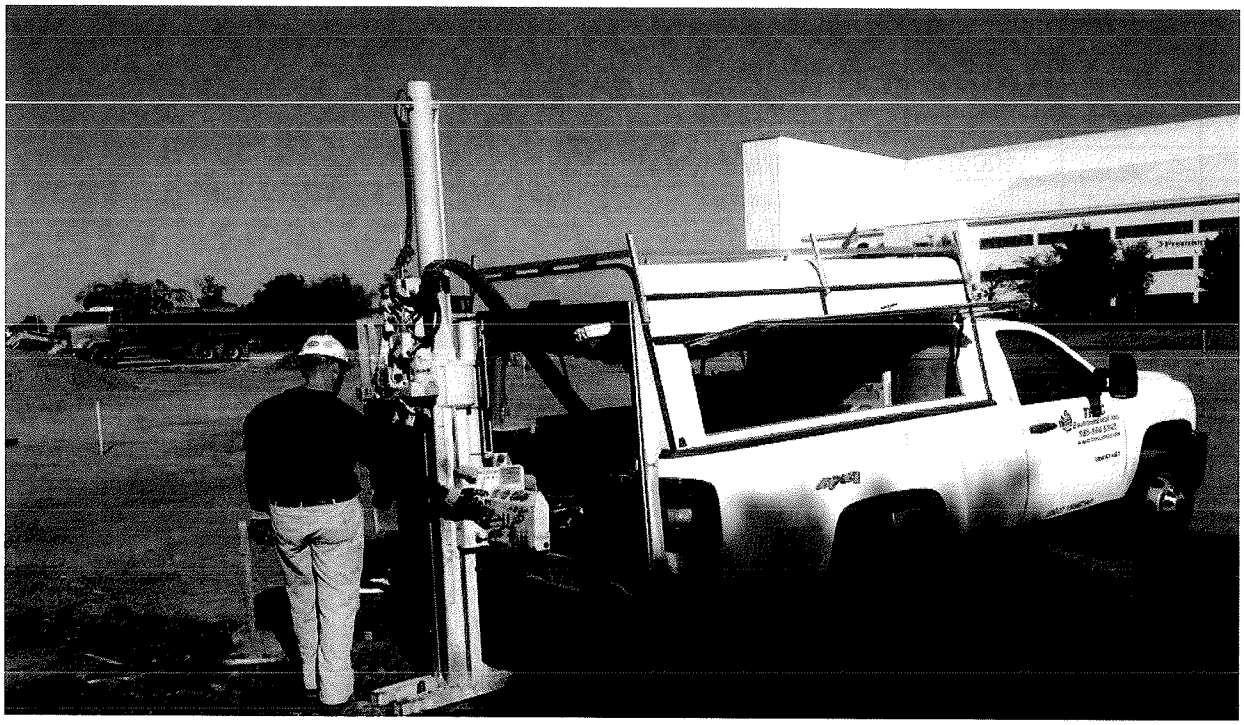
LEGEND
S- SPLIT SPOON SOIL SAMPLE
U- UNDISTURBED SOIL SAMPLE
C- ROCK CORE SAMPLE

Analytical samples obtained from 9.0, 11.0 and 13.0 feet below grade.

IERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

B104, GP-01 Photographs

Facing east at GP-01



Facing northwest at GP-01

	Sample Media:		Subsurface Soil	Subsurface Soil	Subsurface Soil
ım	2.5	9.3	<0.480	<0.577	<0.0590
ʼy	0.18	2.8	0.0169	0.0139	0.0175

ults presented in milligrams per kilogram (mg/kg)
YCRR Part 375-6.8 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives
YCRR Part 375-6.8 - Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 133733

Client: TREC Environmental Inc.

Project Reference: Griffiss B-104

Sample Identifier: B104 GP-01 (9')
Lab Sample ID: 133733-01
Matrix: Soil

Date Sampled: 9/26/2013
Date Received: 9/27/2013

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Cadmium	< 0.480	mg/Kg		10/3/2013

Method Reference(s): EPA 6010C
EPA 3050
Data File: 100313a

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Monday, October 07, 2013

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 133733

Client: TREC Environmental Inc.

Project Reference: Griffiss B-104

Sample Identifier: B104 GP-01 (9')
Lab Sample ID: 133733-01
Matrix: Soil

Date Sampled: 9/26/2013
Date Received: 9/27/2013

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0169**	mg/Kg		10/4/2013

Method Reference(s): EPA 7471B
Data File: hg131004a

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Monday, October 07, 2013

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 133733

Client: TREC Environmental Inc.

Project Reference: Griffiss B-104

Sample Identifier: B104 GP-01 (11')
Lab Sample ID: 133733-02
Matrix: Soil

Date Sampled: 9/26/2013
Date Received: 9/27/2013

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Cadmium	< 0.577	mg/Kg		10/3/2013

Method Reference(s): EPA 6010C
EPA 3050
Data File: 100313a

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Monday, October 07, 2013

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 133733

Client: TREC Environmental Inc.

Project Reference: Griffiss B-104

Sample Identifier: B104 GP-01 (11')
Lab Sample ID: 133733-02
Matrix: Soil

Date Sampled: 9/26/2013
Date Received: 9/27/2013

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0139**	mg/Kg	J	10/4/2013

Method Reference(s): EPA 7471B
Data File: hg131004a

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Monday, October 07, 2013

PARADIGM

ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 133733

Client: TREC Environmental Inc.

Project Reference: Griffiss B-104

Sample Identifier: B104 GP-01 (13')

Lab Sample ID: 133733-03

Matrix: Soil

Date Sampled: 9/26/2013

Date Received: 9/27/2013

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Cadmium	< 0.590	mg/Kg		10/3/2013

Method Reference(s): EPA 6010C
EPA 3050

Data File: 100313a

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Monday, October 07, 2013

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 133733

Client: TREC Environmental Inc.

Project Reference: Griffiss B-104

Sample Identifier: B104 GP-01 (13')
Lab Sample ID: 133733-03
Matrix: Soil

Date Sampled: 9/26/2013
Date Received: 9/27/2013

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0175**	mg/Kg	J	10/4/2013

Method Reference(s): EPA 7471B
Data File: hg131004a

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Monday, October 07, 2013

PARADIGM

ENVIRONMENTAL SERVICES, INC

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"V" = Sample concentration is >10 times the spike. No meaningful Spike Recovery can be calculated.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

PARADIGM ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	
CLIENT: Tree Environmental	CLIENT:	LAB PROJECT ID 133733
ADDRESS: 1018 Washington St.	ADDRESS: SAME	
CITY: Spencerport STATE: NY ZIP:	CITY: STATE: ZIP:	Quotation #:
PHONE: 314-6189	PHONE:	Email: gregandrus@lenghness.com
ATTN: Keith Hambley and Greg Andrus (Lu)	ATTN:	

PROJECT REFERENCE: Griffiss B-104

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	Cadmium	Mercury	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	9/26/13	9:45		X	B104 GP-01 (9')	SO	1	X	X		01
2	9/26/13	9:55		X	B104 GP-01 (11')	SO	1	X	X		02
3	9/26/13	10:00		X	B104 GP-01 (13')	SO	1	X	X		03
4											
5											
6											
7											
8											
9											
10										6°C iced Hand delivered	

no custody seal received 9/27 @ 1744

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	X
Rush 2 day		Category B	X		
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

	Signature	Date/Time
Sampled By	Greg Andrus	9/26/13 10:00
Relinquished By	[signature]	9/27/13 16:45
Received By	Jane J. [signature]	9/27/13 1645
Received @ Lab By	Len [signature]	9/27/13 1742

Total Cost:

P.I.F.

PARADIGM

Chain of Custody Supplement

Client: TMC **Completed by:** SSL

Lab Project ID: 133733 **Date:** 9/27/13

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments: G1			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments:			
Preservation			X
Comments:			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments:			
Holding Time	X		~~X~~ SSL 9/27
Comments:			
Temperature			X
Comments: 6°C iced Hand delivered no custody seal recieved ~~at~~ 9/27 @ 1544			
Sufficient Sample Quantity	X		
Comments:			

ATTATCHMENT 5

New England
ACCUTEST
LABORATORIES

09/09/13

Technical Report for

Air Force Research Laboratory

Rome Research Site, Rome, NY

Accutest Job Number: MC24037

Sampling Date: 08/30/13

Report to:

AFRL
150 Electronics Parkway
Rome, NY 13441
Aleana.DAniello@rl.af.mil

ATTN: Aleana D'Aniello

Total number of pages in report: **10**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

Test results relate only to samples analyzed.

Table of Contents

Sections: 1 2 3 4

-1-

Section 1: Sample Summary **3**
Section 2: Summary of Hits **4**
Section 3: Sample Results 5
3.1: MC24037-1: BLDG 104 DRY WELL 6 6
3.2: MC24037-1A: BLDG 104 DRY WELL 6 DUP 7
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9

Accutest Laboratories

Sample Summary

Air Force Research Laboratory

Rome Research Site, Rome, NY

Job No: MC24037

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
MC24037-1	08/30/13	09:00 ASD	09/04/13	SO	Soil	BLDG 104 DRY WELL 6
MC24037-1A	08/30/13	09:00 ASD	09/04/13	SO	Soil	BLDG 104 DRY WELL 6 DUP

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: MC24037
Account: Air Force Research Laboratory
Project: Rome Research Site, Rome, NY
Collected: 08/30/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC24037-1	BLDG 104 DRY WELL 6					
Cadmium		0.066	0.0040		mg/l	SW846 6010C
MC24037-1A	BLDG 104 DRY WELL 6 DUP					
Barium		0.58	0.50		mg/l	SW846 6010C
Cadmium		0.062	0.0040		mg/l	SW846 6010C

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLDG 104 DRY WELL 6		
Lab Sample ID:	MC24037-1	Date Sampled:	08/30/13
Matrix:	SO - Soil	Date Received:	09/04/13
		Percent Solids:	n/a
Project:	Rome Research Site, Rome, NY		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 0.010	D004	5.0	0.010	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Barium	< 0.50	D005	100	0.50	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Cadmium	0.066	D006	1.0	0.0040	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Lead	< 0.010	D008	5.0	0.010	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	09/05/13	09/05/13	EM	SW846 7470A [1]	SW846 7470A [3]
Selenium	< 0.025	D010	1.0	0.025	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Silver	< 0.0050	D011	5.0	0.0050	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA16052
(2) Instrument QC Batch: MA16057
(3) Prep QC Batch: MP21590
(4) Prep QC Batch: MP21592

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLDG 104 DRY WELL 6 DUP		
Lab Sample ID:	MC24037-1A	Date Sampled:	08/30/13
Matrix:	SO - Soil	Date Received:	09/04/13
		Percent Solids:	n/a
Project:	Rome Research Site, Rome, NY		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 0.010	D004	5.0	0.010	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Barium	0.58	D005	100	0.50	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Cadmium	0.062	D006	1.0	0.0040	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Lead	< 0.010	D008	5.0	0.010	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	09/05/13	09/05/13	EM	SW846 7470A [1]	SW846 7470A [3]
Selenium	< 0.025	D010	1.0	0.025	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]
Silver	< 0.0050	D011	5.0	0.0050	mg/l	1	09/05/13	09/05/13	EAL	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA16052
(2) Instrument QC Batch: MA16057
(3) Prep QC Batch: MP21590
(4) Prep QC Batch: MP21592

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC24037

Client / Reporting Information

Company Name: AFRL - Rome Research Site
Street Address: 150 Electronic Pkwy
City: Rome State: NY Zip: 13441
Project Contact: Aleana D'Aniello E-mail:
Phone #: 315-330-3316 Fax #:
Sampler(s) Name(s): Aleana D'Aniello Phone #:

Project Information

Project Name:
Street:
City:
Project#:
Client PO#:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip
Attention: PO#

Requested Analysis (see TEST CODE sheet)

TCLP Metals

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Sterile	LAB USE ONLY
-1	Bldg 104 Dry Well 6		30 Aug	9am	AD	Soil	1					1					X

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [X] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

3E

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1	Aleana D'Aniello	3 Sep 13 1425	1			2 FedX
3	Relinquished by Sampler: FedX	Date Time 9/4/13 8:10	3	4		4
5	Relinquished by:	Date Time:	5	Custody Seal # ☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 0.8°

SYRACUSE SC

MC24037: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC24037 **Client:** AFRL-ROME **Immediate Client Services Action Required:** No

Date / Time Received: 9/4/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: ROME RESEARCH SITE/ALSSC **No. Coolers:** 1 **Airbill #'s:**

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

4.1

4

MC24037: Chain of Custody
Page 2 of 2

ATTATCHMENT 6

SOILS MANAGEMENT PLAN

FOR

FORMER BUILDING 104

AIR FORCE RESEARCH LABORATORY

INFORMATION DIRECTORATE

GRIFFISS BUSINESS AND TECHNOLOGY PARK

ROME, ONEIDA COUNTY, NEW YORK

Prepared By:

AIR FORCE RESEARCH LABORATORY
ENVIRONMENTAL AND OCCUPATIONAL HEALTH OFFICE
AFRL/RIOCV
Rome Research Site
150 Electronic Parkway
Rome, New York 13441-4516

October 2013

Table of Contents

1.0 Overview and Objectives 3

2.0 Nature and Extent of Contamination 4

3.0 Contemplated Use 4

4.0 Purpose and description of surface cover system 4

5.0 Management of soils/fill and long term maintenance of cover system 5

5.1 Excavated and stockpiled soil/fill disposal 6

5.2 Subgrade material 6

Appendix A- List of Previous Reports/Letters 9

Appendix B- NYSDEC Approval Letter 11

1. Overview and objectives

The site is a 2.4 acre, commercial property currently owned by the United States Air Force, Air Force Research Laboratory -Information Directorate (AFRL/RI). The location of the property is shown on Figure 1. The site has been characterized during several previous investigations. The user should refer to the previous investigation reports listed in Appendix A for more detail, as needed.

The objective of this Soils Management Plan (SMP) is to set guidelines for management of soil material during any future activities which would breach the cover system at the site. This SMP addresses environmental concerns related to soil management and has been reviewed and approved by the New York State Department of Environmental Conservation (NYSDEC) as shown in Appendix B.

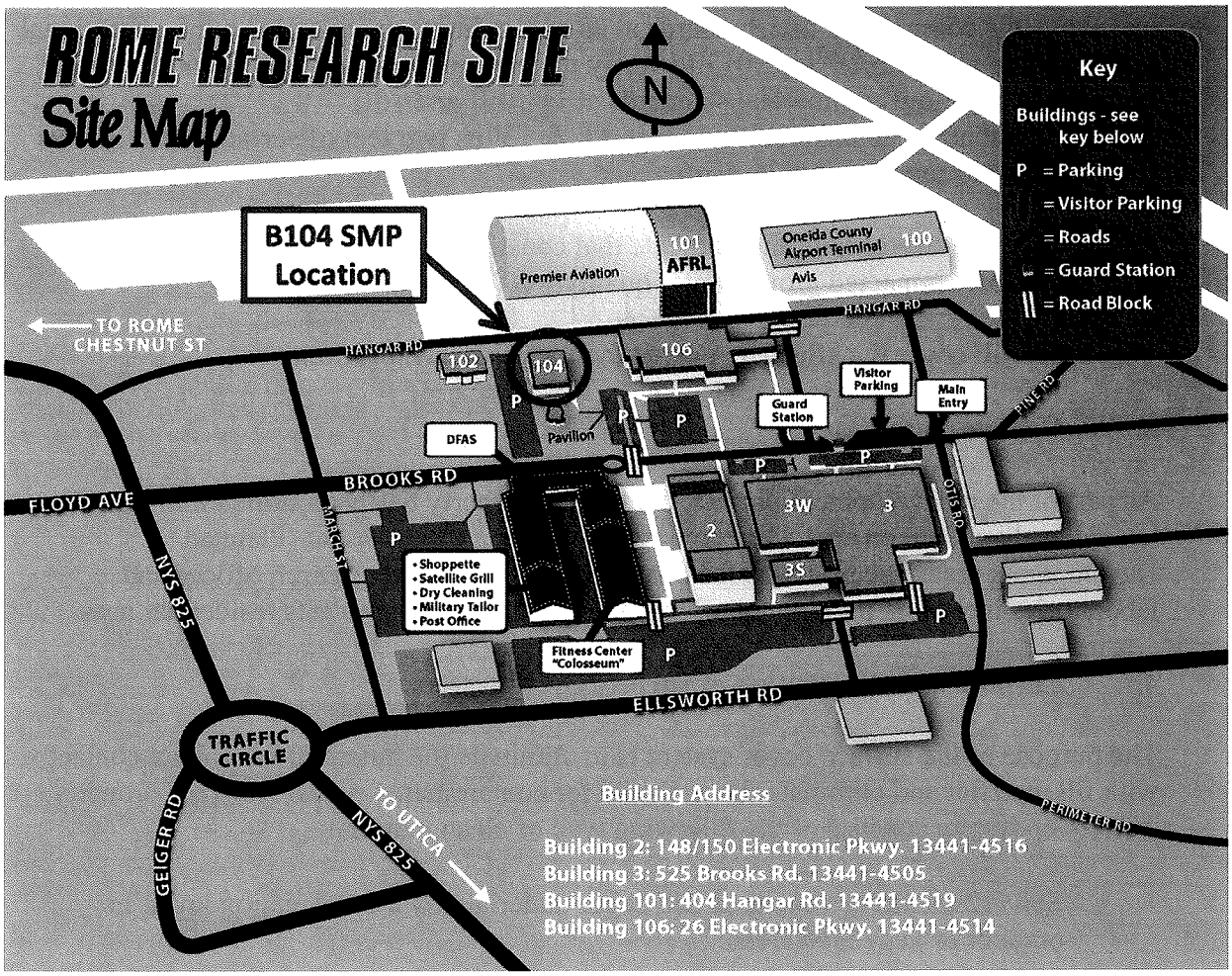


Figure 1: B104 SMP Approximate Location Map

2. Nature and extent of contamination

Based on data obtained from previous investigations and the remediation done at the site, a Final Remediation Letter, dated 28 October 2013 was developed by AFRL/RI and provided to the NYSDEC for closure of spill No. 1100977.

During an initial environmental investigation, contamination was found above commercial use standards in drywells 1, 3 and 6, as seen in the Demolish Administrative Facility Building 104 Report dated Jul 2011.

The constituents of potential concern (COPC) for soil in this area consist of RCRA metals only. The area of concern (AOC) is located at NY State Plane 1986 coordinates: N 1177027.075 ft. /E 1132357.151 ft., and/or latitude 43°13'27.6587" and longitude -075°24'43.8534 and comprises of a 5' radius around that coordinate.

The sampling results from 27 Aug 2013 indicated a presence of Cadmium and Mercury just above the commercial use standards at an approximate depth of 11' only. Additional samples were taken on 26 Sep 2013 to verify results and these concluded Cadmium and Mercury to be below commercial standards at 11', 13' and 15'.
(Please note that the actual results show 9, 11, & 13' as two feet of surface material was stripped prior to sampling on 26 Sep.)

Results of groundwater sampling indicate that constituents in the soil/fill material have not significantly impacted groundwater quality.

This SMP will cover the affected AOC at the former B104 location.

3. Contemplated use

As part of the redevelopment project, the former property has been turned into a parking lot, sidewalk and green area. The zoning is listed as a Commercial- Planned Development area. Specific uses for this zoning category are research offices and laboratories including parking lots. The zoning specifically prohibits residential uses.

4. Purpose and description of surface cover system

The purpose of the surface cover system is to eliminate the potential for human contact with fill material and eliminate the potential for contaminated runoff from the property. The cover system consists of the following type of clean material:

- Soil: 12 inches of vegetated soil cover underlain by a demarcation layer, in outdoor or vegetated areas.

- Asphalt: a minimum of 6 inches of material (asphalt and subbase material) in areas that will become roads, sidewalks, and parking lots. Actual cross sections will be determined based on the intended use of the area.

5. Management of soils/fill and long term maintenance of cover system

The purpose of this section is to provide environmental guidelines for management of subsurface soils/fill and the long term maintenance of the cover system during any future intrusive work which breaches the cover system.

The SMP includes the following conditions:

- Any breach of the cover system, including for the purposes of construction or utilities work, must be replaced or repaired using an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. The repaired area must be covered with clean soil and reseeded or covered with impervious product such as concrete or asphalt, as described in Section 4, to prevent erosion in the future.

- Control of surface erosion and run-off of the entire property at all times, including during construction activities. This includes proper maintenance of the vegetative cover established on the property.

- Site soil that is excavated and is intended to be removed from the property must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives.

- Soil excavated at the site may be reused as backfill material on-site provided it contains no visual or olfactory evidence of contamination, and it is placed beneath a cover system component as described in Section 4.

- Any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. Off-site borrow sources should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals plus cyanide. The soil will be acceptable for use as cover material provided that all parameters meet the NYSDEC recommended soil cleanup objectives included in TAGM 4046.

- Prior to any construction activities, workers are to be notified of the site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property will be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety.

- The Owner shall complete and submit to the Department an annual report by January 15th of each year. Such annual report shall contain certification that the this SMP protocols are still in place, have not been altered and are still effective;

that the remedy and protective cover have been maintained; and that the conditions at the site are fully protective of public health and the environment.

If the cover system has been breached during the year covered by that Annual Report, the Owner of the property shall include the following in that annual report:

- A certification that all work was performed in conformance with this SMP.

5.1 Excavated and stockpiled soil/fill disposal

Soil/fill that is excavated as part of development which cannot be used as fill below the cover system will be further characterized prior to transportation off-site for disposal at a permitted facility. For excavated soil/fill with visual evidence of contamination (i.e., staining or elevated PID measurements), one composite sample and a duplicate sample will be collected for 2000 cubic yards of stockpiled soil, and a minimum of 1 sample will be collected for volumes less than 2000 cubic yards.

The composite sample will be collected from five locations within each stockpile. A duplicate composite sample will also be collected. PID measurements will be recorded for each of the five individual locations. One grab sample will be collected from the individual location with the highest PID measurement. If none of the five individual sample locations exhibit PID readings, one location will be selected at random. The composite sample will be analyzed by a NYSDOH ELAP-certified laboratory for pH (EPA Method 9045C), Target Compound List (TCL) SVOCs, pesticides, and PCBs, and TAL metals, and cyanide. The grab sample will be analyzed for TCL VOCs.

Soil samples will be composited by placing equal portions of fill/soil from each of the five composite sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil/fill will be thoroughly homogenized using a stainless steel scope or trowel and transferred to pre-cleaned jars provided by the laboratory. Sample jars will then be labeled and a chain-of-custody form will be prepared.

Additional characterization sampling for off-site disposal may be required by the disposal facility. To potentially reduce off-site disposal requirements/costs, the Owner or site developer may also choose to characterize each stockpile individually. If the analytical results indicate that concentrations exceed the standards for RCRA characteristics, the material will be considered a hazardous waste and must be properly disposed off-site at a permitted disposal facility within 90 days of excavation. If the analytical results indicate that the soil is not a hazardous waste, the material will be properly disposed off-site at a non-hazardous waste facility. Stockpiled soil cannot be transported on or off-site until the analytical results are received.

5.2 Subgrade material

Subgrade material used to backfill excavations or placed to increase site grades or elevation shall meet the following criteria.

- Excavated on-site soil/fill which appears to be visually impacted shall be sampled and analyzed. If analytical results indicate that the contaminants, if any, are present at concentrations below the Site Specific Action Levels (SSALs) annotated in 6NYCRR Part 375-6.8- Table 375-6.8(b)), the soil/fill can be used as backfill on-site.

- Any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination.

- Off-site soils intended for use as site backfill cannot otherwise be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a).

- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.

- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for RCRA Metals.

- Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1000 cubic yards meet SSALs, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the SSALs.

Appendix A:
List of Previous Reports/ Letters

1. Demolish Administrative Facility Building 104, dated Jul 2011.
2. Dry Well Remediation Work Plan of AFRL Building 104 dated, Feb 2013.
3. Spectrum Analytical, Inc. Laboratory Report, dated 17 Jul 2013 (Sample date of 13 May 13).
4. Spectrum Analytical, Inc. Laboratory Report, dated 17 Sept 2013 (Sample date of 27 Aug 13).
5. Lu Engineers Letter of Subsurface Sampling, dated 12 Oct 13 and Paradigm Environmental Services, Inc. Laboratory Report, dated 7 Oct 2013 (Sample date of 26 Sep 13).
6. Rome Laboratory, Building 104 Environmental Spill Closure Letter, dated 24 October 2013.

Appendix B:
NYSDEC Approval of B104 SMP Letter